Organic Agriculture: its Concept, Scenario and Distribution

Sneh Gangwar
Aditi Mahavidyalaya, University of Delhi

1. INTRODUCTION

Although all living tissue is technically organic, the term "organic food" or organically grown" has been used in recent years to refer specifically to foods produced without the aid of chemical fertilizers, pesticides or food additives. The term organic refers only to the process used to produce the food, rather than making guarantees about the food itself. Therefore, 'organic' is a process claim rather than a product claim. Organic agriculture relies on natural products and processes to grow crops, improve soil quality, control pests and promote bio-diversity. The emphasis in organic agriculture is on prevention of problems rather than relying only on curative intervention. A principle of organic agriculture is the concept that productivity of organic farming starts at the soil. A well-balanced and biologically active soil will provide the crop with sufficient nutrients for optimum growth and yields with a minimum of pest and disease problems.

2. ORGANIC AGRICULTURE

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. A major challenge today is certainly its entry intothe policy making arena, its entry into anonymous global market and the transformation of organic products into commodities. During the last two decades, there has also been a significant sensitization of the global community towards environmental preservation and assuring of food quality. 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. While there is continuum of thought from earlier days to the present, the modern organic movement is radically different from its original form. It now has environmental sustainability at its core in addition to the founders concerns for healthy soil, healthy food and healthy people.

3. CONCEPT OF ORGANIC FARMING

Organic farming is very much native to this land. Whosoever tries to write a history of organic farming will have to refer India and China. The farmers of these two countries are farmers of 40

centuries and it is organic farming that sustained them. This concept of organic farming is based on following principles:

- Nature is the best role model for farming, since it does not use any inputs nor demand unreasonable quantities of water.
- The entire system is based on intimate understanding of nature's ways. The system does not believe in mining of the soil of its nutrients and do not degrade it in any way for today's needs.
- The soil in this system is a living entity.
- The soil's living population of microbes and other organisms are significant contributors to its fertility on a sustained basis and must be protected and nurtured at all cost.
- The total environment of the soil, from soil structure to soil cover is more important.

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 (biofertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly pollution free environment.

As per the definition of the USDA study team on organic farming “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 FAO suggested that “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”.

In philosophical terms 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, we should be well aware about the relationship between the soil, water and plants, between soil-soil microbes and waste products, between the vegetable kingdom and the animal kingdom of which the apex animal is the human being, between agriculture and forestry, between soil, water and atmosphere etc. It is the totality of these relationships that is the bed rock of organic farming.

4. THE WORLD OF ORGANIC AGRICULTURE

As per the details released at BioFach 2010 at Nuremberg, the organic agriculture is developing rapidly, and statistical information is now available from 154 countries of the world. Its share of

agricultural land and farms continues to grow in many countries. The main results of the latest global survey on certified organic farming are summarized below:

Growing area under certified organic agriculture

- 35 million hectares of agricultural land are managed organically by almost 1.4 million producers.
- The regions with the largest areas of organically managed agricultural land are Oceania (12.1 million hectares), Europe (8.2 million hectares) and Latin America (8.1 million hectares). The countries with the mostorganic agricultural land are Australia, Argentina and China.
- The highest shares of organically managed agricultural land are in the Falkland Islands (36.9 percent), Liechtenstein (29.8 percent) and Austria (15.9 percent).
- The countries with the highest numbers of producers are India (340'000 producers), Uganda (180'000) and Mexico (130'000). More than one third of organic producers are in Africa.
- On a global level, the organic agricultural land area increased in all regions, in total by almost three million hectares, or nine percent, compared to the data from 2007.
- Twenty-six percent (or 1.65 million hectares) more land under organic management was reported for Latin America, mainly due to strong growth in Argentina. In Europe the organic land increased by more than half a million hectares, in Asia by 0.4 million.
- About one-third of the world's organically managed agricultural land – 12 million hectares is located in developing countries. Most of this land is in Latin America, with Asia and Africa in second and third place. The countries with the largest area under organic management are Argentina, China and Brazil.
- 31 million hectares are organic wild collection areas and land for bee keeping.

