

Organic farming in India: status, scope and potential

Sagar Maitra¹ and A Zaman²

M S Swaminathan School of Agriculture
Centurion University of Technology & Management
Paralakhemundi-761 211, Odisha, India
Email: sagarmaitra69@gmail.com

Abstract

India is one of the agricultural based Nations with more than two third of the population is directly or indirectly involved in agricultural sector. Before 1960, in India only traditional agriculture was followed without intervention of synthetic and chemical fertilizers and pesticides. There was threatening to food security to fulfill the hunger of the population and frequent climatic aberrations during late 1960s. The Government of India had entered into the path of so called green Revolution. There was increase in production and productivity at that time and our country was able to satisfy partly the food security. After three or four decades, production and productivity reduced drastically with abnormal input costs and the farming sector turned to be unfavorable occupation to all concerned. Soil degradation, high pest-disease-weed infestation, more water consumption and non-judicious use of inputs, unfavorable price and with several natural and manmade issues, the farming turned to be unworthy for farmers. Under these circumstances, there was a need to search the potential of organic farming in our country as the practice was emerging in several countries all over the world for the last two decades. India also started its journey towards organic farming to meet domestic and export need of organic produce during end of last century. In this article, study is done about present status, scope and future potential of organic farming in India in global perspective.

Keywords: Organic farming; status; scope; potential

Introduction

India is one of the agricultural based country, wherein more than two third of the population depends to agricultural sector. The share of agriculture in the Gross Domestic Product (GDP) has been registered a steady decline from 50% in 1950-51 to 12.5% in 2014-15. In India, a large number of farmers and farm labourers are migrating from this sector. This reveals clearly that there is no chance to have satisfactory growth in farming. The existing farming practice is called conventional agriculture which using synthetic and fossil-fuel based inputs like chemical fertilizers, pesticides, herbicides, with a certain extent of mechanical implements

for various processes. Prior to 1965, our country followed traditional farming practice without chemical fertilizers and pesticides. Most of developed countries and some developing nations are returning to organic farming practice during the last two decades due to various problems raised in conventional farming. Organic farming is one amongst the broad spectrum of production methods that are supportive of the environment. Agriculture remains the key sector for the economic development for most developing countries. It is critically important for ensuring food security, alleviating poverty and conserving the vital natural resources that the world's present and future generations will be entirely dependent upon for their survival and well-being. The essential concept of the practices is "give back to nature", where the philosophy is to feed the soil rather than the crop to maintain the soil health. Therefore, for sustaining healthy ecosystem, there is need for adoption of an alternative farming system like organic farming.

Present concept of Organic Farming

Organic agriculture has grown out of the conscious efforts by inspired people to create the best possible relationship between the earth and men. Since its beginning the sphere surrounding organic agriculture has become considerably more complex and confusing. A major challenge today is certainly its entry into the policy making arena, its entry into anonymous global market and the transformation of organic products into commodities. There has also been a significant sensitization of the global community towards environmental preservation and assuring of food quality during the last two decades. Ardent promoters of organic farming consider that it can meet both these demands and become the mean for complete development of rural areas. After almost a century of development organic agriculture is now being embraced by the mainstream and shows great promise commercially, socially and environmentally. The modern organic movement is radically different from its original form and it now has environmental sustainability at its core in addition to assurance of healthy soil, healthy food and healthy people.

In today's terminology it is a method of farming system which primarily aims at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (bio-fertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly and pollution free environment.

The International Federation of Organic Agriculture Movements (IFOAM) described the organic agriculture in the following way: "Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition,

innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved."

As per the definition of the United States Department of Agriculture (USDA) study team on organic farming is as follows: "Organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection".

In another definition Food and Agriculture Organization (FAO) suggested the following: "Organic agriculture is a unique production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity, and this is accomplished by using on-farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farm inputs".

National Program on Organic Production (NPOP), India described organic agriculture in the following: "Organic agriculture is a system of farm design and management to create an eco-system which can achieve sustainable productivity without the use of artificial external inputs such as chemical fertilizers and pesticides."

From the above definitions, it is clear that philosophically organic farming means 'farming in spirits of organic relationship. In this system everything is connected with everything else'. Since organic farming means placing farming on integral relationship with all essential components and it is the totality of these relationships that is the bed rock of organic farming.

