P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating: 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 7; SP-Issue 7; July 2024; Page No. 48-51

Received: 16-04-2024
Accepted: 25-05-2024

Indexed Journal
Peer Reviewed Journal

A critical review of farmers' perspectives on organic farming

[1]Preeti, [1]Santosh, [2]Dr. Ella Rani and [1]Priyanka Bedi

[1] PhD Student, Department of Extension Education and Communication Management, College of Community Science, CCS HAU, Hisar, Haryana, India

[2]Assistant Professor, Department of Extension Education and Communication Management, College of Community Science, CCS HAU, Hisar, Haryana, India

DOI: https://doi.org/10.33545/26180723.2024.v7.i7Sa.796

Corresponding Author: Preeti

Abstract

India has traditionally practiced organic agriculture, but the process of modernization, especially the green revolution technologies, has led to the increased use of chemicals. Due to excessive use of fertilizers the soil fertility decreasing day by day. Again, there is a need of making trend of organic farming because Organic farming is in direct relationship with environmental sustainability due to its role in enhancing natural health of environment. This paper analyse the perception and significance of organic farming in agriculture and review on the policies in the respective sector with some factual suggestions for the progress of organic farming. It is one of the path in making the healthy environment which enhance the quality of life. Various existing studies on the topic was reviewed by searching on numerous databases like Springer, Research gate, Google Scholar, Elsevier etc. The study has revealed that the farmers have positive perception towards soil fertility, nutritional value and high in demand of organic farming but it was also shown that the farmer don't have proper marketing facilities and they even don't get proper return on investment. These were the main reasons that the farmers are not adopting the organic farming. Many legislations and policies have been framed across the globe for the development of organic farming but still there is a requirement of proper implementation of the policies at the regional level. So, there is a need to impart knowledge regarding organic farming among farmers so proper information should be given to farmers through various channels like campaign, radio and TV programmes, news articles and some success stories should also be shared to motivate the farmers.

Keywords: Agriculture, environment, farmers, organic farming, perception, sustainability

Introduction

In recent years, the challenges of massively irrigated and chemically-dependent agriculture have been exposed, leading to a rise in interest in organic farming. Renewed interest in organic agriculture is mainly due to two reasons, falling agricultural yield in certain areas as a result of excessive use of chemical inputs, decreased soil fertility and environmental awareness Prusty *et al.* (2021) [14]. Modern agricultural farming practices, along with excessively use of chemical inputs over the past few decades have resulted in not only loss of natural habitat balance and soil health but have also caused many hazards like decreased groundwater level, soil erosion, soil salinization, pollution due to excessive use of fertilizers and pesticides, ill effects on environment, reduced food quality, genetic erosion and increased the cost of cultivation, rendering the farmer poorer year by year, Kalyani (2021) [9]. To deal with the present problems, Organic farming provides a natural way of crop cultivation by using environment friendly, animal and plant based local organic resources that are highly enriched in nutrients required for crop plants. It enhances the microbial activities and increases soil health of the field. Organic farming is an efficient and promising agricultural approach for environmental sustainability as it provides stability in yield, improved soil health, no environmental concerns, organic food and reduction in the use of synthesized fertilizers. There are various agricultural approaches working on reducing environmental concerns but use of organic farming, no doubt, the best scientifically proved environment friendly approach in maintaining environmental balance of our ecological and agriculture systems, Dhiman (2020) [4].

Organic farming is one of the approach for sustainable agriculture and this includes a dynamic set of practices and technologies that minimize damage to the environment while providing income to the farmer over a long time, Flora (1992) [5]. Although some scientists may consider sustainable agriculture as low-input agriculture, the assumption is unfair because sustainable agricultural systems use the best available technology in a balanced, well-managed, and environmentally responsible manner. Organic cultivation is attracting farmers the world over due to its various advantages over modern agricultural practices. Essentially it is a farming system which support and strengthen the biological processes without recourse to inorganic remedies such as chemicals or genetically modified organisms, Reddy (2010) [15]. There are several definitions of organic farming and the most popularly accepted definition of organic farming is; "Organic

agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity" This is accomplished by using wherever possible agronomic, biological and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system. As per the definition of the USDA study team on organic farming "organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as pesticides, fertilizers, hormones, feed additives etc.) and the maximum extent feasible rely on crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection". In the long run, organic farming offers more advantages because it not only promises higher yields but also ensures higher yield security and reduces dependence on external inputs, thus making poor households less crisis-prone, Julia *et al.,* (2008) [8].

Methodology

To observe the perception of farmers regarding organic farming among farmers existing literature was reviewed by using various online database like Google scholar, Research gate, Springer, Krishikosh, PubMed, Elsevier and Frontiers etc. The present study examines the perception of farmers in organic agriculture and problem faced by them in the organic farming.

Results

In India around 528171 hectares come under the certified organic farming that is 0.3 % of total agriculture land. The world's total organic farming land are around 30,418,261 i.e. 0.65 percent of total land that was very small part of fertile land. There are many reasons and perception of farmers due to which they give low contribution in organic agriculture farming. Every country has their own perception for engaging in organic farming which was discussed in the present study.

