



Organic Farming, Sustainability and their Issues in Indian Context

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INTRODUCTION

Organic farming is very native to India. It is a holistic production management system that promotes and enhances health of agro-ecosystem including biodiversity, biological cycles and soil biological activity (FAO, 2003). It is a system which largely excludes the use of synthetic inputs (fertilizers, pesticides, growth regulators, field additives etc.) and mostly relies upon crop rotation, crop residue, animal manures, off farm organic waste. The goal of organic farming is to contribute to the enhancement of sustainability. Organic agriculture techniques are known as ecologically sustainable and it also gives the social sustainability, ecological stability, market opportunity etc. Organic farming has the potential to provide benefits in terms of environmental protection, conservation of non-renewable resources and improve the food product quality. India is the home of 30% of total organic producers in the world.

Organic Farming under present Indian context:

- In India the organic farming word was introduced by “Sir Albert Howard”. Only 35% of India’s total cultivation area is covered with fertilizers, where irrigation facilities are available, and in the remaining 65% of arable land, which is mainly rainfed, there negligible amount of fertilizers are being used.
- The north eastern region of India provides considerable scope and opportunity for organic farming due to least utilization of chemical inputs. It is estimated that 18 million hectare of such land is available in the north east, which can be exploited for the organic product.
- With the sizeable acreage under naturally organic/default organic cultivation. India has tremendous potential to grow crops organically and emerge as a major supplier of organic products in the world’s organic market.

Organic Farming and Soil Fertility:

Organic system for food production can contribute sustainability for feeding the fast growing human population on the current agricultural plant base, while maintaining soil structure and soil fertility. The so called conservation agriculture is being widely promoted in many areas mostly for the recovery of the degraded soil. So this practice aims to improve the farm productivity, profits and food security based on three principles:

Minimum soil disturbance, permanent soil cover and crop rotation.

There is usually high level of organic matter in the soil of an 'organic field', due not to higher inputs of organic fertilizer, but rather to a cascade effect owing the activity of microorganism decomposing the organic residue. The soil fertility is improved by increasing the population of beneficial species of grazing microbial films and thus stimulating soil nutrient mineralization. So particular attention to the mycorrhizal fungi as a source of innovation in organic farming practices for improvement of the nutrient uptake, biocontrol and microbial ecology. Synthetic nitrogen fertilizer provoke the depletion of organically bound nitrogen and organic carbon, which is consequently reduce the soil fertility, so it is estimated that nitrogen is potentially available from leguminous cover crop fixation use as a fertilizer in both temperate and tropical agro-ecosystem.

Issues of Concern In Indian Context:

- Organic farming and nutrient supply: It is estimated that 25-30% of nutrient need to the Indian agriculture can be utilized by using various organic sources (agricultural wastage and animal manures).
- Organic farming and plant protection: Very few available options are there in organic production and they are also crop specific. Often they are very slow and success rate is depending upon the prevailing weather option.

- Organic farming and crop productivity: In general, it is observed that the crop productivity decline under organic farming. The extent of decline depends upon the crop type, farming system, weather condition, etc.
- Organic Farming and certification process: There are no standard certification process uniformly applicable across different agroclimatic condition, presently available certification procedure are very time consuming, expensive and out of the reach for common farmer. So due to highly fragmented holding of the farmer, there is possibility of the contamination from the neighboring farm.
- Organic farming and there product and market: There are no diagnostic techniques available to distinguish the organic product from conventional product. But it is believed that organic products are beneficial for health and are price fetching products in market.
- Organic farming and switchover period: The conversion of conventional farm to organic farm generally required 3-4years. So in this period, the produce obtain is not considered as organic product, which reduces the yield and give lack of benefits which become hazardous for the farmer.

1. The Possible Option:

With all the above concern, organic farming is not feasible as an alternative to conventional farming under all the circumstances in Indian context at least. So we can go for an integration of conventional farming with organic farming to enhance the input use efficiency which will provide more profit and will become best farming strategy for India.

2. Different Organic Materials And Manures:

Organic materials are the compost of organic compounds that has come from the remains of dead organism, such as

plants and animals and their waste product in the environment.

Major sources of organic materials are: FYM, compost, night soil, sewage and sludge, sheep and goat manure, green manuring, oil cakes, bone meal, blood meal, fish meal, guano, etc.

3. Role of Organic Farming In Sustainable Crop Production:

Organic farming is an efficient and promising agricultural approach for the environmental sustainability as it provides yield stability, improved soil health, no environmental concerns, organic food and reduction in the use of synthetic fertilizers. The major role of organic farming in sustainable crop production are: Crop and soil management, on farm waste recycle, non-chemical weed management, biological pest control (such as: Growing of trap crops, Monitoring of pest population by using pheromone trap, light trap, bird perches, releasing of parasites and predators, growing of resistance variety), Biochemicals.

CONCLUSION

Increased use of the chemicals in the soil leads to deterioration of the soil, environment and food quality, due to various direct and indirect uses of the chemicals. So it is the high time to think of solution and most important is to shift from inorganic to organic again with new scientific efficient, so as to make the soil productive for sustainable agriculture.

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