



Organic Farming in India: A Review

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Abstract

Food quality and safety are the two critical factors which have won ever-increasing interest in popular customers. Conventionally grown foods have large unfavourable health outcomes because of the presence of higher pesticide residue, extra nitrate, heavy metals, hormones, antibiotic residue, and also genetically modified organisms. Additionally, conventionally grown foods are less nutritious and incorporate lesser quantities of shielding antioxidants. Inside the quest for safer foods, the demand for organically grown foods has raised over the past a long time due to their in all likelihood health advantages and food protection issues. Organic food production is defined as cultivation without the use of chemical fertilizers and artificial pesticides or genetically changed organisms, growth hormones, and antibiotics. The recognition of organically grown foods is increasing each day as a result of their dietary and health advantages. Organic farming additionally protects the environment and has an extra socio-economic effect on a state. India is bestowed with indigenous skills and potentiality for increase in organic agriculture. Despite the fact that India became some distance behind inside the adoption of organic farming due to several reasons, currently it has accomplished rapid increase in organic agriculture and now becomes certainly one of the most important organic producers within the global. Therefore, organic farming has a top notch impact on the fitness of a state like India through ensuring sustainable development.

Keywords: Organic farming, India, Organic food, Soil, Pesticide, Sustainable development

Introduction

Organic farming is a way of farming system which more often geared toward cultivating the land and elevating plants in a natural way. It goals to keep the soil alive and in right health through use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other organic materials together with beneficial microbes (biofertilizers) to release nutrients to vegetation for increased sustainable production in an eco-friendly pollution free environment. In current years, organic farming as a cultivation procedure is gaining increasing importance (Dangour et al., 2010). According to Winter and Davis (2006), 'it is based on minimum use of off-farm inputs and on control practices that restore, hold and enhance ecological concord'. They noted that organic produce is not always grown with synthetic insecticides, antibiotics, growth hormones, use of genetic modification techniques (together with genetically modified crops), sewage sludge, or chemical fertilizers. Whereas, traditional farming is the cultivation manner where artificial pesticide and chemical fertilizers are

applied to advantage better crop yield and profit. In conventional farming, artificial pesticides and chemical substances are able to remove insects, weeds, and pests and growth factors including artificial hormones and fertilizers improve growth rate (Worthington, 2001).

Elements of organic farming

- Preserving genetic diversity.
- Maintaining soil health.
- Nutrient management.
- Water management.
- Selection of variety.
- Weed management.
- Pest and Disease management.
- Livestock management.

Characteristics of organic farming

- Shielding the long-term fertility of soils by preserving organic matter levels, encouraging soil biological activity, and cautious mechanical intervention.
- Supplying crop nutrients indirectly the usage of relatively insoluble nutrient sources which can be made available to the plant with the aid of the motion of soil microorganisms.
- Nitrogen self-sufficiency through using legumes and biological nitrogen fixation, as well as powerful recycling of organic materials along with crop residues and cattle manures.
- Weed, disease and pest control rely by and large on crop rotations, natural predators, diversity, organic manuring, resistant varieties and restricted (ideally minimum) thermal, biological and chemical intervention.
- The giant control of livestock, paying complete regard to their evolutionary diversifications, behavioural desires and animal welfare problems with appreciate to nutrients, housing, health, breeding and rearing.
- Cautious attention to the impact of the farming system on the wider environment and the conservation of wildlife and natural habitats.

Essentiality of organic farming

- With the increase in populace in India, we want now not only to stabilize agricultural production but to increase it further in a sustainable manner.
- The scientists have found out that the 'green Revolution' with excessive input use has reached a plateau and is now sustained with diminishing return of falling dividends.
- Consequently, a natural balance desires to be maintained in any respect for the survival of life.
- The agrochemicals which can be constructed from fossil fuel and are not renewable and are diminishing in availability.
- It could also price highly on our forex in future.

Benefits of organic farming

- Farmers can reduce their costs of production due to the fact they do not longer want to shop for steeply-priced chemicals and more healthy farm workers.
- It is able to help appreciably better ranges of wildlife especially in low lands and where animals can roam in pastures or graze on grassland.
- Within the long term, organic farms keep power and shield the fewer residues in food.
- Organic farming practices now not handiest gain dairies in addition to whilst dairies feed their cows organic feed, the cows experience better health.

- More animals and flora can live in the same vicinity in a natural manner.
- Ground water pollution is stopped.
- Consistent with a examine performed via AFSSA (2003), organically grown foods, specially leafy greens and tubers, have higher dry matter as compared to conventionally grown foods.
- Organic plants incorporate notably greater magnesium, iron, and phosphorous. they also include more calcium, sodium, and potassium as major elements and manganese, iodine, chromium, molybdenum, selenium, boron, copper, vanadium, and zinc as trace elements (Rembialkowska, 2007).

Losses of organic farming

- Organic food is extra costly due to the fact farmers do not longer get as a great deal out of their land as conventional farmers do. Organic products may cost a little as much as 40% more.
- Advertising and marketing and distribution is not efficient because organic food is produced in smaller quantities.
- Food illnesses can also happen greater regularly.
- Organic farming cannot produce enough food that the world's population needs to continue to exist. this may lead to starvation in countries that produce enough food today.

