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# ORGANIC FARMING

## IN RELATION TO SOIL SUSTAINABILITY

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## Abstract

Importance of organic farming and sustainable agriculture has risen up due to rise in environmental concerns and modern agricultural practices. Organic farming has direct relationship with the soil sustainability but the full potential in the field of organic farming is yet to be achieved. The desire for sustainable agriculture is universal. In this article we are going to talk about the self-reliance of agriculture, applicability of organic farming to achieve sustainability and major schemes of the country with some concrete suggestion for the improvement of organic farming.

## Introduction

Increasing demand and luxurious life style of people with the advancement of technology is causing environmental deterioration. Modern agricultural practices such as use of pesticides, insecticides, fungicides and fertilizers have greatly impacted yield but in return is polluting the environmental. Organic farming has positively impacted the quality of natural resources and biodiversity. The global ranking of India in organic agriculture stood at 8th position and first in term of total number of producer (India year book 2020). As on 31 march 2021 total area under organic certification (National Programme for Organic Production) was 4333184.93 ha. Sikkim was the first organic state of India whereas if we talk about Union territories Lakshadweep got the tag of organic state recently. Among all states Madhya Pradesh have the highest area in term of organic agriculture followed by Rajasthan and Maharashtra. Total export in the year 2020-21 of the organic product is 88819.69 MT which worth around INR 707849.52lakh.

## Organic Farming and Principles

Organic farming is a system of crop cultivation in which we largely exclude the use of synthetic input such as fertilizer, pesticides, insecticides etc. to maximum extent and feasibly depends on crop rotation, FYM, biological system of nutrient mobilization and protection of crop plants. Organic agriculture follows mostly four principle of crop production.

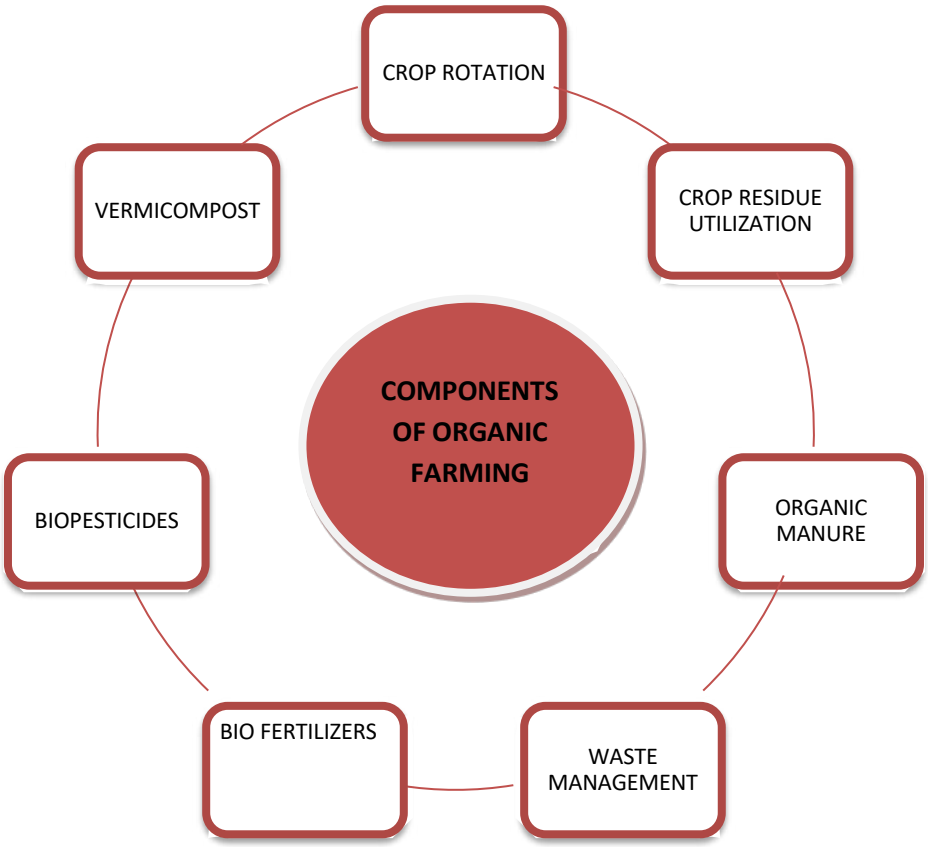
- Principle of health
- Principle of care
- Principle of ecology
- Principle of fairness

In simple terms sustainable agriculture is a form of agriculture aimed at meeting the needs of the present generation without endangering the resources base for future generations. Sustainable agriculture has high diversity and renewable inputs are used which form a stable ecology. In sustainable agriculture the rate of extraction of natural resources do not exceeds the rate of regeneration.

## Components of Organic Farming

Principle component of organic farming is crop rotation, green manure and compost, Vermicompost, biological pest control, use of biofertilizers, animal husbandry products biopesticides and crop residue management etc. These materials increase the nutrient

content of the soil and directly relates to biota (soil living population).




## Crop rotation

It protects the soil from the excessive removal of a particular elements and maintain balance of the nutrient cycle. Crop rotation becomes important in long term soil and farm management system.

## Biofertilizer

It is a culture of living microorganism which when applied to plant, soil or seed promotes growth and increases availability of nutrients. Biofertilizers are ecofriendly and help in building nutrient cycle and organic content of the soil.

## Vermicomposting

Vermicompost is a type of composting in which certain species of earthworm and some mesophilic micro-organism convert organic waste product into a better end product. Earthworm feed on the waste material and the waste material passes through the digestive system of the worm giving out a granular form called varmicast. The casting is rich in micro & macro-organism and benefits the environment by reducing the use of synthetic fertilizers. The most commonly used earthworm species in vermicomposting is Eisenia foetida.

## Crop residue management

It is extensive term which include all type of residue and tillage management system. Residue management help in moisture conservation, reduce wind erosion, maintain soil condition and increases soil microbial population.

## Biopesticides

Biopesticides are the pesticides which are derived from the natural material such as plants, animals and micro-organism. For an example Pyrethrin is a chemical which is naturally found in chrysanthemum flower and used to control insects such as flies, moth, mosquito etc. Till now in India more than 900 biopesticides have been registered by the Central Insecticide Board and Registration Committee.

## Organic manure

They have zero negative impact on soil health condition. Organic manure improves the physical and chemical properties of the soil such as it increases the porosity, water holding capacity, cation exchange capacity, texture and structure of the soil. Organic manure is bulky in nature such as FYM, compost, biogas slurry, green manure crop etc. which can be used as a substitute for inorganic fertilizer and maintain soil health quality.

## Government Schemes

To promote the concept of organic farming and to obtain sustainability in the agriculture sector the central and state government have launched a number of participatory guarantee schemes. Government is providing financial aids and subsidies to attract more and more numbers of farmers. Keeping this aim in agriculture sector we provide a healthy and sustainable ecosystem to our upcoming generations.

Major schemes which give a better platform to organic farming in India are-

- Paramparagat Krishi Vikas Yojna
- Mission Organic Chain Development for North Eastern Region
- National Mission for Sustainable Development
- Soil Health Card
- Mridaparikshak

## Conclusion

Organic farming creates biodiversity and maintains the ecology and ecosystem of the soil. It keeps a check on various synthetic pollutants which pollute the environment. Organic farming also helps to prevent soil erosion as it works as binding agent in soil which results in finer aggregate formation and greater permeability to the soil.

Organic products are qualitatively rich in nutrient and free from harmful synthetic materials such as insecticides and pesticides. Future demand of quality product can only be met through organic farming. Organic farming not only boost farmer's production quality but also increase their income.