

Organic Farming: A Way towards Sustainable Agriculture

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Organic farming can play important role towards sustainable agriculture under current scenario of climate change. Organic farming is a harmonious combination of environmentally-sound practices involving low levels of external inputs. It contributes significantly to food availability as well as development with less pollution with decreased level of green house gases. Organic farming has potential to overcome drawbacks of conventional farming. There is urgent need to adopt the organic farming practices to improve the health our environment and we should take it as potential option to mitigate climate change.

Introduction

Agriculture has changed dramatically, especially since the end of World War II. Food and fibre productivity soared due to new technologies, mechanization, increased chemical use, specialization and government policies that favoured maximizing production. India also witnessed change in agriculture system after independence. We had challenge to produce enough food for the growing population. Hence, we went for green revolution by adopting high-yielding varieties, fertilizers, or pesticides etc. This combination of high-yielding production technology has helped the country develop a food surplus as well as contributing to concerns of soil health, environmental pollution, pesticide toxicity, and sustainability of agricultural production. According to the National Bureau of Soil Survey and Land Use Planning (NBSSLUP) 21.97 million hectare (mha) of land is degraded in terms of acidity and alkalinity /salinity. Thus, the indiscriminate use of the fertilizer directly affects the soil health in terms of productivity and mineral composition. Agriculture production practices also contribute to global warming as it is well known fact that they contributes at least one quarter of anthropogenic GHG emissions. All these condition make us to think about an agriculture system which would be sustainable in future.

Scientists and policy planners are, therefore, reassessing agricultural practices which relied more on biological inputs rather than heavy usage of chemical fertilizers and pesticides. Looking forward to solution of this problem organic farming can provide quality food without

adversely affecting the soil's health and the environment. Our objective here is to describe the potential of the organic agriculture to provide an alternative way for conventional agricultural practices which leads to a sustainable resource utilization and contributes in mitigating global problems like climate change.

Organic Agriculture

Organic farming is a system of planting, cultivation, preservation and agriculture in general with a more concentrated target of maintaining a suitable ecosystem, enhancing the health of the soil, preventing land degradation and at utmost best producing healthy food. This system completes each stage of farming to the production phase without the use of chemical controlled fertilizer or chemical manure or other inputs known to conventional farming. With some farmers, more tradition approaches such as animal manure are used but generally, in organic farming, only options that consider the soil fertility are considered best.

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". All these goals of organic farming can be by implementing a series of practices that optimize nutrient and energy flows and minimize risk, such as: crop diversification, crop rotations, organic fertilizers, symbiotic Nitrogen fixation, mixed farming, biological disease and pest management in field. A organic farmer should try to adopt basic principles of organic farming, as formulated by the International Federation of Organic Agriculture Movements. The main principles (IFOAM, 2002) for organic farming and food processing include:

The four principles of organic agriculture are as follows:

- **The Principle of Health** - Organic agriculture should sustain and enhance the health of soil, plant, animal and human as one and indivisible.
- **The Principle of Ecology** - Organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.
- **The Principle of Fairness** - Organic agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.
- **The Principle of Care** - Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well being of current and future generations and the environment

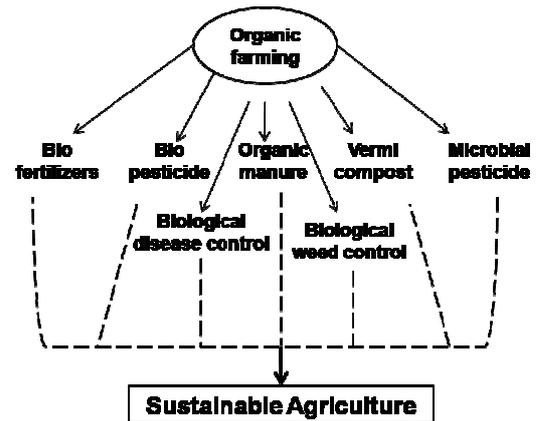
These basic principles provide organic farming with a platform for ensuring the health of environment for sustainable development, even though the sustainable development of mankind is not directly specified in the principles.

Sustainable Agriculture

Sustainable agriculture integrates three main goals- environmental health, economic profitability, and social and economic equity. Sustainability rests on the principle that we must meet the needs of the present without compromising the ability of future generations to meet their own needs. A variety of philosophies, policies and practices have contributed to these goals.

A systems perspective is essential to understanding sustainability. The system is envisioned in its broadest sense, from the individual farm, to the local ecosystem, and to communities affected by this farming system both locally and globally. An emphasis on the system allows a larger and more thorough view of the consequences of farming practices on both human communities and the environment. A systems approach gives us the tools to explore the interconnections between farming and other aspects of our environment.

A systems approach that require interdisciplinary efforts in research and education are needed for sustainable agriculture and transition to sustainable agriculture is a process. In simple terms, sustainable agriculture is the production of food, fibre, plant or animal products using farming techniques that protect the environment, health, human communities, and animal welfare. This form of agriculture enables us to produce healthful food without compromising future generation's ability to do the same. Organic agriculture is a alternative way for conventional agricultural practices which leads to a sustainable resource utilization and undertaking the environmental friendly .



Conclusion

An environmentally sustainable system of agriculture like organic farming will be able to maintain a stable resource balance, avoid over exploitation of renewable resource, conserving inherent soil nutritional quality and soil health, and biodiversity. It will lead us to sustainable agriculture and create a sustainable lifestyle for generations to come.

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