



THE SCOPE OF ORGANIC FOOD INDUSTRY IN INDIA

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Abstract

Organic farming follows the principle of circular causation and has coined up in response to answer the important questions on health, environment and sustainability issues.

In this review, it has assessed the scope, status, and opportunities of organic farming in India. The major constraints identified that impede adoption of organic farming in India especially for small farm holders who hold more than one third of farming community in India.

India has got large land area and climate diversity which provides a remarkable potential to contribute to organic farming.

India holds second position when it comes to certified organic farms (44,926), and it has 13th position in the ranking of area under organic farming representing only 0.3 % of total agricultural lands. This scenario seems to be very poor compared to many other countries.

The main reason for the Farmers apprehensive nature towards organic farming in India is rooted as non-availability of sufficient organic supplements, bio fertilizers and local market for organic produce and poor access to guidelines, certification and input costs. A comprehensive effort need to be initiated by government and non-government agencies to boost Indian farmers to adopt organic farming as to give a proper answer to vital question has raised on climate change, health and sustainability issue.

Keywords: *Organic Farming, Certification, Cost-Benefit Analysis.*

Introduction

India is primarily an agricultural country where agriculture contribution in gross domestic product (GDP) is about 17.9% and provides livelihood for more than 60% of population (GOI, 2014). The increasing population have become challenge for our country to meet the essentials agricultural product therefore, to meet the demand of agricultural products, farmers using toxic and many harmful chemicals. To combat it, government and agribusiness groups are promoting “organic agriculture” throughout the world. This is a holistic production management system which is better to environment, health and sustainability growth. Organic farming system gives importance to the use of organic materials for enhancing soil quality. These are the key factors for sustainable agriculture for producing any product (Cardelli et al., 2004).

According to IFOAM(the International Federation of Organic Agriculture Movement) (Willeret al., 2008) the primary objectives of organic farming summarizes as: (1) growing high quality food in considerable quantity in harmony with natural systems. (2) strengthening biological process within the farming system involving microorganisms, soil flora and fauna (3) maintaining durable genetic diversity and soil fertility of the production system and its surroundings including wildlife and plant, (4) promoting skillful use of water resources and all life, (5) creating harmonious balance between animal husbandry and crop production and,(6) eradicating all forms of pollution.

(Escobar and Hue, 2007). Organic agriculture is being exercised in more than 140 countries with a total agricultural area of 39.4 million hectare, around 0.65%. (Willer et al., 2008). Australia is at top position followed by China, USA, Argentina, Italy and other countries (Willer et al., 2008). Even though India holds second place in respect to total number of certified organic farms (44,926), is at 13th position for the area under organic agriculture. In India, about 528,171 hectare of agricultural area is under organic agriculture accounting about 0.3% of total agricultural land. There are mainly three important and interrelated problems/issues that need serious surgical treatment for agriculture sector:

1. The cereal production has increased over 4.5 times during last 60 years (Lal, 2004), India need to meet the expected food demand of 300 million tons of cereals by 2050 from continuously decreasing land resources for agriculture.
2. There is continuous degradation of land and water resources which leads to reduction in the use efficiency of fertilizer, irrigation, tillage etc, along with increasing emission of pollutants and greenhouse gases.
3. Agricultural practices release toxic chemicals, contamination in food stuffs and associated health problems. The agricultural land areas are more than 60% of the total land area of country. A major portion of land is being



divided into small farm holders (Lal, 2004). The India is undergoing continuous industrialization and growth of urban and consequently occupying the possibility of expansion of agricultural land area.

Objectives of the study: To assess the scope, status and opportunities of organic farming in India.

The Paradigm Shifts in agricultural practices

Traditional farming practices before 20th century were organic but the use of synthetic farming inputs such as chemical, urea and DDT to increase crop yield have displaced those approaches. Organic food has made a separate identity during 1960s but the steps towards identification of sources, standardization of methodology and its application in agricultural field observed serious concern after a long gap. Sir Albert Howard, a British botanist who has often referred to as the traditional Indian farming practices as superior to the conventional agriculture.

