



Organic Farming in India with Reference to Maharashtra State

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Introduction

Agriculture is one of the oldest professions. It was cultivated traditionally. Two – third population was doing it as a main occupation. The entire economy was based on it and the farmers were cultivating it only for subsistence. Limited technology and infrastructure was being used. Since the social structure was rigid it was resisting changing it, results in to low productivity. Today's developed countries like America, England were developed there agriculture in the early stage of development. For any country along with the industrial revolution agricultural development is must to be stabilized and economically developed. Looking at the trends in top populated countries the food grain growth and population growth competing with each other. To disproving Malthus' law the agricultural sector has done a great job in meeting the food needs of the growing population in the world. In Indian economy agricultural sector has played an important role. In true sense, agriculture in India is the backbone of the economy. The industrial revolution in India began in 1850s and accelerated in 1870s and 1880s and consequently the contribution of agriculture started to decline and continuously declined to approximately 16 percent in 2022-23 but still it remains important.

The Industrial revolution took place in 1718 had profound impact on the world economy. It introduced mechanization and set up large scale industries. This system leads to change in lifestyle of the people with good and bad consequences. With the help of advanced mechanization many experiments were conducted in the agriculture sector. Due to these large industries urbanization was emerged, the large-scale migration of the people occurred, new opportunities of the employment were created. During the transition period, there was a large increment in population, which created high demand for food compare to its supply. Therefore, the use of chemicals fertilizers, pesticides, improved and hybrid high yield seeds use has increased to increase the production of food grains, fruits and



vegetables in a short period of time. Over the period its disastrous consequences were seen in the technique of agriculture cultivation. Organic farming is a need of the time. Taking into consideration of these things, in this paper an attempt is made to study the organic farming in India with reference to Maharashtra.

Objectives of the Study

- To understand the concept of organic farming
- To take historical review of the organic farming in India
- To study the state wise production of organic farming in India
- To study the status of organic farming in Maharashtra.

Research Methodology

The above mentioned objectives are studied in the paper with the help of descriptive type of research design.

Data Collection

This study is based on secondary data only. Various books, journals, and reports are used to collect the secondary data. As well different websites are also referred to collect the data.

Organic farming is the method of agriculture production in which more focus is given on natural processes, biodiversity and sustainability. Conversely in conventional farming, the chemicals, fertilizers and pesticides are used to produce more. In India since the 1960s such chemicals fertilizers, pesticides, herbicides, improved and hybrid high yield seeds have been used to increase production. It is named as Green Revolution commenced in 1966. It was used very much as there was mismanagement in the techniques led to increase in cost of production. Along with the benefits, its ill effects also augmented. Useful microorganisms and microbes were destroyed the land texture has deteriorated. The harmful elements that enter the soil due to the use of chemicals in agriculture get mixed with the underground structure which poses a threat to the organisms living inside the soil. The undisruptive characteristic of the soil got in danger. If we want to achieve development in the agriculture by protecting it from dangers it is necessary to use organic fertilizers instead of chemical fertilizers. Organic farming is a systematic system that does not increase to income of the farmers or does not only keep sustain the structure of the soil but also benefits the entire human beings with sustainable development. Organic farming is pursuit of sustainability. There is no alternative to organic agriculture. India has a long



tradition of natural farming. Till the 1950s agriculture were using natural method to produce production. Once again the farmers and consumer turned to the organic food cultivation and for use for consumption.

In organic kind of farming there is no place for synthetic chemicals. It avoids chemical fertilizers, pesticides, herbicides and genetically modified organisms (GMOs). Soil health is more focused, it is expected to maintain health of the soil through crop rotation, composting, animal material incorporating, green manure, crop cover and organic fertilizers. Soil fertility is tried to increase by using minor organisms such as earthworms and bacteria to dissolution organic matters and convert it into nutrients for plants. Natural pest control is advanced by using natural predators, selective and limited use of pesticides that poise little or no adverse effect to the soil and crops. Sustainability is an aim of the organic farming. Taking in to consideration, the environmental health, reduction in pollution, conservation of water, use of renewable source of energy, in this type of farming the healthy practice of farming is used for the environment and human beings.

