



Organic farming in India: Benefits and Challenges

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There is a developing significance on health benefits as people are getting cognizant about the food themselves their relatives and family members. Thus, there is a degree for organic farming developed products. Prior people used to expend quality local vegetables, heartbeats and organic products. This brought about a life span and solid way of life. This paper provides an overview of organic farming benefits and challenges and its present scenario in India.

Keywords: Organic farming, Organic products, Soil health, Climate Change, Biomass, Biodiversity

Introduction

Agricultural development policy for developing countries needs to focus on increasing the productivity of the land under cultivation, with lower costs, higher efficiency of products with little or no damage to both humans and the environment. Nedumaran, et al (2020) Organic farming systems have attracted increasing attention over the last one decade because they are perceived to offer some solutions to the problems currently besetting the agricultural sector. Organic farming has the potential to provide benefits in terms of environmental protection, conservation of non-renewable resources and improved food quality. Charyulu, and Dwivedi, (2016) Organic farming is a societal need; it is not only from the consumer's perspective but also from a farmer point of view. For the transformation of rural agriculture into a well sustainable agriculture, organic farming might become a panacea which can build a plinth for sustainable agriculture and reimburse conversion cost and maintain the sustainability of soil. Yadava, (2019). India is home to 30 per cent of the total organic producers in the world, but accounts for just 2.59 per cent (1.5 million hectares) of the total organic cultivation area of 57.8 million hectares, according to the World of Organic Agriculture 2018 report. Pandey and Sengupta(2018) (A majority of the farming community is resource poor and purchasing fertilizers and chemicals in adequate quantities is beyond their capacity, thus encouraging organic farming. Moreover, Organic farming is favorable for small and scattered agriculture land holders. Singh, (2019)

Objectives

- To study the importance of organic farming in this era.
- To study the benefits and challenges of organic farming.

Organic farming

The term "organic farming" was coined by Lord Northbound in 1940. The beginnings of the organic movement can be traced back to the beginning of the 1800s. In 1840 Justus Von Liebig developed a theory of mineral plant nutrition. Liebig believed that manure could be directly substituted by certain mineral salts. Filipovich, (2020)

Organic Farming in India

Ever increasing population as opposed to an ever decreasing supply of living resources like food and water has made it necessary to increase agricultural production and stabilize it in a viable and feasible manner. The benefits of 'Green Revolution' credited to Dr. MS Swaminathan have now reached a plateau and with diminishing returns it has become necessary to devise alternate techniques. In addition, the excess use of fertilizers and artificial growth regulators has led to an issue called 'pollution'. The need of the hour is a natural balance between life and property for existence. Keeping in view the fact that fossil fuels are on their way of extinction and are non-renewable, organic, nature friendly ways of farming and agriculture has gained importance. (<https://www.farmingindia.in/organic-farming/>). India produced around 2.75 million MT (2019-20) of certified organic products which includes all varieties of food products namely Oil Seeds, Sugar cane, Cereals & Millets, Cotton, Pulses, Aromatic & Medicinal Plants, Tea, Coffee, Fruits, Spices, Dry Fruits, Vegetables, Processed foods etc. The production is not limited to the edible sector but also produces organic cotton fiber, functional food products etc. Among different states Madhya Pradesh is the largest producer followed by Maharashtra, Karnataka, Uttar Pradesh and Rajasthan. In terms of commodities Oil seeds are the single largest category followed by Sugar crops, Cereals and Millets, Tea & Coffee, Fiber crops, fodder, Pulses, Medicinal/ Herbal and Aromatic plants and Spices & Condiments. The total volume of export during 2019-20 was 6.389 lakh MT. The organic food export realization was around INR 4,686 crore (689 million USD). Organic Products are exported to USA, European Union, Canada, Switzerland, Australia, Japan, Israel, UAE, New Zealand, Vietnam etc. In terms of export value realization Processed foods including soya meal(45.87%) lead among the products followed by Oilseeds (13.25%), Plantation crop products such as Tea and Coffee(9.61%), Cereals and millets (8.19%), Spices and condiments (5.20%), Dry fruits (4.98%, Sugar(3.91), Medicinal plants(3.84%) and others

Types of Organic Farming

Pure organic farming: It involves the use of organic manures and biopesticides with complete avoidance of inorganic chemicals and pesticides (Kankam, et al ,2020).

Integrated Organic Farming Systems: Pure organic farmers don't want to use much or any technology in their work. This is different from integrated organic farming systems, which use all technology they can get to make their life easier and to make more food. But, they still don't include some big amounts of chemicals or pesticides or something like that. Still inside organic rules. (<https://farmingbase.com/organic-farming-types-importances-advantages-and-benefits/>)

Integrated organic farming: Integrated organic farming involves integrating techniques aimed at achieving ecological requirements and economic demands such as integrated pest management and nutrients management. (<https://byjus.com/biology/agriculture-and-organic-farming>).

Government Initiatives to Promote Organic Farming

Paramparagat Krishi Vikas Yojana (PKVY): Paramparagat Krishi Vikas Yojana promotes cluster based organic farming with PGS (Participatory Guarantee System) certification. Cluster formation, training, certification and marketing are supported under the scheme. Assistance of Rs. 50,000 per ha /3 years is provided out of which 62 percent (Rs. 31,000) is given as incentive to a farmer towards organic inputs. (<https://agriculturepost.com/5-govt-schemes-promoting-organic-farming-in-india>). The Government of India provides, the country though different).

