

Sustainable Agriculture through Organic Farming

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Abstract

The use of organic farming in agriculture is very important for India's sustainable development. This research paper not only explains the benefits of organic farming but also discussed the adverse effects on human health due to excess use of chemical fertilizers and pesticides. Organic farming or natural farming is a way of living a healthy life. Today, most of the Indian farmers are increasing the use of chemical fertilizers and pesticides to increase the productivity of the farm. In this way productivity will be increased but quality of agricultural production destroyed. Therefore, traditional farming or natural farming not only improves the quality of the product but also the product is beneficial for human consumption. The study has focused the use of organic matter can be applied only the application of manures, compost fertilizers and by product of wastage. Similarly, organic pesticides have used from naturally occurring sources in the production process of agricultural commodities. The study found that organic methods can increase the quality of agricultural commodities and this quality (organic vegetable and food grains) consumption is essential for good health of human body. The present study recommends there is a need to special institutional credit supply for promoting organic farming.

Keywords: Organic farming, Chemical fertilizer, Manures, Institutional credit, Pesticides

I. Introduction

Natural farming is a farming in which the relations between farmers and nature are most closely related. Farmers develop its production methods by applying natural principles. Natural farming in India has traditionally come into existence. In the natural farming system all the inputs required for production (such as fertilizers, pesticides, water, seeds, etc.) are obtained from nature. All these inputs have no chemical process. Farmers produce a high quality food products for consumption by taking environment friendly products from natural agriculture. In natural agriculture, all the natural elements of the soil remain constant. Therefore, this way of agricultural farming, the soil fertility cannot destroy. There is a fundamental difference between

organic farming and natural farming. Organic farming has to be bought organically and marketed at high prices. However, inputs available to the farmer are used in natural farming.

Organic farming is a method of increasing productivity by using the available natural resources. No chemical elements are used in organic farming. The use of natural inputs is the most important for improves the quality of the farm. Similarly, the quality of commodity production also improves. The concept of organic farming started with Sir Albert Howard in 1900. He used dung, rotation crop, and biological methods for agricultural production. According to the United States Department of Agriculture (USDA), '*organic farming is a system which avoids the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc.) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off – farm organic waste and biological system of plant protection.*'

II. Objectives and Methodology

The following are the main objectives of the present study.

1. To explain the concept of organic farming and natural farming.
2. To analyze the present status of organic farming in India.
3. To study the importance of organic farming for healthy foods.
4. To analyze the problems faced by organic farming growers and suggests suitable suggestions.

III. Importance of Organic Farming and Sustainable Development

India's sustainable economic development is not possible without agricultural development. For sustainable development of the agricultural sector, the use of farm land and water must be done in a proper way. By adopting natural production method, the quality of the agricultural land can be maintained in a sustainable manner. Good quality of farm land soil, natural elements of land, sufficient water level etc. is essential for sustainable development. Organic farming is a form of natural agriculture, as the organic farming system sustains the natural elements of the land. The needs of organic farming for sustainable development of agricultural sector are discuss as follows: 1) Natural cereals, fruits, vegetables etc. are useful for human health. Such products can only be made available through the organic farming method.

2) Organic farming is a traditional method of farming. Farmers in India had long been cultivating this kind of agriculture. Given the increasing need for food, the use of chemicals and fertilizers increased. This increased the production of cereals, but the quality of the product did not remain the same. That is, traditional farming practices are essential for producing quality commodities.

