

Organic farming: opportunities and challenges before the Indian farming community

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Several eco-friendly techniques of production of crops have been studied and used over the past many years, particularly after 1970s when concerns about the adverse impacts of pesticides and other synthetic inputs on human well being and environment were first raised. Various names have been assigned to these techniques such as sustainable agriculture, biodynamic agriculture, bio-intensive gardening and organic farming. There are minor differences among these methods, however, the objectives are the same i.e. production of agricultural commodities in an eco-friendly and sustainable manner.

Among these methods, organic farming is widely prevalent as a term as well as a highly systematic technology. Organic farming has been defined by FAO/WHO Codex Alimentarius Commission as "a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system." European Union, USA, UK and Australia are among the world's leading countries in organic food production and utilisation. Organic production is carried out under an extensive regulatory setup because organic products are sold as value-added products with certified organic labelling in

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developed countries. Production is strictly monitored at every step in production chain. Certification also ensures that the consumer knows from where the product is coming. It is similar to 'wool mark' used in certifying woollen clothing.

Worldwide organic food industry is growing at a phenomenal rate of around 10 to 20% per year. Organic production apart from being eco-friendly offers higher net returns per unit area compared to conventional agriculture. Thus, adoption of organic agriculture makes sense from pure business point of view as well. However, conversion from conventional to organic production should be carried out gradually. Initially, there may be a significant reduction in yield but after a conversion period of about 3 to 5 years organic yields may be as high as 90-95% of conventional yields. Organic production uses traditional tillage systems, crop rotations, crop residues, animal manures, legumes, green manures, off-farm organic wastes, mineral bearing rocks, and biological pest and weed control to maintain soil productivity. Thus, an organic farm should be a self contained system of production with minimal dependence on external inputs. Those farms having dairy as one of the active components will have to convert to organic livestock management so that manures supplied are as per requirements for organic production. The dairy products can also be certified organic to fetch higher prices. Organic farming is a highly labour intensive enterprise. Therefore, it offers greater opportunities for rural employment.

Though a lot of stress is being laid on the promotion of exports of organic produce, it has to be said that production for export will require implementation of stringent production norms and certification of produce- as also the production process- from an internationally accredited certification agency. Some of the major organic accreditation agencies are IFOAM (International Federation of Organic Agriculture Movements), FiBL, Demeter and many more. In India, Agricultural and Processed Food Products Exports Development Authority (APEDA) is the nodal agency for accreditation of certification agencies apart from Coffee Board, Spices

Board, Tea Board, Coconut Development Board and Directorate of Cashew and Cocoa Development. APEDA has also developed national standards for organic production. These standards are required to be further supplemented with organic standards of the country where we intend to export produce. The standards implementation is carried out by accredited certification agencies. To market produce under 'India Organic' logo, certification is a must.

Indian farmers face many challenges in adoption of certified organic production. Among these fragmented land holdings, high cost of certification and uncertain markets are the main problems. However, these problems could be overcome by forming self help groups or cooperatives. This will help the farmers in making collective decisions during production and cost of certification can be reduced by group certification.

Some of the important organic production requirements as per national standards for organic production developed by APEDA are reproduced below:

- Genetically engineered cultivars or plant materials are not permitted in organic production
- The seed for raising a crop should either be organically produced or if organic seed is not available, conventional seed without any chemical treatment may be used
- Whole farm including the livestock should be converted to organic in a step-by-step manner
- If the whole farm is not converted, the certification programme shall ensure that the organic and conventional parts of the farm are separate and inspectable.
- Before products from a farm/project can be certified as organic, inspection shall be carried out during the conversion period

- To ensure a clear separation between organic and conventional production, the certification programme (agency) shall inspect, where appropriate, the whole production system.
- Plant products produced can be certified organic when the national standards requirements have been met with during the conversion period of at least two years before sowing for annual crops or in the case of perennial crops other than grassland, at least three years before the first harvest of products
- Biodegradable material of microbial plant or animal origin shall form the basis of the fertilisation programme
- Manures containing human excreta (faeces and urine) can not be used on vegetation for human consumption
- Mineral fertilisers shall only be used in a supplementary role to carbon based materials. Permission for use shall only be given when other fertility management practices have been optimised
- Chilean nitrate and all synthetic nitrogenous fertilisers, including urea, are prohibited
- Mineral fertilisers shall be applied in their natural composition and shall not be rendered more soluble by chemical treatment
- Products used for pest, disease and weed management, prepared at the farm from local plants, animals and micro-organisms, are allowed
- The use of synthetic herbicides, fungicides, insecticides and other pesticides is prohibited
- In case of reasonable suspicion of contamination the certification programme shall make sure that an analysis of the relevant products and possible sources of pollution (soil and water) shall take place to determine the level of contamination

- For protected structure coverings, plastic mulches, fleeces, insect netting and silage rapping, products based only on polyethylene and polypropylene or other polycarbonates are allowed. These shall be removed from the soil after use and shall not be burnt on the farmland. The use of polychloride based products such as PVC film is prohibited

The detailed description of various regulations governing organic production can be obtained from APEDA or downloaded from their website www.apeda.com. These stringent production requirements have been laid down to help produce the food commodities suitable for export. According to recent estimates, organic food market is worth around 15 billion sterling pounds worldwide and growing at a fast pace. Therefore, development of production practices in accordance with regional conditions and farmer requirement is need of the hour. India can utilise her economical manpower to produce cost competitive and high quality products for export and for domestic market. Organic production is one area of agriculture which can convert India's 'Green Revolution' into 'Evergreen Revolution'. However, it will require highest level of commitment from every individual and institution engaged directly or indirectly in promotion of organic farming. Who knows we might be looking at another billion dollar industry in the making similar to information technology.