



Organic Farming: A brief summary

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Abstract – The furtherance of technology and progress in agriculture has empowered our country to furnish food security. But this technology negative effect also. That types of technology imbalanced our ecosystem. Under such status, dangerous earthly concerns have been verbalized regarding the use of heavy chemicals, pesticides and fertilizers in agriculture in footing of their negative effect on the human health and the environment. The chance of ‘Organic Agriculture’ is the only solution to nurture the land and to reproduce the soil by going back to our traditional method of farming *i.e.*, free from chemicals, pesticides and fertilizers. This is a potential step for sustainable development by adopting not to use chemicals, synthetic materials, pesticides and generate hormones to produce high nutritional quality food and in appropriate quantity. This article provides an overview of organic agriculture in India.

Keywords: Development, Fertilizers, organic farming, Indian farmers, sustainable development.

Introduction: Sustainable development has caught up the imagination and course all over the world. Sustainable agriculture is urgent to attain the aim of sustainable development. According to the Food and Agriculture Organization (FAO), sustainable agriculture "is the successful management of resources for agriculture to fulfill alteration human needs. All definitions of sustainable agriculture lay down accent on care an agriculture growth rate, which can meet the demand for food of all living things without exhausting the basic resources. Organic farming is one of the basic things to 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 program, which prohibit the use of almost all synthetic inputs, and health of the soil is recognized as the central theme of the method. Bed effects of modern agricultural methods 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. The use 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 are thought of as the best methods to avoid the ill effects of chemical farming. There are many definitions of organic farming and the one given by the US Department of Agriculture (USDA) is view the most logical and stringent. It is defined as 'a system that is planed and upkeep to produce agricultural products by the use of methods and substances that upkeep the integrity of organic agricultural products until they reach the consumer. This is accomplished by using substances, to fulfill any special fluctuation within the system so as to maintain long term soil biological activity, ensure effective peak management, recycle wastes to return products without the use of extraneous synthetic additives or processing in accordance with the act and the regulations in this part. Nutrients to the land provide attentive care for farm animals and handle the agricultural

National Project on Organic Farming:

National Project on Organic Farming (NPOF) is a continuing central sector scheme since 10th Five Year Plan. Planning Commission approved the scheme as PILOT project for the remaining two and half years of 10th plan period with effect from 01.10.2004 with an outlay of Rs. 57.04 crore. The scheme is continuing in the 12th Plan.

NPOF is being implemented by National Centre of Organic Farming at Ghaziabad and its eight Regional Centers at Bangalore, Bhubaneswar, Panchkula, Ghaziabad, Impala, Jabalpur, Nagpur and Patna. Besides working for realization of targets under NPOF, NCOF and RCOFs are also performing specific roles in promotion of organic farming.

Our Objective:

- Promotion of organic farming in the country through technical capacity building of all the stakeholders including human resource development, transfer of technology, promotion and production of quality organic and biological inputs.





- Awareness creation and publicity through print and electronic media.
- To act as nodal quality control laboratory for analysis of biofertilizers and organic fertilizers as per the requirement of Fertilizer Control Order (FCO, 1985).
- Revision of standards and testing protocols keeping in view the advances in research and technology and bringing remaining organic inputs under quality control regime.
- Organic input resource management, technology development through support to research and market development.
- To maintain National and Regional culture collection bank of biofertilizer, biocontrol, waste decomposer organisms for supply to production units, development & procurement and efficacy evaluation of biofertilizer strains and mother cultures.
- Promotion of Organic Farming through low cost certification system known as “Participatory Guarantee System”.
- NPOF scheme provides financial assistance through Capital Investment Subsidy Scheme (CISS) for agro-waste compost production units, bio-fertilizers/bio-pesticides production units, development and implementation of quality control regime, human resource development, etc.