Government schemes to promote organic farming

- Government of India has been promoting organic farming under two committed Schemes, particularly, Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development for North Eastern Region (MOVCNDR) since 2015-16 under National Mission for Sustainable Agriculture (NMSA).
- Organic Farming has additionally been supported underneath different Schemes viz Rashtriya Krishi Vikas Yojana (RKVY) and Mission for Integrated Development of Horticulture (MIDH), Network Project on Organic Farming under Indian Council of Agricultural Research (ICAR).
- Third party certification of organic farming is promoted by means of Agriculture Processed Food and Export Development Authority (APEDA), Ministry of Commerce.

1. Paramparagat Krishi Vikas Yojana:

- The Paramparagat Krishi Vikas Yojana (PKVY) is a prolonged component of Soil Health Management (SHM) under the Centrally Sponsored Scheme (CSS), National Mission on Sustainable Agriculture (NMSA).
- Launched in 2015, it aims at assisting and promoting organic farming, in flip resulting in improvement of soil health.

Objective:

- Promote organic farming amongst rural young people/ farmers/ consumers/ buyers
- Disseminate trendy technologies in organic farming.
- Utilize the offerings of professionals from public agricultural research system in India.
- Organize at least one cluster demonstration in a village.

Primary features of the scheme:

- The cluster selected for organic Farming shall be 20 ha or 50 acres in area and in as contiguous a form as viable.
- Of the overall number of farmers in a cluster, at least 65 percent farmers need to be allotted to small and marginal class, to be fulfilled at cluster level as a way as manageable.
- Adoption of Participatory Guarantee System (PGS) certification via cluster technique.

- Adoption of organic village for manure management and organic nitrogen harvesting via cluster approach.
- 2. **Mission Organic Value Chain Development for North Eastern Region:**
 - Ministry of Agriculture and Farmers Welfare launched a Central Sector Scheme named Mission Organic Value Chain Development for North Eastern Region for implementation in Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura during 2015-16 to 2017-18.
 - The scheme pursues at development of certified organic production in a value chain mode to link growers with consumers and to support the development of entire value chain.
 - The scheme changed into permitted with an outlay of Rs. 400 crore for 3 years.
 - The help is supplied for cluster improvement, on/off farm input production, supply of seeds/planting materials, setting up of useful infrastructure etc.

Conclusion

- India has 30 percent of the overall organic producers within the global, however owed for just 2.59 per cent (1.5 million hectares) of the entire organic cultivation area of 57.8 million hectares.
- India desires to convey greater region beneath organic farming in the future, with higher incentives to the cultivators.
- Organic farming has the brilliant prospect in the future with advantages of soil and biodiversity upkeep, environment conservation and healthy residents.
- India desires the creation of structural modifications through policy interventions and technological deployment in natural farming and make it resilient, sustainable and profitable.
- Organic farming yields greater nutritious and secure food. the recognition of organic food is developing dramatically as consumer seeks the organic foods which can be thought to be more healthy and safer.

Hence, organic food perhaps ensures food safety from farm to plate. The organic farming procedure is more eco-friendly than traditional farming. Organic farming maintains soil healthful and maintains environment integrity thereby, promoting the health of consumers. Moreover, the organic produce marketplace is now the quickest developing market all over the global which includes India. Organic agriculture promotes the health of consumers of a state, the ecological health of a nation, and the financial increase of a country by way of profits era holistically. India, at present, is the world's biggest organic producers (Willer and Lernoud, 2019) and with this imaginative and prescient, we will finish that encouraging organic farming in India can construct a nutritionally, ecologically, and economically wholesome country in close to future.

References

1. AFSSA. (2003). Report on Evaluation of the nutritional and sanitary quality of organic foods (Evaluation nutritionnelle et sanitaire des aliments issus de l'agriculture biologique, in French), AFSSA, 164. <http://www.afssa.fr>. Accessed 3 August 2018.
2. Dangour, A.D., Allen, E., Lock, K., Uauy, R. (2010). Nutritional composition & health benefits of organic foods-using systematic reviews to question the available evidence. *Indian Journal of Medical Research*, 131: 478–480.
3. Rembalkowska, E. (2007). Quality of plant products from organic agriculture. *Journal Science of Food and Agriculture*, 87: 2757–2762.
4. Willer, H. Lernoud J, eds. (2019). *The World of Organic Agriculture. Statistics and Emerging Trends*. Research Institute of Organic Agriculture (FiBL), Frick and IFOAM—

Organics International, Bonn. <https://www.organicworld.net/yearbook/yearbook-2019.html>.

5. Winter, C.K., Davis, S.F. (2006). Organic food. *Journal of Food Science*, 71: 117–124.
6. Worthington, V. (2001). Nutritional quality of organic versus conventional fruits, vegetables, and grains. *Journal of Alternative and Complementary Medicine*, 7: 161–173.