Organic Farming: A New Revolution in Agriculture

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Abstract—Agriculture is one of human mankind's most basic activities because all people need to nourish themselves on the various crops. History, culture and community values are embedded in agriculture. Organic farming is process that makes healthy food, healthy soils, healthy plants and healthy environment. In overall, the productivity of crop increased by using certain Biofertilizers instead of chemical Bio fertilizers. By increasing the amount of organic matter in soil or by rotation of crop, the fertility of soil is increased leading to increase crop production. By use of certain organism like Azotobactor phosphate solubilising bacteria, green manure the production of crop is being carried out in a pollution free environment. Asia covers ten percent of the total organic farming area in world. The major Asian countries involved are China and India. Organic farming is completely a natural process; it takes from nature and gives back to nature. It is a modern way of agriculture which helps to produce disease free crops, vegetables, fruits etc. with its nutritional value intact. Organic farming is comparatively costly than conventional agriculture due to extended time period, expensive organic seeds etc., hence organic product are also expensive which helps in increasing the economy of country. Farmers in India are unaware of organic farming that is why they face many problems like fertility of soil, financial problem, market scenario etc. It produces healthy food beneficial to farmers and entrepreneurs. The uses of chemical fertilizers to support the growth of crops are still prevalent as the crops mature before its natural time period to feed the population. The role of organic agriculture, whether in farming, processing, distribution or consumption is to sustain and enhance the health of ecosystem and organisms of soil to human beings. In particular organic farming is intended to produce high quality, nutritious food that contributes to maintenance of human health.

1. INTRODUCTION

Organic farming is an eco- friendly technique, which originates due to the adverse effect of chemical farming. Organic farming is the best possible relationship between mankind and earth. It is a universal production management system which stimulates and magnifies agro ecosystem health that includes biodiversity, biological cycle and soil biological activity. This is practiced by using, where ever possible, agronomic, biological and mechanical methods instead of using synthetic materials to fulfil any precise function within the system. Organic farming is another way to overcome the problems of sustainability, global warming and food security. The worldwide growth of Organic farming is comparatively very slow. It is an easy way to be in touch with nature. Organic farming depends upon certain standards, specifically derived for producing food and focus on achieving agro ecosystem, which are socially and ecologically sustainable. It may be described as a mixture of agriculture, wherein crops and livestock are run through combined technologies depending on resources available either at farm or locally. Today organic farming is based on a simple combination of traditional knowledge, modern science and innovation. Organic farming is as much productive as conventional farming. Many countries are now focusing on organic farming because of healthy crops, fruits, vegetables that are produced purely by organic means, free from any harmful chemical fertilizers and pesticides and eco- friendly.

Organic Farming in short can be termed as sustainable use of land that with no involvement of synthetic fertilisers and chemical pesticides and systematically enhancing the agroecological system.

In the long run, organic farming is advantageous compared to conventional farming as it not only promises higher yields but also ensures security of higher yield, reducing the dependence on external input and thus making poor households less prone to day to day crisis.

2. NEED OF ORGANIC FARMING

The rate at which the knowledge of organic farming is spreading in India is very slow. Farmers here are unaware of this technique; they prefer conventional farming over organic farming because conventional farming gives product early, easily by using harmful chemical fertilizers and pesticides. For this some events should be organized through which the knowledge of Organic farming and its advantages can reach the farmers.

There are some steps of organic farming, which include;

• Firstly, conversion of land according to standards of Organic farming. If whole land is not converted then

converted land should be separated from rest of the land and cannot be switched back for conventional agriculture.

- Only organic seeds and plant materials are used for organic farming. Use of genetically engineered seeds and transgene seeds/plants are not allowed.
- Crop rotation is an important step in organic farming, by doing it we maintain the fertility of soil and also its health.
- For increasing the fertility of soil only bio fertilizers can be used for example: plant manure, cow buffalo dung (human excreta or urine is not used). Biodegradable materials of animals, plants and microbes are used as bio fertilizer.
- Product used as pesticides, herbicides, prepared at the farm from local plant, animal or microorganisms is allowed. Use of synthetic pesticides, herbicides, insecticides and fungicides are prohibited.
- For protection plastic covering (Mulches), fleeces, insect netting and silage rapping and products made up of polycarbonate, polypropylene or polyethylene are allowed and must be removed after use.
- A product can be sold as "Organic Product "only after the land has been under conversion period of twelve months.

3. BENEFITS OF ORGANIC FARMING

There are various benefits of organic farming:

- It increases diversity, long term soil fertility, high food quality, reduced pest and diseases and also stable production of crops.
- It also reduces pollution, dependence on non renewable resources, negligible soil erosion and also provides protection to wild life and increase compatibility of crop production with environment.
- Organic farming also affects society, for example; provide better health and education, and strengthen the community. It also reduces rural migration and increase gender equality, gives many chances to entrepreneurs and provides employment with good quality work.
- Organic farming also gives healthy food, nature and environment. It encourages farmers, entrepreneurs or other ordinary people to take initiative for organic farming and also consume organic products.
- It also affects the economy of country.

4. CONCLUSION

India is best known as agriculture oriented country since ancient times. Demand of organic agricultural methods is growing, especially in areas where the present farming system has degraded resources essential to agricultural production particularly land, soil and environment. Factors, such as the farmer's health, consumer's health are also mentioned as reasons for shifting to organic methods. As conventional farming results in various health and environmental hazards and also socio economic problems, awareness of the environmental costs of agriculture such as the declining quality of drinking water and soil, and the impact of agriculture on landscape and wildlife have shifted consumer's interest towards organic agriculture.

The entire agricultural community is trying to find a solution to overcome the short comings of conventional farming, which can socially, economically, and ecologically benefit mankind.

Organic farming is only solution to these problems.

REFERENCES

- [1] Mishra D J, Singh Rajvir, Mishra U.K, Kumar S.S (2013) Role of bio-fertilizer in organic agriculture: A review; research journal of recent sciences 2:39-41
- [2] Ponti de T, Bert rijk, Martin K Van Ittersum (2012) The crop yield gap between organic and conventional agriculture; agriculture systems 108:1-9
- [3] Ramesh P, Panwar N R, Singh A B, Ramana S, Yadav S K, Shrivastava R, Rao A S (2010) Status of organic farming in India; current science 98:1190-1194
- [4] Yadav A K, Certification and inspection systems in organic farming in India, A report by National centre of organic farming. Government of India, Ministry of Agriculture
- [5] Maeder P, Fliesbach A, Dubois D, Gunst L, Fried P, Niggli U (2002) Soil fertility and biodiversity in organic farming; Science 296:1694-1697
- [6] Pimentel D, Hepperly P, Hanson J, Duods D, Seidel R (2005) Environmental energetic and economic comparison of organic farming system; oxford journals of Bioscience 55:573-582
- [7] Government of India, Ministry of Commerce and Industry, National Programme for Organic Production containing the standards for organic products (2000)