

Organic Farming: A Way towards Sustainable Agriculture

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Abstract

At the time of independence, Indian Agriculture was backward in terms of food grains production. Therefore, there was no alternative before the Government for taking step towards technological change in agriculture. Government adopted the Agricultural strategy, "Green Revolution" which was a package programme since it depended crucially on high yielding varieties of seeds (HYVs), chemical fertilizer, pesticides and regular and adequate irrigation. There was revolutionary increase in food grains production and our country got self reliance in food grains production. The new technology is mainly implemented in few states i.e. Punjab, Haryana and western Uttar Pradesh. Haryana is one of the smallest states of India, having geographical area of 4.43 million hectare i.e. only 1.4 per cent of the total geographical area of country. With such a small geographical area, Haryana is the second contributor to the national food basket. Though the new technology has helped the country to have food surplus but has arisen the problems related to soil health, water table, environmental pollution, toxic food, sustainability of agricultural production. Therefore, policy makers, scientists and research scholars are assessing different agricultural practices, which may be beneficial for soil health, environment and consumer health. Organic Farming can be one of the better options for sustainable agriculture production. An attempt has been made in this paper to throw light on the benefits of Organic Farming towards Sustainable Agriculture.

Introduction

At the time of independence, the most important challenge before the country is to produce enough food for growing population. However, India got self reliance in food grains production after adopting Green Revolution strategy. But from last two decades Indian agriculture is facing many problems. Declining soil fertility, falling water table, growing dependence on chemical fertilizers and the excessive use of pesticides have aggravated the problem of environmental degradation and raised the question about the sustainability of agriculture in our country. Therefore, there is need of technological change in agricultural practices for sustainable agriculture. Organic Farming can be one of the better options for sustainable agriculture production.

Sustainable Agriculture

Sustainability refers to the ability to remain productive while sustaining the resource base.

According to Food and Agriculture Organization (FAO), "sustainable agriculture is that form of farming which produces sufficient food to meet the need of the present generation without eroding, the ecological assets and the productivity of the life supporting system of future generations. Sustainable development (in agriculture, forestry and fisheries) conserves land, water, plant and genetic resources and is environmentally non-degrading, technically appropriate, economically viable and socially acceptable" (FAO, 1989).

It is necessary to promote sustainable agriculture to safeguard the economic viability of the farmers. Sustainable agriculture is a set of farming practices which can continue to maintain the farm productivity, efficiency and profitability in the long run, without depleting the natural resources and the environment. For ensuring the sustainability of small farmers, it may be useful to encourage the adaptation of indigenous skills, use of internal inputs, preferably from organic sources, least dependence on external inputs, greater emphasis on crop diversity, symbiotic crop rotation, and production focused on local needs and easy marketability. (Hegde, 2000)

Farmers, particularly the small holders need proper orientation to take suitable decisions on crop selection, investment in various inputs, storage and marketing, based on the information on technical developments, government policies and prices of inputs and outputs. Large and elite land holders should also be encouraged to adapt these eco-friendly measures for profitability and environmental safety. Farming system which can fulfil these criteria can lead to eco-friendly green revolution. (ibid) Organic Farming can be one of the better options for sustainable agriculture production.

Organic Farming

Organic agriculture is best known as a method of agriculture where no synthetic fertilizers and pesticides are used. Although many single techniques used in organic agriculture are used in a wide range of agricultural management systems, what differentiates organic agriculture is the focus of the management. The emphasis in organic agriculture is on using inputs (including knowledge) in a way which encourages the biological process of available nutrients and defence against pests, to encourage process which helps to raise and maintain farm productivity. According to Food and Agriculture Organization (FAO) organic farming is a holistic production system of crops which avoids the use of synthetic and chemical inputs like fertilizers, pesticides, growth regulators and livestock feed additives. Organic farming system depends mainly on crop rotation, crop residues, animal manures, legumes, green manures, off-farm organic residues, mineral bearing rocks, natural pesticides and biological pest control to maintain soil productivity and supply important nutrients like nitrogen (N), phosphorus (P) and potassium (K). Moreover, organic farming is a pathway to an evergreen revolution. (Ohlan, 2015)