- 3) No need to buy expensive fertilizers and medicines for organic farm production. Chemical farming is expensive farming and organic farming is the least expensive method. Organic farms use fertilizers, seeds, medicines made by the farmers themselves. In this way, the cost of input on organic farming can be reduced.
- 4) Organic farming can control soil and water pollution. Polluted water is dangerous to human health. Soil toxins are hindering agricultural productivity. Every person has to connect with land, air, and water. Water, air and land must be pollution free for environmental balance. This kind of natural balance is only possible through organic farming.
- 5) Imbalance of Nitrogen, oxygen and carbon dioxide in the environment adversely affects on human life. To maintain the environment system, agriculture producer must be reduced by the over use of chemical fertilizers and pesticides.
- 6) The needs of healthy human health is necessary for maintains work capacity in the present period. The number of new diseases is increasing day by day. Many illnesses arise from the use of polluted water and the consumption of chemical foods. If these diseases are to be avoided, it is important to consume organic product. Consumption of quality commodities is useful for increasing immunity in the human body.
- 7) The natural method is used in the production method of organic farming. Organic farms are used in decomposing plant leaves, wastes, and other biological components.

IV. Present Status of Organic Farming in India and Abroad

Organic farming has been used in the world since ancient period. Today, most of the lands under organic farming is in Australia. In terms of number of the farmers, India has the highest number of organic farming farmers. Information about the world's organic farming area and the number of farmers is given in Table 1.

Table 1. Top ten countries of Organic Producers and Organic farm area in the world (2017)

Sr. No.	Country	Number of Organic Farmers (2017)	Country	Area under Organic Farming (Million hectares) - 2017
01	India	835000	Australia	35.65
02	Uganda	210352	Argentina	3.39
03	Mexico	210000	China	3.02
04	Ethiopia	203602	Spain	2.08
05	Philippines	166001	U. S. A.	2.03
06	Tanzania	148610	Italy	1.91
07	Peru	87460	Uruguay	1.88

08	Turkey	75067	India	1.78
09	Italy	66773	France	1.74
10	Paraguay	58258	Germany	1.37

Source: FiBL Survey 2019 and IFOAM

In the above table shows that India has the largest the number of organic farmers in the world. Uganda and Mexico are the second and third largest organic producers. However, when it comes to the area under organic farming, India's rank is 8th in the world due to the small size of holding. Australia has the largest organic agriculture land (35.65 million hectares), followed by Argentina, China, Spain and U.S.A. Around 181 countries of the world are experimenting with organic farming and a total area of 69.8 million hectares is used for this agriculture. Ten largest countries in the world has contributes more than 55 million hectares organic farming. The world report also shows that 1.4 per cent of the global agricultural land is organic type. Total 14 countries in the world have more than 10 per cent of his total agricultural land is organic land.

In India, the traditional way of farming was organic agriculture or natural farming. The trend of increasing organic farming has been seen in the every state in India. In case of organic farming share in a total cultivated area, Sikkim is the largest organic farming state in India. Considering the size of organic farming, Madhya Pradesh has the highest number of agricultural land and Maharashtra has the largest agricultural production (33.02 per cent of total India's organic production) in the country. (Table – 2).

Table 2. Major States of Organic Produce Farm and Organic Production in India

Sr. No.	States	Total area under organic certification process (2018-19) (hectares)	% of Total	States	Total Organic Production (in MT)	% of Total
01	Madhya Pradesh	674051.85	34.77	Maharashtra	860976.01	33.02
02	Maharashtra	250934.33	12.94	Madhya Pradesh	738885.70	28.33
03	Rajasthan	223991.46	11.55	Karnataka	370576.98	14.21
04	Odisha	95739.70	04.94	Uttar Pradesh	142511.57	05.46
05	Gujarat	93841.27	04.84	Rajasthan	134612.73	05.16
06	Karnataka	83098.78	04.28	Odisha	88948.60	03.41
07	Sikkim	75798.91	03.91	Gujarat	66106.20	02.53
08	Uttar	62838.13	03.24	Assam	38475.60	01.47

	Pradesh					
09	Meghalaya	48409.74	02.49	Jammu & Kashmir	33878.95	01.29
10	Kerala	38404.23	01.98	Uttarakhand	29601.80	01.13
	India	1938220.79	100.00		2607384.80	100.00

Source: NPOP, Agricultural & Processed Food Product Export Development Authority, GOI

The above table indicates that about 35 per cent of total organic agriculture in India is cultivated in Madhya Pradesh, followed by Maharashtra, Rajasthan states. However, the state of Maharashtra ranks first in organic commodity production. Maharashtra accounts for 33 per cent of the total organic farm produce in the country, followed by Madhya Pradesh and Karnataka.