Brummond defined the organic farming as a production system working in partnership with nature to produce food. Till the end of 1800s the production process was used as mentioned by the agriculturist. According to the National Organic Standards organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activities. However, Sir Albert Howard, widely considered to the father of organic farming, an agriculturist, make difference between organic and conventional food production systems. In conventional farming system allow using synthesized pesticides, fertilizers and growth regulating substances whereas in organic farming method minimizes pollution from pesticides, air, water and soil, organic practices cannot ensure that product are completely free to residual.

Historical background of organic farming

The organic movement began in the 1930s and 1940s as a reaction to agriculture's growing reliance on synthetic fertilizers. Sir Albert Howard, J. I. Rodale, Lady Eve Balfour are the renowned names worked in organic farming area in United States, United Kingdom and across the world. The chemical fertilizers had been created during the 18th century. Initially superphosphates was produced later on ammonia based fertilizers were produced by using Haber-Bosch process. These early produced fertilizers were cheap, powerful and easy to transport in large volume. In the area of chemical pesticides were happened in



1940s, that's why this decade was being referred as the pesticide era. As a percentage of total agricultural output, organic farming has remained tiny since its beginning. As environmental awareness and concern increased amongst the common people, originally supply driven movement became driven. Since 1990, the market for organic product has started its journey from nothing to \$46 billion in 2007. The demand has increased hence approximately 32200000 hectares area was came under cultivation in the same year which was 0.8 percentage of total world farmland. In India according to the 2023-24 data of APEDA and the ministry of Agriculture, approximately 407 million hectares area come under cultivation (2.7 million) and wild (2 million) harvest. India's organic farming is supported by Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER).

Need of Organic Farming

Organic farming reduces the use of harmful synthetic fertilizers and pesticides. With the help of this method the soil and water can be used from contaminated. It promotes natural ecosystems and help conserve insects, birds, and microorganisms and preserve biodiversity, it enhance the soil fertility and structure. Hence, to protect the environment organic farming is needed. Organic farming ensures the soil to fertile. It is more energy efficient. In this types of farming the future generations is focused and hence it considers sustainability. The product produced from organic farming residues harmful things from food and makes it safer and healthier for the consumption since it is chemical free. Organic food has more nutrients like antioxidants and vitamins. Organic farming eliminates greenhouse gases and increases carbon sequestration in the soil and by conservation of water through better use and using irrigation techniques.

Organic Farming in India

For the thousand of the years, Indian have had the knowledge and approval of the art of farming. Up to the end of the British dynasty in India it was focused and prosperously adapted method. Agricultural production was carried out with the help of traditional knowledge, fertilizers, seeds and pesticides. Therefore till the pre independence period, India was a country that used organized agriculture and was very dependent on agricultural production. The national Agricultural Policy 2000 recommended the scientific use of traditional agriculture knowledge and practices in modern farming systems. Accordingly, the department of Agriculture and Co-operation, Government of India,



launched the National Agricultural Policy to promote the development of sustainable agriculture and create awareness about it, as well as the ministry of commerce of the union government launched the National Organic Programme in April 2001. As a part of this, the Agricultural and Processed Food Production Export Development Authority (APEDA) was given the responsibility of being the regulatory body for the implementation of the National Program for Organic Production Policy. APEDA, along with the development of organic agriculture is responsible for certifying organic goods, and preparing conclusions for evaluating organic agriculture. National Trader Commission, which issues technical certificate to farmers, traders, for collective or group farming for organic farming. Apart from this, APEDA is responsible for preparing various types evaluation reports for the export of organic goods produced in the country and implementing them to encourage exports. As a result, since 2013, India has emerged as the seventh largest producer of organic crops in the world.