In 1972, Agriculture Movements (IFOAM) was founded at Versailles, France, with prime objective to exchange information on the principles and practices of organic agriculture across national and linguistic boundaries.

The Sustainability Issues

Ecological Perspective

Conventional farm practices are not ecologically sustainable for natural resources, soil fertility enhancing erosion and greenhouse forcing. Sustainable agricultural practices are linked with ecological sustainability in following terms of:

1. Improvement soil fertility.
2. To retain organic materials, matter, nutrients and water.
3. Improve diversity of crops, microbes and other plants and animals.
4. Eliminate use of hazardous chemicals, pesticides.
5. Reduce soil erosion and landslides.
6. Improved green cover to conserve soil.
7. Increased carbon sequestration and.
8. Reduced energy demand.

Economic Sustainability

Agriculture will be sustainable only if it has a long-term economic adoption. Conventional agriculture follows the principle of diminishing return and may pose long-term economic risks than its sustainable counterpart.

The main issues that need a serious concern are:

1. **Export vs. local orientation:** an export-oriented production system has been considered more important than those that meet domestic demands. The Indian organic product market is mainly for export which is creating imbalanced with food security in India.
2. **Debt:** The green revolution has raised the grain production by multifold in India. On the other hand, many of small farmers trapped into debt. They have taken loans to raise their production and on failure in re-paying it, they committed suicide.
3. **Market risk:** Market fluctuation disproportionately sweep to low priced international agricultural produce into the national market which may lead to risk for Indian farmers. As a WTO signatory, the Indian government needs to open its economy to the global market which results adverse for Indian farmer's interest.
4. **Employment:** Agriculture is the prime source of employment in rural areas. Rural employment comes down due to Specialized and mechanized practices in agriculture.

Social sustainability: The social sustainability of farming techniques focuses on social acceptability and justice.

1. **Inclusiveness:** Development process is organized and dimensional growth which derived by negative feed backs. This has particular concern for developing countries like India where they having very large gap between rich and poor. The government needs to explore ways to activate the rural poor to get benefited from agricultural development.
2. **Political unrest:** increasing gaps between rich and poor feed social injustice directing poor masses to feel neglected from developmental opportunities which result in the political unrest, violence, and economic instability.
3. **Local acceptance:** Many new technologies fail for being based on practices followed outside. Sustainable agricultural practices consider local social customs, traditions, norms and taboos. Thus, the local acceptance enhances harmony, fulfill needs and promote sustained growth and yield.



4. **Indigenous knowledge:** India is among the leading countries when it comes to climatic, biotic and cultural diversities. India has a vast treasure of tribal diversity and traditional knowledge. A balance use of indigenous knowledge with appropriate information added from outside would drive sustainable agriculture to enrich itself.
5. **Gender:** In our traditional agriculture, women bear the more responsibility of load in terms of labor. Whereas, in modern conventional farming, men have most control on what to grow and how to spend the resulting income.
6. **Food security:** Modern farming approaches in India consider limited crops only and lag behind in providing variety and a balanced diet. Sustainable agriculture ensures food security by improving the quality and nutritional value of food with greater range of crop varieties and edible produce.
7. **Participation:** Traditional society in India is influence by wealth and caste distinctions. Conventional farming innovations often eliminate these gaps. Sustainable agriculture consciously targets the normal people as well. From social angle, sustainable agriculture considers full participation of vibrant rural communities to ensure safe and sustained food supply for everyone.

Constraints

Environmental Constraints

Soil quality: the total geographical area of India (304.89 m ha), about 80% (264.5 m ha) is used under agriculture, forestry, pasture and biomass production (Lal, 2004).

Water quality: According to NWQI (the National Water Quality Inventor) report, agricultural release is leading water quality degradation of rivers and lakes. Agricultural activities as non-point source of pollution include the following:

1. **Sedimentation:** Agricultural activities, deforestation and overgrazing have exposed soil and made it erosion prone area. Flood carries the fertile soil particles into nearby lakes and rivers. High frequency of flooding in major rivers of India is due to rapidly rising sediment deposits and reducing channel depths (Sridhar, 2007).
2. **Nutrients:** Agricultural release of nutrients like phosphorus and nitrogen have increased eutrophication and fish kill in surface waters. (Pandey and Pandey, 2009a).

