Organic Farming in India: Status, Issues and Prospects

Ms. Manisha Gaur
Assistant Professor
Post Graduate Government College
Sector 11, Chandigarh

Abstract

This paper attempts to bring together different issues in the light of recent developments in organic farming. The after effects of green revolution have encouraged the farmers to take up organic farming. This paper has reviewed the Indian scenario with reference to organic farming. In India, the key issues emerging in organic farming include yield reduction in conversion to organic farm, soil fertility enhancement, integration of livestock, certification constraints, ecology, marketing and policy support. It has been argued that organic farming is productive and sustainable, but there is a need for strong support to it in the form of subsidies, agricultural extension services and research.

Keywords: organic farming, Indian farmers, sustainable development

INTRODUCTION

Sustainable development has caught the imagination and action all over the world for more than a decade. Sustainable agriculture is necessary to attain the goal of sustainable development. According to the Food and Agriculture Organization (FAO), sustainable agriculture "is the successful management of resources for agriculture to satisfy changing human needs while maintaining or enhancing the quality of environment and conserving natural resources". All definitions of sustainable agriculture lay great emphasis on maintaining an agriculture growth rate, which can meet the demand for food of all living things without draining the basic resources.

Organic farming is one of the several approaches found to meet the objectives of sustainable agriculture. Many techniques used in organic farming like inter-cropping, mulching and integration of crops and livestock are not alien to various agriculture systems including the traditional agriculture practiced in old countries like India. However, organic farming is based on various laws and certification programmes, which prohibit the use of almost all synthetic inputs, and health of the soil is recognised as the central theme of the method.

Adverse effects of modern agricultural practices not only on the farm but also on the health of all living things and thus on the environment have been well documented all over the world. Application of technology, particularly in terms of the use of chemical fertilizers and pesticides all around us has persuaded people to think aloud. Their negative effects on the environment are manifested through soil erosion, water shortages, salivation, soil contamination, genetic erosion, etc.
Organic farming is one of the widely used methods, which is thought of as the best alternative to avoid the ill effects of chemical farming. There are several definitions of organic farming and the one given by the US Department of Agriculture (USDA) is considered the most coherent and stringent. It is defined as ‘a system that is designed and maintained to produce agricultural products by the use of methods and substances that maintain the integrity of organic agricultural products until they reach the consumer. This is accomplished by using substances, to fulfill any specific fluctuation within the system so as to maintain long term soil biological activity, ensure effective peak management, recycle wastes to return nutrients to the land, provide attentive care for farm animals and handle the agricultural products without the use of extraneous synthetic additives or processing in accordance with the act and the regulations in this part’

Need for the Paper

There are three categories of opinions about the relevance of organic farming for India. The first one simply dismisses it as a fad or craze. The second category, which includes many farmers and scientists, opines that there are merits in the organic farming but we should proceed cautiously considering the national needs and conditions in which Indian agriculture functions. They are fully aware of the environmental problems created by the conventional farming. But many of them believe that yields are lower in organic cultivation during the initial period and also the cost of labour tends to increase therein. The third one is all for organic farming and advocates its adoption wholeheartedly. They think that tomorrow's ecology is more important than today's conventional farm benefits.

However, among many a major reservation, the profitability of organic farming vis a vis conventional farming, is the crucial one from the point of view of the Indian farmers, particularly the small and marginal.

Review of Literature

Howard's (1940) Agricultural Testament draws attention to the destruction of soil and deals with the consequences of it. It suggests methods to restore and maintain the soil fertility. The study contains a detailed deposition of the famous Indore method of maintaining soil health. The reasons and sources of the erosion of soil fertility and its effect on living things are discussed. The criticism of the agriculture research and examples of how it had to be carried out to protect soil and its productivity are discussed in detail.

