

## ORGANIC FARMING

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### ABSTRACT

This research paper highlights the importance of organic farming in today's time. Organic farming is performed without the use of chemical fertilizers and pesticides. The report highlights the need and importance of organic farming. It also provides a comparison between organic and conventional farming. Though organic farming reduces output it is beneficial in many ways as compared to the conventional method. This paper also talks about the different methods of organic farming such as pure and integrated organic farming. It includes a case study on Sri Lanka and how organic farming proved to be catastrophic for the country. It then discusses the advantages and disadvantages of organic farming such as lower growing costs and time-consuming. It then highlights the importance of organic certification.

**Keywords:** fertilizers, beneficial, pure and integrated, lower growing cost, time-consuming

### 1. Organic farming and its background

Around the 20th century, we witnessed a massive shift in agriculture from traditional methods to technological ways. This completely transformed the habit of rural populations and the rural landscape. In this shift, most of the on-farm resources were substituted by off-farm resources. This shift proved to be economically profitable as the usage of labor was reduced with the help of machines, also soil fertility could easily be enhanced by the use of chemical pesticides and fertilizers. The development of chemical fertilizers protected harvests from pests. This resulted in many advantages such as a rise in food production and a fall in the prices of food grains for consumers. Even though it had a lot of benefits, the number of disadvantages was more. Modern technologies adversely affect the environment.

Sustainable development has caught the attention of the world for over a decade now. The goal of sustainable development can be achieved with the help of sustainable agriculture. According to the food and agricultural organization, sustainable agriculture is managing resources to

enhance environmental quality and conserve natural resources.

Organic farming is one of the several approaches to meeting sustainable agriculture goals. It is one of the best ways to avoid the ill effects of chemical farming. Sir Albert Howard developed the concept of organic farming in the early 1900s. Using organic fertilizers such as manure and compost instead of chemical fertilizers and pesticides in agriculture is known as organic farming.

## 2. Need for organic farming

Organic farming is very necessary for the present times. Due to the abundant use of fertilizers soil fertility has significantly reduced. The use of chemicals has led to the soil, water, and air pollution. Compared to conventional farming, organic farming is way more inexpensive as it doesn't require chemical fertilizers which cost a considerable amount to the farmer's pockets. Also, it is vital to conserve the ecosystem for future generations which can only be done with the help of organic farming.

## 3. Types of organic farming

**Integrated organic farming** is a cyclical zero-waste procedure where waste products from one system are cycled in as nutrients for another process. This allows the maximum utilization of resources.



**Figure 1.** Process of integrated farming

**Pure organic farming:** Pure organic farming involves the usage of organic manures and biopesticides with complete avoidance of inorganic chemicals that may affect the yield positively or negatively.



**Figure 2.** Pure organic farming

#### **4. Organic farming in Sri Lanka**

##### **Organic farming in Sri Lanka went very very wrong**

Sri Lanka's president Gotabaya Rajapaksa wanted to make Sri Lanka the first country with 100% organic agriculture. To achieve this he put a complete ban on agrochemicals. Little did he know that this would severely affect the economy of the country. Within less than a year after the ban was imposed the country started facing supply shortages.

The result of the president's ambition was brutal and swift. Even though organic farming produced better quality foods, domestic rice production in the country fell by 20 percent in just the initial six months. Due to this Sri Lanka was forced to import \$450 million worth of rice as domestic prices for this staple of the national diet surged by around 50 percent. The ban also affected the nation's tea supply, its primary export and source of foreign exchange.

By November 2021 as tea production continued to fall the government decided to slowly lift the

ban on key export crops including tea, rubber, and coconut. Even though the country has entirely lifted the ban now, commercial banks still lack foreign exchange to support importers.

To compensate for the huge loss the government is offering \$200 million to farmers as direct compensation and \$149 million in price subsidies to rice farmers who incurred losses. The drop in tea production incurred a net loss of \$425 million.



