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# Organic farming and its current scenario in India

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## Introduction

Soil is a living ecosystem that is habitat to diverse fauna and microbes such as bacteria, fungi, worms, and termites. Organic farming is a production technology which largely excludes use of chemical inputs to restore the liveliness of soil by utilization of biological materials. Organic agriculture can create healthy soils, plants, food and healthy environment alongside crop productivity. Organic farming is also a sustainable and eco-friendly production method, which is beneficial for small-scale farmers. International Federation of Organic Agricultural Movements (IFOAM, 2008) defined that "Organic farming is a production system that sustains the health of soil, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic farming combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved." IFOAM also provided the principles and objectives of organic farming.

## Principles of Organic Farming

1. **Principle of health:** Organic agriculture should sustain and improve the health of the soil, plants, animals, humans, and the world as a whole. In light of this, it should avoid the use of potentially harmful fertilisers, pesticides, animal medications, and food additives.
2. **Principle of ecology:** Organic agriculture should be built on live ecological systems and cycles, and should collaborate, multiply, and help sustain them. Organic farming producers, processors, traders, and consumers should safeguard and benefit the common environment, which includes landscapes, climate, ecosystems, biodiversity, air, and water.
3. **Principle of fairness:** Organic agriculture should be based on connections that provide equity in terms of the common environment and life opportunities. Fairness necessitates open and equitable production, distribution, and trading systems that account for genuine environmental and social costs.

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4. **Principle of care:** Organic agriculture should be managed with prudence and responsibility in order to maintain the health and well-being of present and future generations, as well as the environment. Through transparent and participatory processes, decisions should reflect the values and needs of all those who may be affected.

**Objectives of Organic Farming**

1. To create sufficient quantities of high-nutritional-quality food.
2. To work with natural systems rather than against them.
3. Encourage and improve biological cycles in farming systems, which include microorganisms, soil flora and fauna, plants, and animals.
4. To maintain and improve soil fertility over time.
5. To use renewable resources as much as feasible. To work as much as possible with organic matter and nutrient elements within a closed system.
6. To provide all cattle with living conditions that allow them to perform all aspects of their intrinsic behaviour.
7. To avoid all sorts of contamination caused by agricultural practises.
8. To preserve the genetic diversity of the agricultural system including plant and wildlife ecosystems.
9. To provide enough returns and satisfaction from agricultural production, including safe drinking water.

**Status of Organic Farming in India**

India ranks better among 191 countries that practise organic farming. In 2021, around 2.66 million hectares of farmland was under organic farming. According to published figures, India ranked sixth in the world in terms of organic agricultural land and first in terms of total number of producers in 2021 (Source: FIBL, 2023). However, the area under organic agriculture in comparison to total net agricultural land in the country is quite small, indicating that our country has a high potential to transition to organic farming.

**Table 1. Organic agriculture statistics at a glance in India (2021-22) (source: APEDA)**

| | | |
|---|---|---|
| **Area** | Cultivated area (organic + in conversion) | 4726714.74 ha |
| | Wild harvest area | 4393151.17 ha |
| | Total area | 91,19,865.91 ha |
| **Production** | Farm production | 9410195.02 MT |
| | Wild harvest production | 20540.63 MT |
| | Total production | 34,30,735.65 MT |
| **Exports** | Total exports quantity | 4,60,320.40 MT |
| | Total export value (INR) | 5249.32 crore |
| **Farmer producers** | Total no | 24,80,859 |

**Weed management strategies**

1. Cultural practices: Crop rotation, growing cover crops, intercropping, regular field scouting, mulching, stale seedbed preparation, soil solarization, use of well decomposed manures and composts, proper water management
2. Mechanical strategies: hand weeding, hand operated and power operated weeders
3. Biological strategies: Allelopathy, using bioagents, botanical like corn gluten meal

**Nutrient management options**

Using organic amendments like organic manures, growing green manure crops, biodynamic preparations, liquid organic manures and biofertilizers can enhance the soil health.

**Botanicals for pest management**

1. Repellents: Eg: Neem Seed Kernel Extracts, basil and lemon eucalyptus.
2. Feeding deterrents/antifeedants: Eg: Azadirachtin, pyrethrum
3. Toxicants: Nicotine, anise, cumin, eucalyptus, oregano and rosemary
4. Natural grain protectants: Annonaceae, Asteraceae, Canellaceae, Labiatae, Meliaceae, Rutaceae, 1 to 2 % Kernel powder or oil.
5. Chemosterilants/ Reproduction Inhibitors: Pyrethrum, Rotenone and Nicotine.
6. Insect growth and development inhibitors: Eg: Neem

**Problems and Constraints for Growth of Organic Farming in India**

Lack of awareness, marketing issues for both inputs and outputs, a scarcity of bio-mass and bio wastes, reduced productivity, inability to meet export demand, lack of a suitable organic agriculture policy, lack of quality standards for bio-manures, social and political factors.

**Strategies for Boosting Organic Farming**

1. Crop biodiversity conservation.
2. Demonstration of an on-farm research trail for organic farming.
3. Technological advancements to increase crop yield and productivity, including fruits and vegetables.
4. The concept of organic food processing and value enhancement.
5. Organic produce certification for a solid return.
6. Strengthening the marketing chain and establishing counters for the sale of organic produce.

**Conclusion**

Organic food is becoming increasingly popular as consumers seek out organic foods that are regarded to be healthier and safer.

Organic food may provide food safety from farm to plate. Organic farming promotes consumer health by keeping soil healthy and maintaining environmental integrity. India is currently the world's largest organic producer, and with this perspective, we can conclude that boosting organic farming in India can help establish a nutritionally, environmentally, and economically healthy nation in the near future.

**References**

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