Bemwad Geier (1999) is of the opinion that there is no other farming method so clearly regulated by standards and rules as organic agriculture. The organic movement has decades of experience through practicing ecologically sound agriculture and also in establishing inspection and certification schemes to give the consumers the guarantee and confidence in actuality. Organic farming reduces external inputs and it is based on a holistic approach to farming. He describes the worldwide success stories of organic farming based on the performance of important countries in the west. The magnitude of world trade in organic farming products is also mentioned. To the question of whether the organic farming can feed
he says that neither chemical nor organic farming systems can do it; but the farmers can.

Kaushik (1997) analyses the issues and policy implications in the adoption of sustainable agriculture. The concept of trades off has a forceful role to play in organic farming both at the individual and national decision making levels. Public vis-a-vis private benefits, current vis-a-vis future incomes, current consumption and future growths, etc. are very pertinent issues to be determined. The author also lists a host of other issues. While this study makes a contribution at the conceptual level, it has not attempted to answer the practical questions in the minds of the farmers and other sections of the people.

Sharma (2001) makes a case for organic farming as the most widely recognized alternative farming system to the conventional one. The disadvantages of the latter are described in detail. Other alternatives in the form of biological farming, natural farming and permaculture are also described. The focus is on the organic farming, which is considered as the best and thus is discussed extensively. The work is not addressing the relevant issues in the adoption of organic farming on ground.

Ahn Jongsung opines that organic agriculture is economically viable (Anon, 1998). The author gives emphasis on marketing the organic products on the basis of reputation and credibility. In Japan, the farmers sell the produces directly to the consumers. The Kenyan farmers have seen that in organic farming, costs go down and profits increase. A farmer from UP who allotted a portion of his land exclusively for organic farming found that the yields of sugarcane, rice, wheat and vegetables were lower than those under chemical farming. An Englishman, settled in Tamil Nadu, who runs an organic farm in 70 acres planted with coffee, citrus, other fruits, rice, pepper and vegetables says that he does not earn a profit and does not have confidence in organic farming.

Somani and others (1992) have published a collection of 42 papers presented at a National Seminar on Natural Farming. Korah Mathen recounts several problems in evolving representative and rigorous yardsticks for comparison between modern and alternative farming. Yields cannot be compared, because of monoculture nature of chemical farming with those of multi crops raised under organic/natural farming. Economic analysis is also problematic because one has to quantify the intangibles. He advocated the resource use efficiency analysis. But the question of profitability of different systems of farming seems difficult to be examined in the absence of an economic analysis although the author does not rely upon it.

The foregoing overview of the literature makes it clear that opinions about organic farming are divided both among the farmers and experts. Disputes about the profitability and yield increases in organic farming are acute, but there is a consensus on its eco-friendly nature and inherent ability to protect human health. There are strong views for and against organic farming (the latter, mainly on the grounds of practicability of feeding a billion people, financial and economic viability, availability of organic inputs and the know-how). Those
who are totally against it are prepared to ignore the ill effects of the conventional farming system. There are many who while approving organic agriculture, want a mixture of both the systems or advocate a careful approach by proceeding slowly towards the conversion of the conventional farms into organic. The questions about the yield and financial viability are crucial from the point of view of farmers; but they remain unanswered to a large extent. The study of a geographical area in the country endowed with a large number of resources for organic farming, but has not made any significant stride towards it, is also not found in the literature overview.

**Objectives of the Paper**

(i) To understand the need for organic farming in India

(ii) To assess and evaluate the factors which may facilitate the adoption of organic farming in the country.

(iii) To analyse the problems and challenges in introduction of organic farming in India

**Methodology**

The paper is based on secondary data. Information from literature on the historical evolution of the organic farming and the progress it has made both in India and abroad collected from the published sources like the websites of the European Union countries. International Federation of Organic Farming Movements (IFOAM), books and periodicals and newspaper reports is liberally used for the preparation of the paper.

**Need of organic farming**

With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in sustainable manner. The scientists have realized that the ‘Green Revolution’ with high input use has reached a plateau and is now sustained with diminishing return of falling dividends. Thus, a natural balance needs to be maintained at all cost for existence of life and property. The obvious choice for that would be more relevant in the present era, when these agrochemicals which are produced from fossil fuel and are not renewable and are diminishing in availability. It may also cost heavily on our foreign exchange in future.

