

Organic Farming In India

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Manuscript No: KN-V2-01/025

Abstract

Indian consumers' primary concerns today are food quality and safety. Growing environmental and food safety concerns have resulted in a significant demand for yield from environmentally friendly and sustainable cultivation methods. Modern farming methods frequently result in biodiversity loss and monoculture, both of which are major contributors to the environment's decline. Pesticide and chemical use are widespread in Indian agriculture causing water and soil contamination. Although India was far behind in the adaptation of organic farming due to several reasons, presently it has achieved repaid growth in organic agriculture and has now become one of the largest organic producers in the world. But still, India is not completely dependent on organic farming because India does not have a sufficient amount of organic fertilizer to meet our needs.

Introduction

Indian Agriculture before the greenrevolution

Small and marginal farmers produce food and basic animal products for their families and the local village community in our traditional farming systems. Traditional farming does not consist of chemical pesticides and fertilizer instead of using natural controlling methods for pests and diseases, as well as for enhancing soil fertility and structure in their own inventive ways. Farmers grow mixed crops to protect their crops from failure caused by weather or pest attacks. Walker Alexander, resident at Baroda in Gujarat, wrote in 1820 that green fodder was being grown throughout the year; intercropping, crop rotation, fallowing, composting, and manuring were practiced; all these allowed continued farming on the same land for more than 2000 years without a drop in yields. The British government imposed a tax on the farmers for about 50% and sometimes about 63% of the total revenue collected by them, which was about 1/3 of their total production. As a result, India went through the worst and longest-lasting sequence of famines in its history from 1865 to 1900.

The Green Revolution

After the green revolution was achieved in India, there was a higher increment in crop production, which was achieved through improved crop varieties, more use of fertilizer, and plant protection chemicals. The per-hectare consumption of NPK increased from 0.6kg in 1950 to 50kg by 1987–88. By the year 2000, 230 million tonnes of food grains will have to be produced on 140 million hectares of agricultural land in order to feed about 1 billion Indians.

Impact of Green Revolution

- Increase agriculture.
- The loss of soil nutrients makes it
- Excessive pesticide use increases the presence of pesticide residues in foods and water.
- In order to obtain more, farmers resort to unsustainable practices.

Process of Organic farming

The International Federation of Organic Agriculture Movements (IFOAM) has proposed four basic organic farming principles:

1. Principles of health,
2. Principles of ecology

3. Principles of fairness
4. Principle of care

According to the National Organic Programme implemented by the USDA Organic Food Production

Health	Ecology	Fairness	Care
It should avoid the fertilizer, pesticides and plant protection chemical.	It should be based on living system and cycle, work with them, emulate them and help sustain them.	It should be built on relationships that ensure fairness with regard to the common environment and life opportunities.	It should be managed that in precautionary and with responsible manner so as to protect the health and well-being of current and future generation and The environment.
It should sustain and enhance the health of soil, plant, animal and planet as one and indivisible.			

Act (OFPA, 1990), Agriculture needs specific prerequisites for both crop cultivation and animal husbandry. To be acceptable as organic, crops should be cultivated on lands without any synthetic pesticides, chemical fertilizers, or herbicides for 3 years before harvesting, with enough buffer zones to lower contamination from adjacent farms. Soil fertility and nutrient content are primarily managed through farming practices, crop rotation, and the use of cover crops boosted with animal and plant waste manure. Pests, diseases, and weeds are primarily controlled through the use of physical and biological control systems rather than herbicides or synthetic pesticides. Organic livestock should be reared without the scheduled application of growth hormones they should be provided with enough access to the outdoors. Preventive health practices such as routine vaccination and vitamin and mineral supplementation are also needed (OFPA, 1990).

Weed Management in Organic Farming

Organic weed control is a method of weed removal and prevention that does not involve the use of synthetic chemicals or weed killers. Some organic weed control strategies are cultural practices and mechanical methods, focusing on prevention, crop rotation, and using mulches

Management in Organic Farming
Pest management in organic farming is accomplished through the use of appropriate cropping techniques, biological control, and natural pesticides. The use of disease-free and disease-resistant varieties of seeds is one of the best preventive practices in organic pest management. Maintenance of diverse plants, companion planting, crop rotation, and trap cropping are all effective practices that can keep the population of pests below the threshold limit. The biological pest control method uses other organisms to control insects, mites, weeds, and plant diseases that rely on predation, parasitism, herbivores, or some other natural mechanisms, including an active human management role. Biological pest control creates no chemical runoff in waterways or soil pollution.

