
A Natural Tool for Protection of Environment: Organic Farming

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INTRODUCTION

The agriculture sector is experiencing a renovation motivated by new machineries, which seems very encouraging as it will facilitate this primary division to travel to the next level of farm yield and productivity (Himesh, 2018). A more suitable definition of organic agriculture is provided by the National Organic Standards Board (NOSB) — the federal advisory panel created to advise the USDA on developing organic legislation.

“An ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off farm inputs and on management practices that restore, maintain and enhance ecological harmony (NOSB, 1995).”

Intensive conventional farming can add contamination to the food chain. For these reasons, consumers are quested for safer and better foods that are produced through more ecologically and authentically by local systems. Organically grown food and food products are believed to meet these demands (Rembialkowska, 2007). Though in the past green revolution technologies have amplified crop yields and produced food to meet caloric requirements of the global population (Smil, 2000), there are also increasing concerns about the environmental costs, such as increased soil erosion, surface and groundwater contamination, greenhouse gas

emissions, increased pest resistance and reduced biodiversity and so (Smil, 2000) forth, with use of such technologies (Pimentel, 1996 and Tilman *et al.*, 2002). In recent years, organic farming as a cultivation process is gaining increasing popularity (Dangour *et al.*, 2010). Organically grown foods have become one of the best choices for both consumers and farmers (Chopra *et al.*, 2013).

Principals for Organic Farming: Organic manure, Crop rotation, Vermicomposting, Nitrogen fixing microorganisms, organic residue, crop residue, bio fertilizers, bio pesticides, kitchen waste, sludge and biogas are some of the main elements. These are proved to be very useful in maintaining soil health and texture. Their use is eco-friendly and helps in developing sustainable agriculture. In organic farming, more emphasis is given to the environmental health. Due to its nature friendly approach, it helps in reducing soil, water and air pollution. Therefore, acts as natural tool for environmental protection and sustainable development (Skoufogianni, 2016). Some principles are the core of organic agriculture that ensures sustainable development (Luttkholt, 2007).

Status of Organic Farming in India: Organic food and farming have sustained to grow across the world. Since 1985, the total area of farmland under organic production has been increased securely over the last three decades (Willer and Lernoud, 2019). By 2017, there was a total of 69.8 million hectares of

organically succeeded land recorded globally which represents a 20% growth or 11.7 million hectares of land in comparison to the year 2016. This is the largest growth ever recorded in organic farming (Willer and Lernoud, 2019). The growth of organic farming in India was quite dawdling with only 41,000 hectares of

organic land comprising merely 0.03% of the total cultivated area. In India during 2002, the production of organic farming was about 14,000 tonnes of which 85% of it was exported (Chopra *et al.*, 2013). The most important barrier considered in the progress of organic agriculture in India was the lacunae in the