**The key characteristics of organic farming include**

- Protecting the long term fertility of soils by maintaining organic matter levels, encouraging soil biological activity, and careful mechanical intervention
- Providing crop nutrients indirectly using relatively insoluble nutrient sources which are made available to the plant by the action of soil micro-organisms
- Nitrogen self-sufficiency through the use of legumes and biological nitrogen fixation, as well as effective recycling of organic materials including crop residues and livestock manures
Weed, disease and pest control relying primarily on crop rotations, natural predators, diversity, organic manuring, resistant varieties and limited (preferably minimal) thermal, biological and chemical intervention

The extensive management of livestock, paying full regard to their evolutionary adaptations, behavioural needs and animal welfare issues with respect to nutrition, housing, health, breeding and rearing

Careful attention to the impact of the farming system on the wider environment and the conservation of wildlife and natural habitats

Benefits of organic farming

Organic farming is a science of agriculture that utilizes the biological means of cultivating crops with a coordination to the nature. Effective practice of organic farming can be very useful in every aspect and can be highly profitable in comparison to the traditional and chemical farming. The benefits of organic farming are enormous and some of the major benefits can be listed as:

- Practice of organic farming can be very cost effective and the production cost can be reduced to over 25 percent in comparison to the traditional farming as in case of organic farming you can cut the cost incurred in the use of synthetic fertilizers, herbicides and pesticides. In addition to that, the use of organic farming reduces the soil erosion to 50 percent leading to the increase in the productive to five times in five years.
- In an organic farm especially in lowlands, a number of wildlife is supported and thus improving the entire ecosystem and ground water which is quite beneficial for agriculture practices.
- The nutritional benefits of food grown in organic farming are significantly superior than the crops grown by the other modern conventional methods.
- Organic farming retains the fertility of the soil for a longer period of time and thus allows the farmers to use the land for a longer period for cultivation.
- One of the most important benefits to the consumers of the organic foods is they contain no harmful chemicals, artificial flavors and preservatives in it as the use of synthetic fertilizers, herbicides, fungicides and pesticides are completely restricted in case of organic farming.
- The plants grown in organic farms are more drought resistant and hence is an added advantage for the farmers. Organic farming promotes the fertility of the soil along with retaining it due to the use of biological manures and useful micro organism that helps to increase the fertility of the soil by proper decomposition and stimulation of nitrogen fixation.
- In addition to the producer and the consumers, organic farming has proved to be very beneficial for the dairy industry too as the cows of the dairies feed and graze on the organic farms that are rich in nutrients and thus the cows remain more healthy and free from diseases and produces high quality and better tasting milk.
- Apart from all the other benefits one of the most important benefits of organic farming is the health benefits of organic foods. People consuming organic foods reduces the risk of risks of physical ailments such as heart attacks, cancer, and even strokes.
PROBLEMS, CONSTRAINTS AND PROSPECTS

It is quite natural that a change in the system of agriculture in a country of more than a billion people should be a well thought out process, which requires utmost care and caution. There may be several impediments on the way. An understanding of these problems and prospects will go a long way in decision making.

Problems and Constraints

The most important constraint felt in the progress of organic farming is the inability of the government policy making level to take a firm decision to promote organic agriculture. Unless such a clear and unambiguous direction is available in terms of both financial and technical supports, from the Centre to the Panchayath levels, mere regulation making will amount to nothing. The following are found to be the major problem areas for the growth of organic farming in the country:

Lack of Awareness

It is a fact that many farmers in the country have only vague ideas about organic farming and its advantages as against the conventional farming methods. Use of bio-fertilizers and bio-pesticides requires awareness and willingness on the part of the farming community. Knowledge about the availability and usefulness of supplementary nutrients to enrich the soil is also vital to increase productivity.

Farmers lack knowledge of compost making using the modern techniques and also its application. The maximum they do is making a pit and fill it with small quantities of wastes. Often the pit is flooded with rainwater and result is the top of the compost remains under composted the bottom becomes like a hard cake. Proper training to the farmers will be necessary to make vermicompost on the modern lines.