Present status of Organic Farming: a world view

The year 2009 witnessed several major developments in the field of standards and regulations. The new European Union (EU) regulation on organic production came into force as well as the Canadian organic standard. Furthermore, the Australian domestic organic standard was implemented. Canada and the United States (US) concluded the world's first fully reciprocal agreement between regulated organic systems, and the EU introduced procedures for approving certification bodies from outside the EU. It is expected that these developments will ease trade in organic products and foster the future growth of the sector. The number of countries with organic standards has increased to 82.

In 2015, FIBL and IFOAM published a survey report in which a total of almost 2 million organic producers were reported. According to the data obtained, more

than three quarters of the producers are located in developing and transition countries. The country with the most producers is India (6,50,000), followed by Uganda (1,89,610) and Mexico (1,69,703). It should be noted that not all certifiers reported the number of producers; their number is probably higher than 2 million. In 2009, FAO, IFOAM and the United Nations Conference on Trade and Development (UNCTAD) started the Global Organic Market Access (GOMA) project. The aim of GOMA is to facilitate equivalence, harmonization and other types of cooperation in order to simplify the process for trade flow of products among the various organic guarantee systems. There has been modest growth in the number of certification bodies. Several organic standard setters have also developed draft standards for climate “add-ons” for organic certification, and it is expected that the use of carbon labeling by retailers will grow considerably in the future.

Both private and public development initiatives have contributed considerably in the last 25 years to the growth of the organic sector in many countries of the world. Activities have related to, for instance, building up the capacities of different stakeholder groups in the organic sector, developing domestic and international markets, and developing local standards and legislations. One of the new initiatives is the proposed Organic Research Centers Alliance (ORCA), hosted by FAO, which intends to internationally network and strengthen existing institutions with scientific credentials and empower them to become centers of excellence in trans-disciplinary organic agriculture research. International trade, an engine for growth can substantially contribute to poverty reduction in developing countries. The Trade, Climate Change and Environment Program of the International Trade Centre (ITC) supports the organic sector through the provision of market information, training in standards compliance, and trade promotion; by supporting policies favorable to organic agriculture and trade; and by facilitating business contacts.

The global organic food market size is of 63.8 billion USD (2013-14). India’s total export of organic agricultural products in 2013-14 was of 220.47 million USD. It is important to mention that India’s share in the global food market is less than a per cent and there is a huge potential to explore the new arena.

Organic Agriculture in India

Since January 1994 ‘Sevagram Declaration’ for promotion of organic agriculture in India, organic farming has grown many folds and number of initiatives at Government and Non-Government level has given it a firm direction. While National Programme on Organic Production (NPOP) defined its regulatory framework, the National Project on Organic Farming (NPOF) has defined the promotion strategy and provided necessary support for area expansion under certified organic farming.

Before the implementation of NPOP during 2001 and introduction of accreditation process for certification agencies, there was no institutional arrangement for assessment of organically certified area. Initial estimates during 2003-04 suggested that approximately 42,000 ha of cultivated land were certified organic. By 2009 India had brought more than 9.2 million ha of land under certification and it has been increased further. From the following figures we may get an idea about the present status of certified organic farming in India.

Status of Organic Certification in India (2013-14)
Area under organic certification: 4.72 m ha
Cultivated Area: 0.72 m ha
Forest Area: 4.00 m ha
Organic Certified Production: 1.24 million MT
Cultivable Production: 1.23 m MT
Wild Collection: 0.01 m MT

Source: APEDA, 2015

With the phenomenal growth in area under organic management and growing demand for wild harvest products India has emerged as the single largest country with highest arable cultivated land under organic management. India has also achieved the status of single largest country in terms of total area under certified organic wild harvest collection. Besides, India had achieved the status of largest organic cotton grower in the world, with more than 50 per cent of total world's organic cotton. Moreover, India exports organic foods and earns foreign currency. Organic exports including food items from India are increasing with more farmers shifting to organic farming. The domestic consumption being low, the prime market for Indian organic food industry lies in the US and Europe. India has now become a leading supplier of organic herbs, organic spices and organic basmati rice. The exports about a half of the organic food produced in India. The major organic products exported from India are tea, pulses, sugar, Basmati rice, oilseeds (sesame and soybean) spices, cotton, medicinal plants and herbs, processed foods and dry fruits. The increasing demand for organic food products in the developed countries and the extensive support by the Indian government coupled with its focus on agri-exports are the drivers for the Indian organic food industry.