Disease Management in Organic Farming

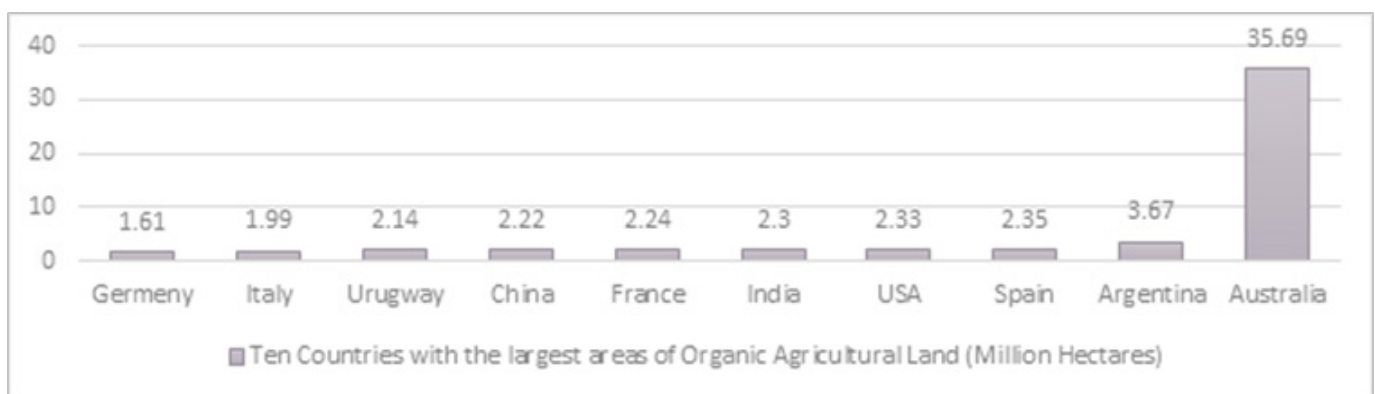
Disease management in organic farming is mostly based on the maintenance of biological diversity and soil health through balanced including nitrogen-fixing, crop rotations and cover crops, additions of manure, intercrops and compost, and reductions in soil tillage. Rotation of imminent and resistant crops is one of the oldest practices used to control disease. It remains an important practice against several diseases where a specific control, such as host resistance, is needed. Strict plant quarantine regulations should be implementing to avoid the spread of rust on pods or seeds to disease-free zones. Early sowing in the first fortnight of June to avoid disease incidence.

Benefits of Organic Farming

1. The physical characteristics of the soil, such as its good tilth, granulation, and ease of root penetration, are enhanced by organic farming. The carbon in organic matter is the source of energy for microbes, which help in
2. Most of the organic manures are wastes or byproducts, which, on accumulation, may lead to
3. Organic farming helps to avoid chain reactions in the environment from chemical sprays and
4. Organic matter restores the pH of the soil, which may turn acidic as a result of continual chemical application
5. In a study conducted by AFSSA (2003), especially leafy vegetables and tubers, organically grown foods, have higher dry matter as compared to conventionally grown

Status of Organic Farming in India: Production, Population, and Economic Growth

Organic food and farming have continued to grow across the world. Since (1985) the total area of farmland under organic production has increased steadily over the last three decades (Willer and Lernoud, 2019). In (2019) 3.1 million organic producers were reported. India continues to be the country with the highest number of producers 13,66,000 followed by Uganda 2,10,000 and Ethiopia (2,04,000). Based on an internal control mechanism, most small-scale producers are certified in groups. FiBL (Survey 2021): India's Current Organic Farming Situation In India, organic farming is still in its infancy. About 2.30 million hectares of farmland were under organic cultivation as of March 2019. This is two percent of the 140.1 million ha of net sown area in the country (Ministry of Agriculture & Farmers Welfare).



Future Prospects of Organic Farming in India

India is primarily an agricultural nation, employing 55% of its labor force and 67% of its population in farming and associated fields. Agriculture meets the fundamental necessities of India's rapidly expanding population which accounts for 30% of total income. Organic farming was discovered to be an ancient tradition in India, practiced in many rural and farming communities for millennia. The arrival of modern techniques and the

increased burden on the population led to a propensity towards conventional farming, which involves the use of synthetic fertilizer, chemical pesticides, and genetic modification techniques.

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