Output Marketing Problems

It is found that before the beginning of the cultivation of organic crops, their marketability and that too at a premium over the conventional produce has to be assured. Inability to obtain a premium price, at least during the period required to achieve the productivity levels of the conventional crop will be a setback. It was found that the farmers of organic wheat in Rajasthan got lower prices than those of the conventional wheat. The cost of marketing of both types of products was also same and the buyers of wheat were not prepared to pay higher prices to the organic variety (Rao, 2003).

Shortage of Bio-mass

Many experts and well informed farmers are not sure whether all the nutrients with the required quantities can be made available by the organic materials. Even if this problem can be surmounted, they are of the view that the available organic matter is not simply enough to meet the requirements.
The crop residues useful to prepare vermi-compost are removed after harvest from the farms and they are used as fodder and fuel. Even if some are left out on the farms termites, etc destroy them. Experiments have shown that the crop residues ploughed back into soil will increase productivity and a better alternative is conversion into compost.

The small and marginal cultivators have difficulties in getting the organic manures compared to the chemical fertilizers, which can be bought easily, of course if they have the financial ability. But they have to either produce the organic manures by utilizing the bio-mass they have or they have to be collected from the locality with a minimum effort and cost. Increasing pressure of population and the disappearance of the common lands including the wastes and government lands make the task difficult.

Marketing Problems of Organic Inputs

Bio-fertilizers and bio-pesticides are yet to become popular in the country. There is a lack of marketing and distribution network for them because the retailers are not interested to deal in these products, as the demand is low. The erratic supplies and the low level of awareness of the cultivators also add to the problem. Higher margins of profit for chemical fertilizers and pesticides for retailing, heavy advertisement campaigns by the manufacturers and dealers are other major problems affecting the markets for organic inputs in India.

Lack of Financial Support

The developing countries like India have to design a plethora of national and regional standards in attune with those of the developed countries. The adoption and maintenance of such a regulatory framework and its implementation will be costly.

Low Yields

In many cases the farmers experience some loss in yields on discarding synthetic inputs on conversion of their farming method from conventional to organic. Restoration of full biological activity in terms of growth of beneficial insect populations, nitrogen fixation from legumes, pest suppression and fertility problems will take some time and the reduction in the yield rates is the result in the interregnum. It may also be possible that it will take years to make organic production possible on the farm.

Small and marginal farmers cannot take the risk of low yields for the initial 2-3 years on the conversion to organic farming. There are no schemes to compensate them during the gestation period. The price premiums on the organic products will not be much of help, as they will disappear once significant quantities of organic farm products are made available.

Inability to Meet the Export Demand

The demand for organic products is high in the advanced countries of the west like USA, European Union and Japan. It is reported that the US consumers are ready to pay a premium price of 60 to 100 per cent for the organic products. The upper classes in India are also following this trend as elsewhere. The market survey done by the International Trade Centre
(ITC) during 2000 indicates that the demand for organic products is growing rapidly in many of the world markets while the supply is unable to match it.

**Vested Interests**

Hybrid seeds are designed to respond to fertilizers and chemicals. The seed, fertilizer and pesticide industry as also the importers of these inputs to the country have a stake in the conventional farming. Their opposition to organic farming stems from these interests.

**Challenges**

*Although many States have made remarkable progress in organic farming, it has not yet managed to assume the centre-stage of Indian agriculture. It needs to overcome challenges at policy, commercial and infrastructural levels*

Organic farming is fast assuming the new face of Indian agriculture. Educated and well-informed farmers with the aid of *kisan* help lines — launched by NGOs and Government departments and assisted by appropriate technology, have made impressive progress in organic farming. Owing to the ill effects of chemical pesticides and an increased acceptance of organic food, biological farming is being widely regarded as the next phase of evolution in the history of agriculture.