India's Organic Exports (2013-14)
Quantity Exported: 194087 MT
Food: 177765 MT Textiles: 16322 MT
Increase over previous year: 17.4 %
Value of Exports: 2428 Crores Rupees
Food exports: 1328 Crores Textiles: 1100 Crores
Increase over previous year: 15.28 %
In USD : 403.09 Million USD
Increase over previous year: 7.74 %

Source: APEDA, 2015

NPOP notified under Foreign Trade Development and Regulation Act (FTDR) looks after the export requirement. The NPOP notified under this act has already been granted equivalence by European Union and Sweden. USDA has also accepted the conformity assessment system of NPOP. Due to this, the product certified by any Indian accredited certification agency under NPOP can be exported to Europe, Sweden and USA without the requirement of re-certification. To look after the requirement of import and domestic market the same NPOP has been notified under Agriculture Produce Grading, Marking and Certification Act (APGMC). Regulatory body of NPOP under FTDR act is Agricultural and Processed Foods Export Development Authority (APEDA) under Ministry of Commerce and of NPOP under APGMC act is Agricultural Marketing Advisor (AMA) under Ministry of Agriculture. Accreditation of Certification and Inspection Agencies is being granted by a common National Accreditation Body (NAB). There are 26 accredited certification agencies that are looking after the requirement of certification process. The following figures clearly indicated the quantum of involvement of stakeholders in organic farming in India.

Organic Stakeholders under NPOP
<ul style="list-style-type: none"> ▶ Certification Bodies : 26 ▶ Number of Certified Operators : 4346 ▶ Number of individual operators : 2109 ▶ Number of Producers : 971 ▶ Number of Processor : 682 ▶ Number of Trader/Exporter : 693 ▶ Number of Grower Group- : 2237 ▶ Number of farmers : 5.91lakhs ▶ Number of Wild operators : 63 ▶ Total number of wild collectors : 143610

Source: APEDA, 2015

Although no systematic information is available on size of organic food market by as per the survey conducted by the International Competence Centre for Organic Agriculture (ICCOA) in top 8 metro cities of India (which comprise about 5.3 per cent of the households) the market potential for organic foods in 2006 in top 8 metros of the country was at Rs 562 crore and it may be said that the demand of organic food has been increased during last one decade due to consciousness of the urban people.

India is poised for faster growth with growing domestic market. Success of organic movement in India depends upon the growth of its own domestic markets. India has traditionally been a country of organic agriculture, but the growth of modern scientific, input intensive agriculture has pushed it to wall. But with the increasing awareness about the safety and quality of foods, long term sustainability of the system and accumulating evidences of being equally productive, the organic farming has emerged as an alternative system of farming which not only address the quality and sustainability concerns, but also ensures a debt free, profitable livelihood option. The increase in organic food consumption in India is evident from the fact that many organic food stores are spurring up in India. Today, in big cities in India, every supermarket and departmental store have an organic food store compartment and every large city in India has numerous organic food stores and restaurants. The pattern of organic food consumption in India is much different than in the developed countries. In India, consumers prefer organic marmalade, organic strawberry, organic tea, organic honey, organic cashew butter and various organic flours. However, the Indian organic food consumer needs education. There are many consumers who are unaware of the difference between natural and organic food. Many people purchase products labeled as 'Natural' thinking that they are 'Organic'. Furthermore, consumers are not aware of the certification system. Since certification is not compulsory for domestic retail in India, many fake organic products are available in the market.

The roles of organic farming in Indian rural economy can be leveraged to mitigate the ever-increasing problem of food security in India. With rapid industrialization of rural states of India, there has been a crunch for farmland. Further, with the exponential population growth of India, the need for food sufficiency has become the need of the hour. Furthermore, the overuse of synthetic inputs like pesticides and fertilizers for faster growth of agricultural produce is detrimental to human health and the environment as a whole. The proposition of organic farming in India rural economy holds well, as an alternative to mitigate this problem.

