

Challenges and Prospects for Organic Farming: A Case Study from India

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ABSTRACT

Several past studies have considered organic farming as it serves as a responsive sustainable approach to the rural development. This study emphasises and focuses on the opportunities and constraints in organic farming in context of India. There are several cost and marketing related problems specific to organic food. This study identify the following areas to address these problems in the country: develop a regional programme to address specific regional problems, take into account the unique conditions prevailing in the region; provide financial assistance for the effective implementation of organic projects and programmes, access to advanced technology, effective information sharing platforms. The organic movement's capacity for adaptation and learning from past experiences will determine if organic farming is able to fully realise its capacity for fostering resilience(Milestad and Darnhofer, 2003).

Introduction

Numerous farming practises contribute to both adaptation and mitigation efforts for climate change, including prevented damage (Borron, 2006). The main tenets of organic food production include preserving and enhancing deep-rooted soil fertility, reducing all forms of pollution, avoiding the use of pesticides and synthetic fertilisers, conserving genetic diversity in food,

taking into account the significant socio-ecological effects of food production, and producing high-quality food in sufficient quantities (Das et al., 2020). Many studies have considered relevance of organic farming in sustainable growth (Nesterenko et al., 2020; Dhiman 2020; Chiriaco et al., 2017; Łuczka et al., 2021; Hans and Rao, 2018; Hokazono & Hayashi, 2012; Michelsen, 2001). According to Manta et al., 2023 several past studies considered organic farming concept as a responsive

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sustainable approach to the primary sector and the rural development. The majority of studies have also focused more on industrialised nations than on emerging ones (Jouzi et al., 2017). Research on organic farming is gaining importance in India with more number of studies (Aulakh 2022a; Aulakh 2022b; Duddigan et al., 2023; Babu et al., 2023; Jaacks et al., 2023; Naik et al., 2023; Kumar et al., 2023; Paramasivam et al., 2023; Singh and Sajwan, 2023; Reddy et al., 2022; Seufert et al., 2023).

Literature review

Organic Farming in India

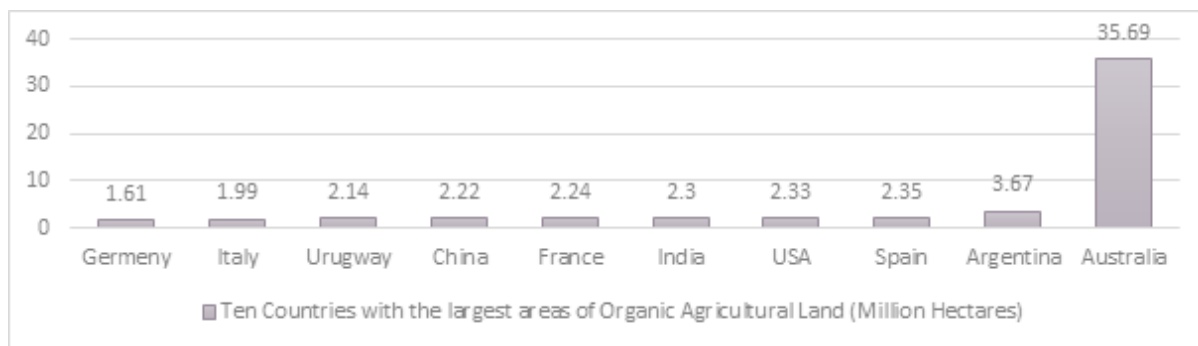
In India, agriculture is not extremely intense in terms of the use of agrochemicals in a number of different types of soil land. Gujarat, Kerala, Karnataka, Uttarakhand, Sikkim, Rajasthan, Maharashtra, Tamil Nadu, Madhya Pradesh, and Himachal Pradesh are the main states in India engaged in organic agriculture (Das et al., 2020). India is among the top 10 countries with the largest areas of organic agriculture land (Willer and Lernoud, 2017).

The use of agricultural chemicals is generally quite low, particularly in tribal and mountainous areas, which helps the switch to organic farming (Manida and Nedumaran, 2021). A number of initiatives and programmes have recently been taken by the Indian government to promote organic farming there. A com-

prehensive organic approach for ensuring ecologically and economically sustainable crop production, Inhana Rational Farming Technology was established on the premise of “Element Energy Activation” and is based on both modern scientific research and traditional Indian philosophy (Das et al., 2020).

Research methodology

The review process includes the phases of locating appropriate material, screening and selecting, summarising, and presenting the results. Sources from the reference lists of the featured articles were added using the snowball method as they seemed relevant. From a variety of studies conducted in India and overseas, the author endeavoured to create a body of information about the prospects and limitations in organic marketing. A study that can be used to expand organic farming in India is created by combining the advice from many studies. Since the purpose of this research is to combine academic knowledge with well-known practical frameworks to produce a more reliable and scientifically informed process-based framework for the adoption, the author did an extensive examination of the literature. Given the range of the organic agriculture research, that span numerous management subfields and are incredibly variable in terms of methodologies (e.g., qualitative and quantitative) and conceptual approaches (i.e., theories), this kind of evaluation is required.