**Figure 3.** Organic farming in Sri Lanka

### **5. Advantages of organic farming**

- 1. Lower growing cost:** Organic farming entails higher profits due to the reduced usage of water, lower expenditure on fertilizer and energy, and increased retention of topsoil. The high demand for organic products has made organic farming a profitable option for farmers.
- 2. Less water pollution:** Since organic farming involves negligible use of chemical fertilizers waterbodies are conserved which ensures minimum water pollution.
- 3. Nutritional, poison-free, and tasty food:** The nutritional value of food is determined by its vitamin and mineral content. Organically grown produce s comparatively higher in mineral content than that grown by conventional methods. Since it is free of contamination with health-harming chemicals such as pesticides and fungicides it proves

as a major benefit to consumers. Furthermore organically grown food tastes better than conventionally grown food.

- 4. Enhanced soil nourishment:** Organic farming plays a significant role in soil management. With organic farming, the damaged soil, subject to erosion and salinity is able to feed on micronutrients via crop rotation, intercropping techniques, and extensive use of green manure. The nourishment of the soil is increased due to the absence of chemicals in organic farming.
- 5. Environment-friendly techniques:** The use of pesticides such as neem and compost tea is environment-friendly and non-toxic. These pesticides help to identify and eliminate diseased plants and in turn enhance crop defense systems.

#### **6. Disadvantages of Organic farming**

- 1. Labor intensive:** As organic farming avoids the use of chemical farmers a large labor force is required to timely check the crops for any pests and for, managing weeds.
- 2. Products may be too expensive for poor people:** Organic vegetables and fruits are much more expensive compared to conventional ones. Therefore it is not affordable to the lower wage groups. In regions where people are very poor organic farming may not solve the problem since the majority of the local population will not be able to afford the same and may suffer from hunger due to this.
- 3. Time-consuming:** Since organic farming avoids the use of chemical fertilizers and pesticides farmers have to manually check their crops to maintain the health of the crop. Hence organic farming is considered to be much more time-consuming compared to conventional farming as the processes require a high level of manual work.
- 4. Requires skill:** Organic farmers require a higher understanding of their crops and have to keep a close watch on them as there are no instant fixes such as pesticides or chemical fertilizers. Sometimes it may be hard to meet all the challenging requirements and the lack of experience may make the work more difficult.
- 5. Lower productivity:** Organic farming results in lesser yields as compared to conventional farming. This may lead to a shortage of grains in the long run.



Figure 4. Fresh organic products

## ORGANIC FARMING VS CONVENTIONAL FARMING

Table 1. Difference between organic and conventional farming

Organic farming	Conventional farming
Uses natural fertilizers such as manure,compost, etc	Uses artificial fertilizers
Such type of farming protects the environment	Conventional farming has a harmful effect on the environment
The soil remains fertile throughout due to the use of environment-friendly techniques such as organic manure	It has an adverse effect on the soil. The soil loses its fertility due to increased exploitation.
Organic farming produces crops that do not cause any harm to humans or animals	Crops grown through conventional framing can be injurious to health
The food grown through this method is higher in nutrients	In conventional farming crops tend to lose a significant amount of nutrients
Organic farming uses a variety of farming methods such as crop rotation, companion planting, etc	The farming method used in conventional farming is focused on increasing the yield and hence improving the economy which is not good for the future and the land.

## **8. Organic certification**

It is necessary to ensure that the products are produced as per the required standards. Organic certification enables producers to receive a premium for their products and market the products to consumers. It ensures that all the products and raw materials used were produced through organic means. This ensures that the food is free of pesticides, has not been induced with hormones, and has zero chemical fertilizers. Genetically modified products are strictly prohibited from being regarded as organic products.



## **CONCLUSION**

Through this research we can conclude that if implemented properly organic farming can be helpful in various ways. It helps to increase biodiversity, contributes to soil health, improves water quality, and produces tastier food. Organic farming is very vital for the future. It takes care of sustainable development goals and uses 100% natural products. Organic farming produces safer foods and reduces water pollution which helps to conserve the environment. It is a sustainable, economical, and eco-friendly technique.

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