Organic Farming has many positive features through which we can sustain our Agriculture:

- **No use of chemicals fertilizers and pesticides:** In the process of organic farming, there is no use of external inputs like fertilizers and pesticides. Organic farming is a holistic

production management system which favours maximum use of organic materials (crop residues, animal excreta, on and off farm organic wastes, growth regulators, bio pesticides etc.) and discourages use of synthetically produced agro inputs, for maintaining soil productivity, fertility and pest management under conditions of sustainable natural resources and healthy environment. Organic farming includes the activity where inputs are generated either from within farm or from locally available resources those are preferable renewable.

- **Low cost:** It is a form of cultivation where farmers do not use synthetic fertilizers, pesticides and growth hormones. Organic farming uses traditional methods of cultivation e.g. Crop rotation, crop residues, animal manures, legumes, green manure, off-farm organic wastes and bio-fertilizers. To control pest, integrated pest management practice is adopted. To control weeds, crop rotation and manual methods are used. However, the cost of organically produced food is higher than the food produced by commercial methods but quality of food grown organically is nutritious and healthy. As farmers do not use synthetic fertilizers so, the yield of crop is less. The people conscious about the health, prefer organic food instead of higher cost. Further, for small farmers it is a profitable farming practice as it cut the cost of synthetic fertilizers and pesticides and the cost of their product is more. Organic farming practice is not only beneficial for human beings but it is also beneficial for micro-organisms, earthworms, wildlife and over all for the environment.(Singh and Jajpura, 2016)
- **Better quality of food:** Food grains produced by the process of organic farming are called "organic food". Because this foods are produced without the use of chemical fertilizer and pesticides. Quality of this organic food is better than conventional farming.
- **Beneficial to the consumers:** Today's consumer is aware and conscious about his or her health. He is ready to pay higher cost for organic foods. Hadriman (2004) in his study has found that the nutritional value was an important factor that influences consumers' preferences in purchasing chemical free vegetable followed by desire, freshness, health effect and taste.
- **Beneficial to the small farmers:** As organic farming is a holistic production management systems which favours maximum use of organic materials (crop residues, animal excreta, on and off farm organic wastes, growth regulators, bio-pesticides etc.) It avoids the use of chemical inputs. Dagar (2011) has successfully disproved the popularly held belief that small farm lands are unprofitable. With the use of integrated organic farming, he is able to generate an average income of Rs. 10 lakhs per year from one hectare of land.
- **Different from conventional farming:** Organic farming systems differ from conventional systems in several aspects such as no artificial pesticides or fertilizers are used on organic farms, organic farms generally have a wider crop rotation scheme and also have larger areas of non-crops habitats (Seyed et al. 2010). Pests and diseases can harm the crops, reduce their yield and badly damage their quality. A wide range of (often highly toxic)

chemical pesticides has been developed to control pests and diseases. Organic farming differs from conventional agriculture in that it prohibits the use of chemical pesticides. Organic farmers employ other methods to prevent an unacceptable level of pests and diseases; choosing strong varieties and creating the best conditions for crop growth. Organic farmers improve the fertility and structure of the soil through the use of for example compost. They plant a wide variety of crops, often inter-cropping, and leave or plant species that can create habitat for beneficial wildlife and/or improve the micro-climate. (Ohlan,2015)

- **Environment friendly:** Excess use of chemical fertilizers and pesticides causes the toxic effects on the water and soil fertility. It also hurdles the natural and biological process of the soil. But the inputs (like organic manures, green manures, use of bio-fertilizer etc.) used in organic farming are good for soil health, water quality and for the environment also. Organic farming promotes and enhances bio-diversity, bio-logical process and bio-logical activities of the soil.

Conclusion

In brief, we can say that Organic farming is an alternative to the sustainable agriculture. Organic farming aims to protect: (i) the environment, by using organic management practices that do not have the adverse effects of conventional practices, and (ii) the health of consumers, by the provision of organic products. We can say that organic farming is way towards sustainable agriculture.

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