5. ORGANIC AGRICULTURE IN INDIA

The growth of organic agriculture in India has three dimensions and is being adopted by farmers for different reasons. First category of organic farmers are those which are situated in no-input or low-input use zones, for them organic is a way of life and they are doing it as a tradition (may be under compulsion in the absence of resources needed for conventional high input intensive agriculture). Second category of farmers are those which have recently adopted the organic in the wake of ill effects of conventional agriculture, may be in the form of reduced soil fertility, food toxicity or increasing cost and diminishing returns. The third category comprised of farmers and enterprises which have systematically adopted the commercial organic agriculture to capture emerging market opportunities and premium prices. While majority of farmers in first category are traditional (or by default) organic they are not certified, second category farmers comprised of both certified and un-certified but majority of third category farmers are certified. These are the third category commercial farmers which are attracting most attention. The entire data available on organic agriculture today, relates to these commercial organic farmers

6. GROWING AREA OF ORGANIC AGRICULTURE

Emerging from 42, 000 ha under certified organic farming during 2003-04, the organic agriculture has grown almost 29 fold during the last 5 years. By March 2010 India has brought more than 4.48 million ha area under organic certification process. Out of this cultivated area accounts for 1.08 million ha while remaining 3.4 million ha is wild forest harvest collection area.

7. REGULATORY MECHANISM

For quality assurance the country has internationally acclaimed certification process in place for export, import and domestic markets. National Programme on Organic Production (NPOP) defines the regulatory mechanism and is regulated under two different acts for export and domestic markets. 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). 18 accredited certification agencies are looking after the requirement of certification process. Out of these 4 agencies are under public sector while remaining 14 are under private management. Growing number of farmers and operators - Out of total 2099 operators, while processors account for 427 and individual farmers 753, majority of farmers i.e. 597, 873 are small and marginal farmers covered by 919 grower groups. Out of the total organic producers in the world approximately half of them are in India. This is mainly because of small holdings with each producer.

8. ISSUES OF CONCERN

1. Organic farming and nutrient supply

At present, there is a gap of nearly 10 million tonnes between annual addition and removal of nutrients by crops which are met by mining nutrients from soil. A negative balance of about 8 million tonnes of NPK is foreseen in 2020, even if we continue to use chemical fertilizers, maintaining present growth rates of production and consumption. The most optimistic estimates at present, show that only about 25-30 per cent nutrient needs of Indian agriculture can be met by utilizing various organic sources.: These organic sources are agriculture wastes, animal manure etc.

2. Organic farming and plant protection

Plant protection against the ravages of pests, diseases and weeds is an important issue in any modern high production system. The exclusion of pesticides for plant protection poses greater risk of yield losses. The options available under organic production systems are very few and crop specific. Often they are very slow and the success rate depends on the prevailing weather conditions leading to low to moderate effectiveness even in the recommended crops and situations. Thus they limit the realization of full potential of crop yields. Any sudden outbreak of insect pests or plant disease can completely destroy the crops, unless requisite chemical pesticides are used.

3. Organic farming and crop productivity

In general, it is observed that the crop productivity declines under organic farming. The extent of decline depends on the crop type, farming systems practices followed at present etc. The decline is more in high yielding and high nutrient drawing cereals as compared to legumes and vegetables and in irrigated systems as compared to rainfed and dryland farming systems. Without using fertilisers, the requirement of area to merely sustain the present level of food grain production will be more than the geographical area of India! This is simply neither possible nor sustainable.

4. Organic farming and food quality.

It is often opined that the quality of the organically produced food is superior to that of conventionally produced food. However, there is no such conclusive proof to justify the nutritional superiority of the organically produced food, over conventionally produced food. If the conventionally produced foods are blamed to contain traces of chemical residues, the organically produced foods are equally to be blamed for their contamination with harmful bacteria and other organisms inimical to the health of the consumers.

5. Organic farming products and marketing

There are no diagnostic techniques available as of now to distinguish products from different farming systems. The perceived belief that organic products are good for health is fetching them premium prices. However, unscrupulous hawkers may sell anything and everything as organically produced to unsuspecting buyer at higher prices resulting in outright cheating.

9. FUTURE PROSPECTS

Although, commercial organic agriculture with its rigorous quality assurance system is a new market controlled, consumer-centric agriculture system world over, but it has grown almost 25-30% per year during last 10 years. In spite of recession fears the growth of organic is going unaffected. The movement started with developed world is gradually picking up in developing countries. But demand is still concentrated in developed and most affluent countries. Local demand

for organic food is growing. 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.