V. Problems faced by Organic Farming:

When developing organic farming, it is necessary to shift natural or organic farming by reducing chemical farming. Without the promotion of natural ingredients in agriculture for sustainable development in agriculture the experiment of organic agriculture cannot be successful. The use of crop rotation, residue management, organic manures and biological inputs will have to be increased while cultivating agriculture. Increasing livestock need to be taken into account when it comes to the inputs needed for organic farming.

1. Lack of Awareness:

Awareness about organic farming in India is less. Demand of organic market and its awareness was limited to consumers in the city areas. Farmers do not see awareness regarding the production and sale of organic farms. Consumer needed to be aware of the adverse effects of chemical products on human health. At the same time, it is important to raise awareness of how important of organic foods for good health.

2. Marketing Problems of Organic Product:

Generally, agricultural commodities are sold in the agricultural market for the sale of cereals, vegetables, fruits, pulses etc. chemical products with high productivity in the market are sold at low prices. But organic product has to be sold at high prices due to low productivity of organic produce. As a result, organic produce has difficulties in gaining market share.

3. Expensive Cost of Organic Foods:

Organic produce costs are very much high. Rising prices of organic manures and pesticides are responsible for increasing production costs. Farmers use environment-friendly natural elements for their organic produce, using self-made renewable inputs. Since the cost of organic inputs is higher than that of chemical agricultural inputs. So due to this reason, organic produce costs are increasing.

4. Low Productivity:

Natures made inputs are widely used for organic production. The effects of these manures and pesticides do not appear to be early due to the contaminated environment. Organic products are more prone to disease, pests than chemical products. As a result, the productivity of organic farming decreases.

5. Shortage of Cattle Manures:

The major constraint of cattle manures is low availability and poor quality. The handling of different manures is difficult. Now our country is facing the shortage of livestock's and its maximum use for farming.

6. Insufficient Infrastructural Facilities:

The organic certified agencies are inadequate in our country. Supporting infrastructural facilities of organic farming is essential for certification process. The available organic matter is not sufficient to meet the requirements. The mechanism of inspection of soil tests, soil components, seed testing, use of biological components etc. is inadequate.

7. Climate Change and Organic Farming:

Today, climate change is adversely affecting agriculture. Irregular changes in the season can have a bad effect on agricultural production. Compost fertilizers and organic pesticides cannot work effectively to control the disease of crops whiling producing organic farming.

8. Natural Disaster Impact:

Natural disaster is hampering the growth of organic farming. The expansion of organic farming is lower due to heavy rainfall, extreme droughts or new diseases on crops. Farmers have to suffer loss of organic produce in the event of excessive use of water or shortage of water.

VI. Some Suggestions

Most states are abusing chemicals to generate more income. Consequently, the question of malignant disease like cancer has been raised. Rashmi Sanghi (Research Scientist, IIT Kanpur) said that the consumption of chemicals from agricultural product has contributed to the chemical drug in mother's milk. Therefore, to avoid this badly impact on human body, some attention for every person should be needed.

- It is important to inform every individual about the dangers posed by consuming chemical food. Also, if the food produced from organic farming is readily available, the demand for organic produce will be recorded by the consumer.
- Organic farmers should be encouraged to do organic farming. Also, the contribution to organic farming should be greatly increased.

- Organic market for organic produce should be established in every block level. Similarly, there should be a laboratory for testing organic products.
 - There is a need to explain the importance of human health for the consumption of organic commodities by a medical practitioner.
 - The governing body needs to be efficient in examining bogus products and their claims under the name of biological products.
 - Continuous training should be given to the farmers in the field of organic fertilizers, pesticides, natural uses of compost fertilizers etc.
 - Large quantities of waste materials like vegetable refuse, farm litter, animal waste etc. are available in our surrounding. These waste materials should be used properly for the production of compost manures.
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