Table 1 - Area under Organic Farming in India

Sr. No.	Year	Area (in hectares)	Yearly growth
1	2011	10084266	---
2	2012	500000	-95.04
3	2013	510000	2
4	2014	720000	41.17
5	2015	1180000	63.88
6	2016	1490000	26.27
7	2017	1780000	19.46
8	2018	1938221	8.89
9	2019	2299222	18.62
10	2020	2657889	15.60
11	2021	2657889	

Source- [https://www.fibl.org/fileadmin/documents/shop/1150-organic-world-](https://www.fibl.org/fileadmin/documents/shop/1150-organic-world-annual-report) annual report

The above table shows the area under organic agriculture. In 2011, the area under organic farming in India was 10084266 hectares, an increase of 59.21 percent to 2657889 hectares in 2021. This means that between 2011 and 2021, India's organic farming has seen grown-up more than 50 percentages. Considering the annual growth and decline of the organic farming in India, it is seen that the highest growth of 63.88 percent was seen in the



year 2015. Whereas very less growth rate was seen in 2013, that was only 1.96 percentages. **State wise area under Organic Farming in India**

When studying the state wise area under organic farming, there was very much unequal proportion of percentage of organic farming. As per the cropping pattern, Madhya Pradesh is number one state for sugarcane cultivation, while Maharashtra is the second state in term of sugarcane cultivation.

Table 2 - State wise area under Organic Farming in India

Sr. No.	State	Area (hectares)	Growth proportion (%)
1	Madhya Pradesh	618080.48	38.33
2	Maharashtra	224787.36	13.94
3	Gujarat	81700.72	5.07
4	Rajasthan	204871.08	12.70
5	Odessa	72757.78	4.51
6	Karnataka	58613.37	3.63
7	Uttarakhand	31739.17	1.97
8	Sikkim	75168.33	4.66
9	Uttar Pradesh	53700.93	3.33
10	Jharkhand	10.4	0.00064
11	Tamil Nadu	18806.88	1.17
12	Andhra Pradesh	20759.21	1.28
13	Kerala	28743.47	1.78
14	Telangana	5295.57	0.33
15	Bihar	24.19	0.0015
16	Jammu	18441.82	1.14
17	Meghalaya	24160.70	1.50
18	Mizoram	2846.89	0.18
19	Chhattisgarh	13722.28	0.85
20	Assam	10312.87	0.64
21	Manipur	4928.25	0.30
22	Nagaland	7140.56	0.44
23	Goa	10669.75	0.66
24	Arunachal Pradesh	3840.16	0.24
25	Tripura	2343.73	0.14



Sr. No.	State	Area (hectares)	Growth proportion (%)
26	Himachal Pradesh	8552.73	0.53
27	Punjab	780.41	0.048
28	West Bengal	5893.62	0.36
29	Haryana	2872.74	0.18
30	Lashdwp	895.51	0.06
31	Pondicherry	2.84	0.00018
	India Total	1612465	100

Source: <https://apeda.gov.in/apedawebsite/organic/data.htm>

The table shows state wise sector under organic farming in India. According to the data of 2021-22, out of the total area under sugarcane cultivation in Maharashtra has 224787.36 (13.94 percentage) hectares under sugarcane cultivation. In 2021-22, there were 31612465 hector area was under the cultivation of organic farming. In the same year, in Madhya Pradesh state there was 618080 hectors i.e. 38.33 percent of the total in 2021-22 area was under the organic farming where as in Delhi it was only 0.72 hectors. Hence, Madhya Pradesh state was at the top of the organic farming. In Maharashtra 224787.36 (13.94 percent) hectors area was under the cultivation of organic farming which was performing at second position in India.

Table 3 - State wise organic production in India (2021-22)

Sr. No.	State	Organic production (in Metric Tons)	Ratio (%)
1	Madhya Pradesh	1262966.52	21.90
2	Maharashtra	581164.05	10.08
3	Rajasthan	331900.65	5.76
4	Karnataka	150640.95	2.61
5	Odessa	13599.21	0.24
6	Uttar Pradesh	122155.19	2.12
7	Gujarat	38640.64	0.67
8	Jammu & Kashmir	31965.48	0.55
9	Kerala	31719.74	0.55
10	Uttarakhand	3100005.87	53.77
11	Tamil Nadu	21841.22	0.38