Table 1: Land area of major countries under organic agriculture during 2007-08 (ref. 2)

Country	Area under organic agriculture (ha)	Percentage of total agricultural land	Number of organic farms
Australia	12,294,290	2.8	1550
China	2,300,000	0.4	1600
Argentina	2,220,489	1.7	1486
USA (2005)	1,620,351	0.5	8493
Italy	1,148,162	9.0	45,115
Uruguay	930,965	6.1	630
Spain	926,390	3.7	17,214
Brazil	880,000	0.3	15,000
Germany	825,539	4.8	17,557
UK	604,571	3.8	4485
Canada	604,404	0.9	3571
France	552,824	2.0	11,640
India	528,171	0.3	44,926
World total	30,418,261	0.65	718,744

Source: SOEL Survey (2004)

Perception of Farmers

The study of Kalyani (2021) [9], indicates that the communities rate of adoption of organic farming and other agricultural policies is depend upon the education and knowledge of the farmers and on the basis of their education and knowledge their perception varies. This study also produced some surprising results, such as the finding that farmers' attitudes are unaffected by the expense of organic farming. Perhaps it was because farmers prioritize profit and yield. The factors like environment, knowledge and gender have no explanatory significance towards attitude of the farmers. Indirectly the farmers are attached to the sustainable agriculture and their current farming system, their experiences, attitudes and beliefs was change. However, such perceptions may change from farmer to farmer and may be influenced by the personality of the farmer and his or her socio-economic and socio-cultural characteristics.

The cultivation of vegetables and fruits are the most common farming enterprise. The cultivation of organic produce is profitable and create more income generation through international export and domestic consumption. There is increase in demand for organic farming due to their health and nutritional benefits as well as other factors which include the produce being chemical-free, Uhunamure *et al* (2021) [19]. The farmer also considers the quality, environmental friendliness, chemical-free, and freshness as the utmost attributes. This is followed by health and nutritional benefits, available consumers demand, taste, and price as the pushing attributes for organic produce. Due to all these reasons the farmers have positive perception who engage in the organic farming of fruits and vegetables.

The extension plays a vital role in organic farming. According to the study of Alotaibi *et al*. (2021) [1], universities provide resources includes workshops, formal courses, internships, training to the farmers to increase the productivity. The farmers continue to grow organic crops because of perceived profitability, preserving bio-diversity of good insects, protecting health, preserving the environment, and not wanting to use chemicals that pose a

risk to themselves and customers. Farmers mainly learned about organic agriculture through meeting with extension personals, other farmers and news etc. The study recommended that the extension personnel should focus more on personal relationships with farmers, and include a networking approach as their priority in order to increase knowledge regarding organic farming.

Problems Faced in Organic Farming

On one side organic cultivation is attracting farmers due to its various advantages over modern agricultural practices. Essentially, it is a farming system which supports and strengthens biological processes without recourse to inorganic remedies such as chemicals or genetically modified organisms, Reganold *et al*. (1993) [16], Letourneau and Goldstein (2001) [10]. On the other side the farmers have face problems in organic farming. They want engage in organic farming but the problems experienced during transition relate to lack of governmental and institutional support, negative pressure from other farmers and farm groups, lack of physical and financial capital etc.; they step back to engage in organic farming, Cranfield *et al*. (2010) [2]. In India, the farmer faces the same constraints in organic farming.

The conventional and organic producers recognize production and marketing barriers as the main constraints for adopting organic farming, while the age and education of the farmer were not deemed a problem. Lack of knowledge and lack of institutional support were other barriers in doing organic farming. Some farmers were, however, interested in converting to organic farming in the near future due to the low cost of production, the price premium and health benefits. Low yield and pest control was the major factor found by both organic and conventional farmers, Panneerselvam *et al*. (2012) [12]. Income of organic farms is equal or higher when compared to conventional and traditional farms, Van der and deJager (1992) [3]. So there is a need of focus in discovering best practices, marketing technique and government policies etc. In some factor organic farming was effective as comparison to conventional because Organic farmers need to borrow less money than conventional farmers for two reasons; first is, organic farmers need to buy less inputs such as fertilizer and pesticides and second is, costs and income are more evenly distributed through the year on diversified organic farms. The dual advantage of organic farming being the positive effects on the environment as well as to make the farmer independent in his requirements regarding agro-inputs, Prasad and Gill (2009) [13]. It reduced price or attractive source of rural income generation, Reddy (2010) [15] and Shukla *et al*. (2013) [18].

In the study of Haneef *et al*. (2019) [7], it was found that the economic constraints were major constraint faced by the farmers in practicing organic farming followed by marketing constraints, technological constraints, infrastructural constraints and environmental constraints. These are the barriers that inhibit the farmers from pursuing organic farming. The low price for the organic produce and lack of special markets for organic produce were crucial issues that were faced by the organic farmers. The same findings were reported in the study of Shinogi (2011) [17] who identified three major constraints in the promotion of organic farming and these were grading and marketing constraints, certification constraints and economic constraints.

There were the great disagreements about the profitability and yield increase in organic farming a, but there was a strong agreement on its eco-friendly nature and inherent ability to protect human health. There were strong views against organic farming mainly on the grounds of practicability of feeding a billion people, its financial and economic viability, and availability of organic inputs and dissemination of know-how, Reddy (2010) [15].

Conclusion

The present review study revealed that the perception of farmer towards organic farming depend upon their education and knowledge. The farmers want to engage in the organic farming but they face ecological, marketing, technological and financial constraints, due to these reasons they step back to involving in organic farming. Presently, there is lack of government subsidies or support to make conversion to organic farming easier, cheaper and effective. The issue about the yield, marketing and financial viability of organic farming are crucial and there are no empirical studies available to comparing the economic and ecological returns of organic farms. Organic agriculture has been neglected in the agricultural policy, and therefore there is less government assistance for the promotion of organic agriculture. Given proper encouragement, organic farming will progress tremendously, especially in the dry land regions of the country, taking advantage of the diverse soil and climatic conditions**.**

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