Certification of Organic Product

1. Organic product needs certification to make ensure that all synthetic inputs and chemical are not used and soil building approaches are followed to keep up the soil quality.
2. Certification authenticates organic produce are safe and chemical free for consumers and validate price margin of these product in the market according to its certification and quality.
3. The certification process aims to convert the growing land area to meet with requirements of standard within a period of 3 years. Those farmers who have adopted organic management need to wait for three years for certification procedures that requires purging of chemical residues in India.
4. The Director General of Foreign Trade, New Delhi, allows the export of organic produce only when it processed and packed under a valid organic certificate issued by a certification agency which is accredited by an accreditation agency framed by the Government of India.
5. The Government of India has recognized following certification agency :
 - Tamil Nadu Organic Certification Department.
 - Agricultural and Processed Food Products Export Development Authority (APEDA).
 - Spice Board.
 - Ministry of Commerce and Industry.
 - Coffee Board and.
 - Tea Board for the purpose.

Social Acceptance of Organic Food Product

1. Indian agriculture system is at its infant stage. The increasing demand for organic produce has opened new opportunities which good for small farm holders who can expect an economic boom with lucrative export markets.
2. On the other side of coin, small farm holders are surviving on government incentives to meet their cost of input. Small farmers in India are little apprehensive in adopting this agricultural practice.
3. Major issues for acceptance in India include:
 - Cost benefit.
 - Access to certification of produce.
 - Non-availability of organic supplements.



- Lack of appropriate knowledge to RMPs.
 - India lack with indigenous lucrative market for locally grown organic produce in rural areas.
 - Under conversion stage of organic farming, economic viability depends on the economic status of the farm.
 - Yield declines during first year of conversion of land and slowly increases in coming crop cycle.
 - After complete establishment of organic farm, the yield increase and the cost of production decline in subsequent cycle of crop.
 - Accordingly, there can be low net income recorded under organic farming compared to conventional one up to conversion process.
 - As input cost goes down, the net income take a start in increases progressively fourth year onward (IGNOU, 2007).
 - The three initial year deficit in benefits during conversion and with certification process constraints often make small farm holders apprehensive.
4. **Major Issues That Need To Be Solve For Drive Away The Farmers' Apprehension In India Include:**
- The benefit-cost ratio of different crops in organic and chemical farming practice must be clarified.
 - To study the difference of production cost for organic and chemical farming practices,
 - To assess whether net profits are more in organic farming system and with what margin for considering conversion of conventional land to organic land ,
 - To enhance appropriate government incentives and extension services to support farmer's capital input and knowledge base and to ease certification access.
 - These issues may be furthered reported to the relevant variables to address the benefits associated with improved health and reduced externalities.

Conclusions

Indian agriculture practice has ecologically sustainable approach where natural inputs are used for enhancing crop yield. Modern innovations and technology diffusion are used to meet massive demand of food grains by depending on external inputs of synthetic fertilizers and pesticides. Extensive use of these materials have increased agricultural yield by many folds, but it has significantly influence environmental degradation.

The modern concept of organic farming has become the need for society in response to the problems raised on health, environment and sustainability issues.

The growth of organic farm in India is little slower. An overview of this paper shows that there are a number of hurdle faced by Indian farmers, especially small farm holders for adopting organic farming. Indian Farmer is apprehensive due to non-availability of sufficient amount of organic supplements, bio-fertilizers and local market for organic produce. Additionally, improper guidelines, certification of organic produce and input cost for organic farm discourage the small farm holders.

There is a need for a comprehensive framework that binds the organic farm. It includes technology diffusion, flow of information, local resources and innovation. It will give extensive opportunities to generate large-scale farmers' acceptance to deal with ecological crisis in context to climate change and to address the health and livelihood security of large rural masses of Indian population.

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