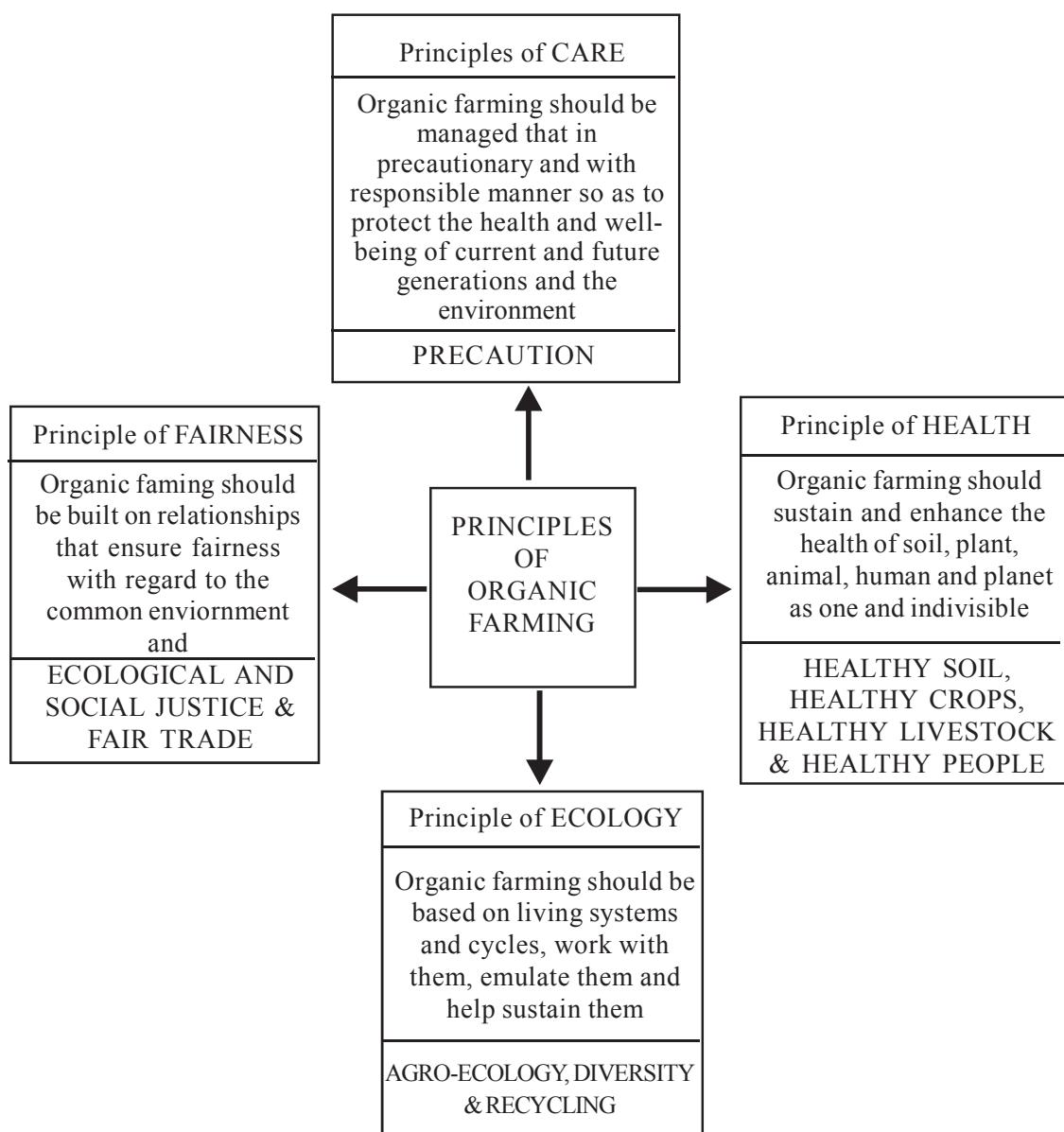


Figure:1. Principles of organic farming (adapted from IFOAM, 1998).

government policies of making a firm decision to promote organic agriculture. Moreover, there were several major drawbacks in the growth of organic farming in India which include lack of awareness, lack of good marketing policies, shortage of biomass, inadequate farming infrastructure, high input cost of farming, inappropriate marketing of organic input, inefficient agricultural policies, lack of financial support, incapability of meeting export demand, lack of quality manure, and low yield (Bhardwaj and Dhiman, 2019). India ranked 8th with respect to the land of organic agriculture and 88th in the ratio of organic crops to agricultural land as per Agricultural and Processed Food Products Export Development Authority and report of Research Institute of Organic Agriculture (Chopra *et al.*, 2013; Willer and Lernoud, 2017). But a significant growth in the organic sector in India has been observed (Willer and Lernoud, 2017) in the last decades. In the union budget 2020–21, Rs 687.5 crore has been allocated for the organic and natural farming sector which was Rs 461.36 crore in the previous year. (Kumar 2020),

Future Prospects of Organic Farming in India: Indian traditional farmers possess a deep insight based on their knowledge, extensive observation, perseverance and practices for maintaining soil fertility, and pest management which are found effective in strengthening organic production and subsequent economic growth in India. The progress in organic agriculture is quite commendable. Currently, India has become the

largest organic producer in the globe (Willer and Lernoud, 2017, 2019) and ranked eighth having 1.78 million ha of organic agriculture land in the world in 2017 (Sharma and Goyal, 2000; Adolph and Butterworth, 2002; Willer and Lernoud, 2019). Various newer technologies have been invented in the field of organic farming such as integration of mycorrhizal fungi and nanobiostimulants (to increase the agricultural productivity in an environmentally friendly manner), mapping cultivation areas more consciously through sensor technology and spatial geodata, 3D printers (to help the country's smallholder), production from side streams and waste along with main commodities, promotion and improvement of sustainable agriculture through innovation in drip irrigation, precision agriculture, and agro-ecological practices. Another advancement in the development of organic farming is BeeScanning App, through which beekeepers can fight the *Varroa destructor* parasite mite and also forms a basis for population modeling and breeding programs (Nova-Institut GmbH, 2018).

Conclusions: Organic farming yields more nutritious and safe food. The popularity of organic food is growing dramatically as consumer seeks the organic foods that are thought to be healthier and safer. India, at present, is the world's largest organic produce (Willer and Lernoud, 2019). With this vision, we can conclude that encouraging organic farming in India can build a nutritionally, ecologically, and economically healthy nation in near future.