Prospects of organic farming in dry lands

There is a wide diversity in climate and eco-system. India has a strong traditional farming system with innovative farmers, vast dry lands and least use of chemicals. In fact, the rainfed 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. Organic farming has assumed immense significance in the dry land areas also. Soil and climatic conditions in India's dry lands make them particularly well suited to organic agriculture. These marginal lands, with their marginal soils do not respond well to intensive farming practices. These are actually better suited to low-input farming systems that make ample use of the biodiversity (Sharma, 2000). In turn, organic farming with its central focus on maintaining and improving soil health, its avoidance of pollutants, and its reliance on local inputs and labour, can materially advance the economic and ecological health of the dry lands, as well as people who live there. Semiarid and arid dry land soils typically are poor in water-holding capacity as well as organic matter (Sharma, 2000). In some areas, depth of the soil is another limiting factor for agricultural production. Addition of organic matter, a corner stone of organic farming practices, will not only improve the physical condition of these dry land soils, but also greatly improve their ability to supply balanced plant nutrients. In dry lands, there is over-exploitation of natural resources (Reddy, 2010) mainly because of inappropriate production-enhancing technologies. Such diversified systems have been found efficient in nutrient recycling and restoration of soil fertility that the basic aims of organic farming; they minimize pest incidence as well. Furthermore, India's traditional farmers possess a rich body of wisdom, based on long observation and practice, concerning soil fertility and pest control management; this can be used to strengthen organic systems (Sharma and Goyal, 2000; Adolph and Butterworth, 2002) These two factors will also aid the quick development of more efficient, more productive organic farming systems in these areas. In terms of input supply, the drylands are very rich in local resources that are suitable for supporting organic farming.

Conclusions

A congenial socio-cultural environment prevails in India for the promotion of organic agriculture. The farmers of India had been practicing eco-friendly agriculture for centuries till the advent of the so-called 'green revolution' which was based on the conventional farming methods prevailed in the western countries. Still many resource-poor, small and marginal farmers, because of many reasons, have not fully adopted the conventional farming and they follow more or less the traditional environment friendly system. They use local or own farm derived renewable resources and manage self-regulated ecological and biological processes. This has become necessary to cultivate the acceptable levels of crop, livestock and human nutrition products and above all to protect both the crops and humans from pests and diseases through the use of locally available low-cost inputs. Such a situation is suitable for making the farming community aware of the organic farming methods to make the switch over less troublesome. A country like India can enjoy a number of benefits from the adoption of organic farming. The price premiums for the products, conservation of the natural resources in terms of improved soil fertility and water quality, prevention of soil erosion, preservation of natural and agro-biodiversity are major benefits. Economic and social benefits like generation of rural employment, lower urban migration, improved household nutrition, local food security and reduced dependence on external inputs will be large gains in the Indian conditions. The protection of environment and the consequent increase in the quality of human life will be other contributions of organic farming. There is a good demand for organic products in the domestic and export market. The basic rules and regulations for accreditation and certification of organic products are in place in India. Considering the above, it may be concluded that organic farming will progress tremendously in India, more especially in the dry land regions of the country, taking advantage of the diverse soil and climatic conditions. From ecological point of view, it may be stated that eco-friendly and sustainable approach of organic farming will give self-reliance and stable livelihood to the vulnerable farming community of India.

References

- Adolph, B. and Butterwoth, J. (2002) *Soil Fertility Management in Semi-Arid India: Its Role in Agricultural Systems and the Livelihoods of Poor People*, Natural Resources Institute, UK;
- Anonymous. (2015). Organic Agriculture Worldwide: Current Statistics. www.fibl.org. (17/06/2017);
- Bose Saswati, (2016). National Program for Organic Production. www.apeda.gov.in (30/05/2016);

Reddy Suresh B., (2010). Organic Farming: Status, Issues and Prospects – A Review. *Agricultural Economics Research Review*. **23**: 343-358;

Sharma A. K., (2000). Sustainability through simplicity: Rainwater conservation in the arid zone of India. *Indian Water Resources Quarterly*, **48**(1): 5-10.

Sharma A. K. and Goyal R. K., (2000). Addition in tradition: Agro-forestry in the arid zone in India. *LEISA India*, **2**(3): 19-20;

Yadav A. K. (2010), Organic Agriculture (Concept, Scenario, Principles and Practices). National Centre of Organic Farming Department of Agriculture and Cooperation, Ministry of Agriculture, Govt of India, CGO-II, Kamla Nehru Nagar, Ghaziabad, 201 001, Uttar Pradesh. www.ncof.dacnet.nic.in;