Source: FiBL Survey 2021

Findings

Challenges

- **Cost related constraints**

Organic farming have low yield compared with conventional one. Some studies claim that a significant switch to organic farming might lower crop yields globally by 40%, which would result in an estimated amount of crop failure needed to feed around 2.5 billion people (Jouzi et al., 2017). As chemical fertilisers are not used in organic farming, which yields lower yield than conventional farming does, organic farming requires much more area to produce the same amount of organic food as conventional farming does (Das et al., 2020). There are constraints and risks along the organic value chains (Abele et al., 2007). Nutrient management is also a major challenge. Maintaining the balance of nutrient input and output in the soil is also essential because organic farms donot import synthetic ingredients (Jouzi et al., 2017). There is also a lack of experience of intensive organic production in general and especially of fruits and vegetables (Abele et al., 2007). Small-scale farmers need to receive suitable research and investments that focus on their individual requirements in order to improve their status, however small-holders are frequently overlooked in research and extension plans and programmes (Jouzi et al., 2017).

- **Market related constraints**

There is a lack of Education and research for organic food marketing. Lack of familiarity with international markets, including knowledge of the organic market place overseas put a huge challenge to farmers (Abele et al., 2007). Certification is also one of the major issue as many small-scale and resource-constrained farmers cannot afford certification because it is expensive and requires infrastructures for monitoring and documenting producers (Jouzi et al., 2017). Competition from technically more advanced neighboring countries creates difficulty for farmers of developing countries (Abele et al., 2007). Another significant issue that needs to be addressed is market access. Only 43% of individuals in rural parts of developing countries are reportedly able to travel by motor vehicle to markets in under two hours (Jouzi et al., 2017).

Remedies

- **Use of Technology**

Technology can help more conscious mapping of cultivation areas using sensor technology and spatial geo-data. New technology like 3D printers can be used to take advantage. BeeScanning App is another milestone in the growth of organic farming (Das et al., 2020).

- **Informational platform**

Farmers, consumers, and policymakers should all be educated about organic farming. To get the desired results consultations, exhibits, agricultural fairs, resource centres, and publications should be encouraged (Bakewell-Stone et al., 2008). Botanical remedies, some of which are based on extremely old Vedic texts, offer a wealth of locally adapted pest and disease-specific treatments (Manida and Nedumaran, 2021).

- **Marketing**

A green marketing plan is something that Indian farms should consider when promoting their own goods (Aceleanu 2016). Market access for organic goods is urgently needed. It is necessary to develop domestic marketing centres (Bakewell-Stone et al., 2008). According to several studies, the consumer's attitude towards green products serves as the foundation for the growth of a business that sells green products (Aceleanu 2016). Positive attitude had the most role in determining customers' propensity to purchase organic food, followed by subjective norms and perceived behavioural control (Kaur, 2023).

- **Training**

Providing manufacturers of organic food with consulting services will help (Khadda 2021). The development and spread of associated technology and long as well as short-term trainings should be promoted by the government. Interactive gatherings on particular organic farming topics will be beneficial (Bakewell-Stone et al., 2008).

- **Strategic approach**

Produce should include high-value crops like spices, pharmacopeial herbs, fruits, and vegetables (Khadda 2021). Legume crops can be widely grown because it makes it easier to supply nitrogen that has been fixed organically (Manida and Nedumaran, 2021).

- **Accessibility of inputs**

It should be encouraged to add value through solar drying fruits, mushrooms, and vegetables, distilling essential oils, spinning cotton, and processing fruits into juice or concentrate (Bakewell-Stone et al., 2008). Returns on labour investment could be improved with the development and spread of suitable technology and organic inputs. It is necessary to increase knowledge of the use and accessibility of inputs (Bakewell-Stone et al., 2008).

- **Regional collaboration**

The government ought to encourage regional collaboration (Bakewell-Stone et al., 2008). Regional languages must be used to document tested packages and procedures (Khadda 2021). The development and spread of associated technology and long as well as short-term trainings should be promoted by the government (Bakewell-Stone et al., 2008). Rural communities have developed organised marketing systems for organic goods. Society formation for organic farming through registration should be encouraged (Khadda 2021).

Conclusion

This study emphasises and focuses on the opportunities and constraints in organic marketing. There are several cost and marketing related problems specific to organic food. This study identify the following areas to address these problems in the country: develop a regional programme to address specific regional problems, take into account the unique conditions prevailing in the region; provide financial assistance for the effective implementation of organic projects and programmes, access to advanced technology, effective information sharing platforms. It is preferable to use an integrated method, which combines organic and inorganic farming, to have a sustainable approach that satisfies needs for food security (Khadda 2021).

The organic movement's capacity for adaptation and learning from past experiences will determine if organic farming is able to fully realise its capacity for fostering resilience (Milestad and Darnhofer, 2003).

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