



# Organic Farming: The Challenges and Opportunities

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## ARTICLE DETAILS

### Article History

Green Revolution by means of extensive use of chemical based fertilizers has although increased the crop production multiple times, but this has not only reduced the nutrients value of crops but also found to be hazardous to environment. Organic Farming is supposed to be the best alternate.

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### Keywords

Agriculture, Organic Farming, Environment Preservation, Green Revolution

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## ABSTRACT

Organic Farming is a form of agriculture that yields crops in the most environment friendly manner and hereby intended to preserve the environment. United States Department of Agriculture (USDA) Organic Regulations restrict the use of synthetic fertilizers and pesticides and some other conventional tools that are found to be hazardous to environment in longer run. This white paper highlights common challenges and opportunities for Organic farming globally.

## 1 Introduction

Agricultural and crop production plays a strategic role in the economic strength and development of a country. Majorly in Asia and Africa, this industrial sector has been a backbone to economic strength of countries.

Agriculture sector has already made a vital contribution to the economic development and prosperity of many developed countries and its role in the economic progress of less developed or developing countries is of even more vital importance.

The tradition in agriculture has usually been focused towards maximization of production and minimization of the cost of production with mostly ignorance to the hazardous impacts on the environment and the quality of products it provides to society.

As the world enters an era of green revolution in which global food production is likely to be doubled, it is critical that modern

agricultural practices be modified to minimize environmental loss even though it demand more cost of production, but maintains natural quality of production and preserves environment.

## 2 Agriculture in Economic Growth

Agricultural and crop production plays a strategic role in the economic strength and development of a country. Majorly in Asia and Africa, this industrial sector has been a backbone to economic strength of countries.

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“Increase in agricultural production and the rise in the per-capita income of the rural community, together with the industrialisation and urbanisation, lead to an increased

demand in industrial production"-Dr. Bright Singh.

It is evident from the history of England that Agricultural Revolution occurred before the Industrial Revolution there. In U.S.A., India, and even in Japan, the agricultural development in the country has helped them to a greater extent in the process of industrialization and industrial revolutions.

Similarly, various other under-developed or developing countries of the world who witnessed the process of economic development have by now learnt that industrialization has a finite limitation to improve per capita income of the country and putting over-emphasis on industrialization as a means to increase the per capita real income would give limited results.

Agriculture sector on the other side, if improved, gives a country the capacity to export crops and products of crops. This hereby contribute as additional support in improving per capita income of the country.

### **3 Hazardous impacts of green revolution**

The Green Revolution terms to phase when the crop productivity of global agriculture increased multiple folds by use of new and advanced technologies for crop production.

During this phase, new synthetic herbicides, multiple chemical fertilizers and different pesticides were created and used in fields. The chemical fertilizers and pesticides made to supply crops with extra nutrients and in much higher quantities, and therefore, increase the overall yield. The newly developed synthetic herbicides and specially formed pesticides controlled the weeds in the fields, they deterred or kill insects, and hereby prevented diseases, which also resulted in higher overall productivity.

The Green Revolution not only gave the benefits of producing larger quantities of food, but it was also beneficial in making it possible to grow more crops on almost the same amount of land with a similar amount of costs and effort. This reduced overall

production costs and it also resulted in cheaper prices for food in the market.

No other activity has such immense and significant impact on the socio-economic development of countries as has been seen in case of the Green Revolution. Intensification of researches and development of agriculture practices over the years has led to overall degradation of the fragile agro-ecosystem. Significantly higher cost of production and diminishing economic returns from crops production practices are affecting the socio-economic condition of farmers of states.

Diminishing soil fertility, soil erosion, soil toxicity, pollution of underground water, diminishing water resources, salinity of underground water, livestock diseases, increased incidence of human, and global warming are some of the major and significantly visible negative impacts of green revolution imposed by over-adoption of agricultural technologies by the farmers for maximization of profits.

Indiscriminate and disproportionate use of chemical fertilizers pollutes the soil, air and water and feed and fodders offered to animals.

### **4 Organic Farming: The alternate to Chemicals**

More than 90% of farmers globally use the conventional chemical-based fertilizers and pesticides for improving their crop production, and completely ignore the hazards to environment by these chemicals.

But in past few years, not only the farmers have realized the loss of fertility of soil by these chemicals but also the consumers have realized the low quality of nutrients in these chemically produced crops. This awareness has now called up the demand of 'Organically' produced crops, the crops produced without chemicals, but with the use of compost fertilizers and other organic means that are nature friendly.

Organic farming not only preserves the nutrient values of the crops, but also preserves environment. It does not pollute soil, air, and water.

The byproducts of organic farming also serve as better food for animals. The remains of organic farming are easier to get compost and recycled into more organic fertilizers. Organic fertilizers even if get dissolved with underground water, it is not harmful to drink and hereby does not pollute underground water.

## 5 Challenges for Organic Farming

While organic farming is believed to be environment friendly, it has its own challenges too.

Organic farming is an expensive solution of crop production. This involves constant expenditure over the crop life cycle. The higher cost of production not only need a higher capital input but also places the resultant food on a higher cost slab. This keeps it away from the reaches of a normal small-scale farmer as well as from a normal lower and lower middle-class consumer on the grounds of affordability.

Supply chain is another challenge for organic farming as there is a demand-supply disparity in organic farming. Grains can be grown anywhere and later can be transported over a longer distance because grains are not perishable or can be stored for a much longer time as compared to fruits and vegetable. This is how it happens in the case of conventional grains as well. But the same is not true in the case of fruits and vegetables where the produced crops has to be local or from a nearby place otherwise most of the organic fruits and vegetable cannot reach the shelf of retail stores before getting rotten, and even if it reaches, the marketability reduces due to quality degradation during transport time. For the produce to be local or from a nearby place, there must be available the willing companies, aggregators, and even the farmers around that give area of demand.

Lack of Standards or loosely written standards and Government Regulatory Policies for standardization of organic farming and respective certification is another major challenge before promotion and regulation of organic farming. Any agricultural product is focused on its consumer. The way the

consumer shows demand, the production is done. If consumers show interest in something, the farmers will grow it. The trust of the consumer is the key to organic agriculture products as there is no straightforward method for the consumers to check if the product is produced organically or chemically. The consumer cannot directly test if the product is genuine organic or not. In most of the cases, the required trust is developed with a proper regulatory framework, compliance tests with the standard set of requirements, and communication of the same to the consumers in the form of a compliance certificate. This is exactly what is missing most of the countries. The audit and certification standards for Organic Farming and respective endorsement requirements are mostly wobbly established.

## 6 Conclusion

Although, the organic farming is a great alternative of chemical based farming and it has many opportunities to expand in all agriculture centric economies, it has its own challenges. While organic farming as a good solution of crop production with parallel love to mother nature, Government, Regulatory bodies, giant companies, aggregators, and farmers, and consumers need to show interest in this and increase its production to make it more affordable.

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