Progress of Organic Farming in India: The first conference of NGOs on organic farming in India was organized by the Association for Propagation of Indigenous Genetic Resources (APIGR) in October 1984 at Wareham. Several other meetings on organic farming were held at different places in the country towards the end of 1980s. Here, mention must be made of the Bordi Conference in Maharashtra, the state which was the focal point for the organic farming movement in India. The Rajasthan College of Agriculture with the support of the state government organized a meeting on organic agriculture in 1992. The United Planters' Association of South India (UPASI) organized two national level conferences on organic farming in 1993 and 1995. ARISE (Agricultural Renewal in India for a Sustainable Environment) is a major organization in the country engaged in the promotion of organic farming. ARISE was founded in 1995 at a national conference of organic farming held at Auroville. ARISE comprises of a supporting network of regional groups aiming at sustainable environment by protecting bio-diversity and promoting organic agricultural practices. The selection of Auroville for the conference was apt as it housed the Arabindo Ashram and the pioneering work under its auspices on building technology, alternative energy research, wasteland development, a forestation and organic agriculture. By 1980, three groups of Indians had taken to organic farming. The first one consisted of urban educated technocrats for peripheral interest, which did not last long. Educated farmers consisted of the second group whose farming practices were based on scientific knowledge. The third group practiced organic farming through trial and error. The successful organic farmers in India are those who have access to sufficient natural resources like, water and other organic inputs mostly on their own farms. These farms produce crops like sugarcane, areca, cocoa, coconut, pepper and spices. Many of them have shown that switch over to organic farming do not affect yields and income and more importantly, knowledge/ expertise is available for successful adoption of organic farming in the country. The International Federation of Organic Agriculture Movements (IFOAM) estimates that an area of about 41,000 hectares in India is under organic farming representing about 0.17 per cent of the world organic acreage. It also reveals that the percentage of organic area to the total cultivated area comes to only about 0.03 45 per cent and the total number of farms comes to about 5,661. But, a comparison of our 41,000 ha to Australia (10.5 million ha), Argentina (3.19 million ha), Italy (1.83 million ha), and USA (0.95 million ha) clearly indicates that organic farming in India has to go very far even to catch up with that of the leading nations of the world. Non Governmental Organizations (NGOs) are spearheading organic farming in India. A report in 2002 indicates that about 14,000 tones of organic products have been raised in India. They include tea, coffee, rice, wheat, pulses, fruits, spices and vegetables. India exports organic agricultural producers to European Union, USA, Canada, Saudi Arabia, UAE, Japan, Singapore and Australia, among others. The International Conference on "Indian Organic Products-Global Markets" at the end of 2002 was the first to be held in India. IFOAM predicts that India and China have great potential to be organic farm produce exporters in the future. An important event in the history of the modern nascent organic farming in India was the unveiling of the National Program for Organic Production (NPOP) on 8th May, 2000 and the subsequent Accreditation and Certification Program on 1st October, 2001. The logo "India Organic" was released on 26th July 2002 to support the NPOP.



Objectives:

1. To understand the benefit of Organic Farming.
2. To utilization of best natural resource.
3. To understand the sustainable development.
4. To analyze 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.

Need of organic farming:

Due to increase of population our irresistible impulse would be not only to stabilize agricultural production but to increase it further in sustainable type. The world has realized that the Green Revolution'with high input use has reached a tableland and is now sustained with fall return of falling earning. Thus, a natural balance needs to be maintained at all cost for existence of life and property. The obvious quality for that would be more appropriate in the present era, when these agrochemicals which are generate from fossil fuel and are not regenerate and are weakened 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 using organic matter.
- Providing crop nutrients indirectly using relatively insoluble nutrient sources.
- 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 maturing, resistant varieties and limited (preferably minimal) thermal, biological and chemical intervention.
- The extensive management of livestock, paying full regard to their evolutionary adaptations, behavioral needs and animal welfare issues with respect to nutrition, housing, health, breeding and rearing .

Benefits of organic farming: Organic farming is a science of agriculture that uses the biological product for cultivating crops to relating to the nature. Positive practice for organic farming can be useful in every manner and can be highly benefit in comparison to the traditional. 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 are 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 are the health benefits of organic foods. People consuming organic foods reduce 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 vermin-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.

Prospects for Organic Farming in India: India is endowed with various types of naturally feasible organic form of nutrients through different areas of the country which will be helpful in organic farming of crops. This will help substantially in organic farming. There is a wide variety in climate and eco-system. India has a strong traditional farming system with innovative farmers, vast dry lands and least use of chemicals. Infact, the rained tribal, north-east and hilly regions of the country where negligible chemicals are used in agriculture, have been practicing 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 food grains. 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 rained, tribal, north-east and hilly regions of India where the traditional farming is more or less practiced could be considered (Veers, 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.

Suggestion and Recommendation:

- The farmers' should be trended about organic farming.
- Government should be providing subsidies for organic agriculture.
- Higher prices should be determined by the government for organic product.
- Agriculture universities should encourage the research in the field of organic farming.



- Government, NGO's and extension workers should organize various workshops, seminars, conferences for farmer about organic farming.
- Private companies should invest in the project of producing organic food products.
- At an individual level, should promote the use of organic product.

Conclusion: Organic agriculture is a healthy food production system works with the sustainable use of topically available natural resources. The need is to follow a comprehensive approach for the advancement of organic agriculture by taking cooperation of all stakeholders, environmental friendly technologies, marketing infrastructure and financial support for quality and quantity organic food production . An environmentally sustainable system of agriculture like organic agriculture will be able to maintain a resource balance, avoid over exploitation of resource, conserving soil nutritional quality and s health, and biodiversity.

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