Sr. No.	State	Organic production (in Metric Tons)	Ratio (%)
12	Chhattisgarh	18751.55	0.33
13	Andhra Pradesh	17497.89	0.30
14	West Bengal	15897.00	0.28
15	Assam	10192.01	0.18
16	Meghalaya	4547.48	0.08
17	Haryana	3871.64	0.07
18	Telangana	3487.48	0.06
19	Himachal Pradesh	2652.76	0.05
20	Goa	1192.87	0.02
21	Nagaland	443.35	0.01
22	Punjab	339.83	0.01
23	Tripura	121.67	0.00
24	Manipur	81.55	0.00
25	Arunachal Pradesh	20.17	0.00
26	Sikkim	12.11	0.00
27	Bihar	81.55	0.00
	India Total	5765790.43	100.00

The table shows the state wise organic production in India. In India in 2021-22 there was 5765790.43 metric tons of organic production was produced. Out of the total production from Madhya Pradesh it was highest 1262966.52 metric tons of production which was 21.90 percent of the total in that year. Maharashtra was secured second position, as in area under cultivation, 581164.05 metric tons (10.08 percent) was the production. The correlation was calculated in descriptive statistic it was merely 0.37. There was a very weak correlation between the area under cultivation for organic produce and its output. India's export was the worth of Rs. 5249.32 crores in 2021-22. But obvious from Madhya Pradesh it was done better performance, around of Rs.1292.55 crores was the export value, followed by surprisingly Gujarat not by Maharashtra since the area and total organic production in Maharashtra was more than Gujarat.



Status of organic farming in Maharashtra

As shown in the above tables, Maharashtra is second state in cultivation area wise and in total product. Alike the center in Maharashtra as well, to promote the organic farming various schemes are announced.

Table 4 - Area and production growth of organic farming in Maharashtra

Year	Area	Growth	Output	Growth
2016-17	185.30	—	540	—
2017-18	201.56	0.09	689	0.28
2018-19	235.2	0.17	746	0.08
2019-20	261.57	0.11	861	0.15
2020-21	293.14	0.12	905	0.05
2021-22	371.8	0.27	776	-0.14

The area under the organic farming and production of organic farming in Maharashtra is shown in the table. In 2016 – 17 there was 185.3 hectares area was under the cultivation of the organic farming which had produced 540 metric tons of the output of the organic product. Over the period the area gradually tends to increase as well it s production, in 2021-22 the area increased to 371.8 hectares and output increased to 776 metric tons. There was positive relation between the area under the cultivation and production of the organic produce, the calculated value of the correlation was 0.62, it shows positive relation between these two things. The area is increased from 185.30 hectares in 2016-17 to 371.8 in 2021-22, the area was increased with increasing rate. On the other hand side output was increased from 540 metric tons to 776 metric tons from 2016-17 to 2021-22. It was increased with decreasing rate. The growth rate of production was increased in 2021-22 from 2020-21 with -0.14 growth rate.

Conclusion

The demand for green revolution came in to the force in order to provide food for the growing world's population and increased agricultural production per acre. For this the use of hybrid varieties that give high yield had begun, the fertilizers were used excessively and the comical pesticides and herbicides began. Residues of pesticides and chemical



fertilizers flowed in to rivers, streams and lakes with the flow of rain water, it pollutes the water and killing animals, aquatic life and livestock. Through animal feed, the nutrients enter the body of animals and dairy animals and through milk, they enter the bodies of children and humans. Therefore, today, various new diseases such as high blood pressure, diabetes, cancer, etc. are being seen in large numbers in children and adolescents. Highest use of chemical in land led to high production, but later due to the loss of microorganisms in production gradually decreased. The disease fighting power of the grains has decreased, as a result many types of diseases have been increased.

Farming using the traditional method reduces the cost of production. The organic product produced using the traditional method are fetching good market prices and are also generating profits. Organic farming is necessary to pursue the path of sustainability. Madhya Pradesh state was at the top of the organic farming. In Maharashtra 224787.36 (13.94 percent) hectares area was under the cultivation of organic farming which was performing at second position in India. In India in 2021-22 there was 5765790.43 metric tons of organic production was produced. The correlation was calculated in descriptive statistic for India, it was merely 0.37. There was a very weak correlation between the area under cultivation for organic produce and its output in India. Conversely, there was positive relation between the area under the cultivation and production of the organic produce in Maharashtra, the calculated value of the correlation was 0.62, it shows positive relation between these two things.

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