One District - One Product (ODOP): The programme aims to encourage more visibility and sale of indigenous and specialized products/crafts of Uttar Pradesh, generating employment at the district level. The presence of aggregators is imperative to bring about economies of scale for the small and marginal farmers.

National Mission on Oilseeds and Oil Palm (NMOOP): Financial assistance@ 50% subsidy to the tune of Rs. 300/- per ha is being provided for different components including

bio-fertilizers, supply of Rhizobium culture/Phosphate Solubilising Bacteria (PSB)/Zinc Solubilising Bacteria (ZSB)/ Azatobacter/ Mycorrhiza and vermicompost. (<https://pib.gov.in/Pressreleaseshare.aspx?PRID=1656146>)

Challenges in Organic Farming

Shortage of Biomass: Many experts and well informed farmers are not sure whether all the nutrients with the required quantities Can be made available by the organic materials. Even if this problem can be surmounted, they are of the View that the available organic matter is not simply enough meet requirements. (<https://www.yourarticlelibrary.com/essay/majorproblems-and-constraints-for-organic-Farming-in-india/25013>)

Disparity of Supply and Demand: Non-perishable grains can be grown anywhere and transported to any location but this is not the case with fruits and vegetables. It should be produced locally for which there should be willing companies, aggregators and farmers around that particular area from where the demand is coming. But generally, the demand comes from metros where there are no farmlands to produce organic fruits and vegetables. Smart transport and dedicated channels of supply are the solutions to this disparity. (<https://www.bizencyclopedia.com/article/major-challenges-in-organic-farming-in-india>)

Time: Indeed, organic farming requires greater interaction between a farmer and his crop for observation, timely intervention and weed control for instance. It is inherently more labor intensive than chemical/mechanical agriculture so that, naturally, a single farmer can produce more crops using industrial methods than he or She could by solely organic methods (<https://small-farm-permaculture-and-sustainable-living.com/>)

High MRP: It is almost obvious that due to the extreme care taken to go along with organic farming, the results would be kept at a high price. Once sold to the market, most of the place is devoted to the sale of these organic fruits and vegetables. Most people do that to approve of organic products because of this. The items sold in the market are half the price of non-organic products. So, we can say that organic items are expensive and not every consumer is willing to pay the price for it. (<http://www.akmindia.in/organic-farming-pros-Cons/>).

Lack of special infrastructure: Most large organic farms still operate in an industrialized agriculture style, including industrial Transportation of the food from field to plate. Unfortunately, this involves the adoption of the same Environmentally harmful practices as those of factory farms which are however hidden under the cover of Being organic. (<https://greentumble.com/pros-and-cons-of-organic-farming/>)

Benefits of organic farming

Better Taste and More Nutrition: Fruits and vegetables that are organically raised have a much better taste than other mechanically farmed ones. This is due to the fact that they are given a much longer time to develop and are not pumped with artificial things. The sugar structures in these crops have more time to mature and develop into a tasty and nutritious product. (<https://www.b2bio.bio/en/noticias-productos-ecologicos/ventajas-and-disadvantages-of-organic-farming>)

Reduces pesticide and chemical residue in soil: Organic farming minimizes the use of pesticides and chemicals thereby reducing the major environmental issues. It ensures the health of soil, water, air and flora and fauna. Also reduces the major environmental issues like soil erosion, air pollution, water pollution etc.

Promotion of Biodiversity: Crop rotation to build soil fertility and raising animals naturally helps promote biodiversity, which promotes greater health across all living species. As organic farms provide safe havens to wildlife, local ecosystems also improve. (<https://precisionagricultu.re/8-benefits-of-organic-farming/>)

Consumes Less Energy: Organic farming does not rely on the use of synthetic fertilizers as opposed to conventional techniques that are generous with these external chemicals. Avoiding fertilizers contributes to a greater cause of energy conservation. This is because manufacturing synthetic fertilizers consumes a significant amount of energy. On average, it's

safe to say that the energy usage is lower by at least 30-50% in the organic farming systems. The British Department for Environment, Food and Rural affairs for report

Long-term sustainability: Organic farming is a long-term, sustainable approach to food production. Organic farming takes a proactive, preventative approach instead of dealing with problems after they emerge which can be too late. (<https://www.econation.co.nz/organic-food/>)

Reduced erosion and better water management: Both soil improvement and the concept of keeping the ground “covered” as much as possible, either by mulches or cover crops, reduces soil erosion. Soils with improved structure and higher content of organic matter and the more compact growth of an organic crop also reduces the water consumption in agriculture. (<http://grolink.se/resources/oa/benefits-of-organic-farming/>)

Familiarity with the techniques: Organic farming is like going back to the roots before mechanization hit the lands. Thus the farmers can easily understand and adapt to the techniques of organic farming that deploys traditional knowledge. The farming techniques are based on how well a farmer can make the best use of his immediate natural resources. (<https://www.24mantra.com/blogs/organic-lifestyle/what-if-india-goes-fully-organic-how-will- this-benefit-the-farmers/>)

Conclusion

The phenomenon of ‘Organic agriculture’ is the only solution to nurture the land and to regenerate the soil By going back to our traditional method of farming i.e., free from chemicals, pesticides and fertilizers. This is a possible step for sustainable development by choosing not to use chemicals, synthetic materials, Pesticides and growth hormones to produce high nutritional quality food and in adequate quantities (Onkar and Suryawanshi,2019) Organic farming is an option agricultural system which quickly changes Farming rehearsals. It depends on composts of natural starting points, for example, fertilizer excrement, Green excrement, and bone feast and so forth substantially more than deciding not to utilize pesticides,

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