The Union Government’s determined approach coupled with the focus of various State Governments has helped many States to achieve a remarkable progress in organic farming. For instance, Sikkim recently became the first Indian State to go wholly organic. Thanks to the efforts of the Sikkim Organic Mission, nearly 67 per cent of the population is engaged in agriculture on 50,000 hectares of land that was transformed to organic farming. This has inspired other States to follow suit and have announced detailed policies for organic farming.

Despite such heartening developments, it is surprising that organic farming has not yet managed to assume the centre-stage of Indian agriculture. This is due to a number of challenges faced by the agricultural sector at policy, commercial and infrastructural levels. These challenges, if left unresolved, can negatively impact the growth of organic farming in India besides affecting the quality of organic food produce. More importantly, it is crucial to address these issues to safeguard the financial security of the farming sector.

One of the foremost challenges is the rampant use of pesticides and chemicals for weeds. This has caused an evolution of the pest and weed species and thereby, made them increasingly immune to chemicals. This is the first hurdle in the transition from conventional farming to organic farming.

As organic farming prohibits synthetic pesticides, the vulnerable farmer is at the mercy of severe attacks from mutant pests. The situation becomes worse not only with the discovery of newer variants of pests and diseases that are reported but also because of the traditional methods of pest control that fail to contain the damage to the crops.

The difficulties of an organic farmer does not end with harvesting the produce. Severe lack of suitable infrastructure is proving to be the Achilles’ heel for organic farming and its produce. Maximum organic farming consists of fruit and vegetable production, which is highly perishable by nature.
The challenge posed by inadequate agricultural infrastructure and cold storage facilities translate to loss of produce due to spoilage. Additionally, poor road infrastructure especially in the hilly States, results in poor and delayed connectivity to farmer markets. This is made worse by exorbitant tariffs that are charged by refrigerated truck operators to ferry the produce.

The Government must also recognise the fact that there is an acute shortage of effective and viable methods of organic pest control. To address the same, agriculture scientists and international research institutions need to be roped in to expedite research and development for organic herbicides that are integrated with traditional wisdom of pest control.

This can help the beleaguered organic farmers and provide them with effective herbicides that are as much potent as the chemical alternatives.

Pressure on the agricultural sector are greater than ever before. Thanks to the looming food scarcity, rampant use of pesticides and genetically modified crops. Organic farming seeks to restore the balance between nature and agriculture by addressing climate change, excess nitrogen flow and biodiversity loss. This helps to optimise the health and productivity of interdependent communities of soil life, plants, animals and people.

Prospects for Organic Farming in India

India is endowed with various types of naturally viable organic form of nutrients across different regions of the country which will be helpful in organic cultivation of crops (Butterworth et al., 2003; Reddy, 2010b). This will help substantially in organic cultivation. There is a wide diversity in climate and eco-system. India has a strong traditional farming system with innovative farmers, vast drylands and least use of chemicals. Infact, the rainfed tribal, north-east and hilly regions of the country where negligible chemicals are used in agriculture, have been practising subsistence agriculture for a long period; such areas are organic by default.

Indian agriculture should be able not only to maintain but also must strive to increase the production of foodgrains. It appears that given the availability of organic infrastructure, minimum efforts for conversion due to the low use of chemical farming methods and the limit of the public investment, organic farming can be progressively introduced. The potential areas and crops, which fulfill the above constraints, could be explored and brought under organic agriculture. The rainfed, tribal, north-east and hilly regions of India where the traditional farming is more or less practiced could be considered (Veeresh, 2003). Agriculture production in these areas is still almost on the traditional eco-friendly lines and making the farmers aware of the methods of organic farming may not be very difficult.
Conclusion

The ill effects of the conventional farming system are felt in India in terms of the unsustainability of agricultural production, environmental degradation, health and sanitation problems, etc. Organic agriculture is gaining momentum as an alternative method to the modern system. Many countries have been able to convert 2-10 per cent of their cultivated areas into organic farming. The demand for organic products is growing fast (at the rate of 20 per cent per annum) in the major developed countries.

References


Dahama, AK, 2002, Organic Farming for Sustainable Agriculture, Agribios (India), Jodhpur.


