Current status of Organic Farming in India and global level

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ABSTRACT

Organic farming is a production system that prohibits the use of synthetically produced agro-inputs (fertilizers and pesticides). Instead, it relies on organic material (such as crop residues, animal residues, legumes, bio-pesticides) for "maintaining soil productivity and fertility and managing pests under conditions of sustainable natural resources and a healthy environment. We are looking for alternative nature based chemical free farming and that is organic farming. The scientists have realized that the 'Green Revolution' with high input use has reached a plateau and is now sustained with diminishing return of falling dividends. Thus, a natural balance needs to be maintained at all cost for existence of life and property. Organic farming promotes food security, especially for the small farmers operating in traditional or low-input systems through improvements in yields and incomes, enhancement of food availability through diversification and mixed farming as well as lower chances of crop failure in case of extreme climate events. Organic means, free from any harmful chemical fertilizers and pesticides and also eco- friendly. Organic farming is another way to overcome the problem of sustainability, global warming and food security. In this paper an attempt is made to examine the trends and area and production of organic farming in India and global level.

Key words: Organic farming, global status, international and national scenario

INTRODUCTION

In India, Organic Farming is not anything new as it has been in practice from ancient times. With the shifting towards minerals-based farming and the chemical and technological advancements made in agriculture in the 1960s, India ushered in an era of Green Revolution. No doubt, the chemical-based agriculture process paid rich dividends in terms of higher productivity which helped in pulling the country out of food insecurity for the burgeoning Indian population. However, it brought a very negative cascading impact on our ecological plateau, creating new problems like degradation of soil health, emergence of new pests / diseases, wiping out of eco-friendly micro organisms and percolation of toxic chemicals into our food chain threatening the very existence of the biosphere of our nation. It was, therefore, felt that to sustain agricultural production and productivity and to take this crucial Sector into new frontiers without damaging the resources and the environment, an alternate system of farming is required. In this context, organic farming, focussing on optimal, balanced, efficient and scientific management of land, water, biodiversity and external inputs has emerged as a solution.

The Government of India has implemented a number of programs and schemes for boosting organic farming in the country. Among these the most important include (1) The Paramparagat Krishi Vikas Yojana, (2) Organic Value Chain Development in North Eastern Region Scheme, (3) Rashtriya Krishi Vikas Yojana, (4) The mission for Integrated Development of Horticulture (a. National Horticulture Mission, b. Horticulture Mission for North East and Himalayan states, c. National Bamboo Mission, d. National Horticulture Board, e. Coconut Development Board, d. Central Institute for Horticulture, Nagaland), (5) National Programme for Organic Production, (6) National Project on Organic Farming, and (7) National Mission for Sustainable Agriculture (Yadav, M., 2017).

Concept of Organic Farming

Organic Farming, broadly refers to the farming methods free from toxic pesticides, chemicals and synthetic fertilisers. It stringently follows cultivation methods that keep the soil healthy and avoid adverse impact on environment by using organic waste such as crop, animal and farm wastes including biological materials. According to the Indian Council of Agricultural

Research (ICAR), "Organic Agriculture is a unique production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycle and soil biological activity. This is accomplished by using on farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farm inputs". Organic Farming System lays great emphasis on crop rotation, use of crop residues, animal manure and off-farm organic wastes, mineral grade rock additives and biological system of nutrient mobilization and plant protection techniques for sustaining the fertility of the land under cultivation.

Principle of organic farming:

1. Principle health:- Organic agriculture must contributed to the health and well being of soil, plants, animals and human in earth.
2. The principle of ecological balance:- We must model organic farming on living ecological system. Moreover, the methods of organic farming must fit the ecological balance and cycle.
3. Principle of fairness:- Organic farming provides a good quality of life and helps in reducing soil infertility.
4. Principle of care:- We should practice organic agriculture in a careful and responsible way to help the present and future generation and the environment.

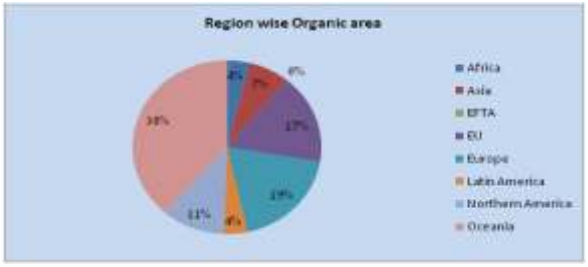
Methodology and data sources:

The paper is based on the secondary data sources for the period covering nearly a decade. The information about organic farming and its practices made at both, India and other developed countries is collected from various published sources such as publications of FiBL Statistics - European and global organic farming statistics, APEDA (Agricultural processed food products & export development Authority), PGS India Web Portal, NCOF annual reports, journals, periodicals, and newspapers, etc. The present study analyses the area, production, nature of commodities produced and export of organic products. The compound average growth rate has been used to measure the growth performance for different time periods to study the magnitude and direction of performance of organic farming in India. Comparative analysis of India with other countries and at regional level has been presented in tabular form as well in form of graphs.

Empirical Analysis

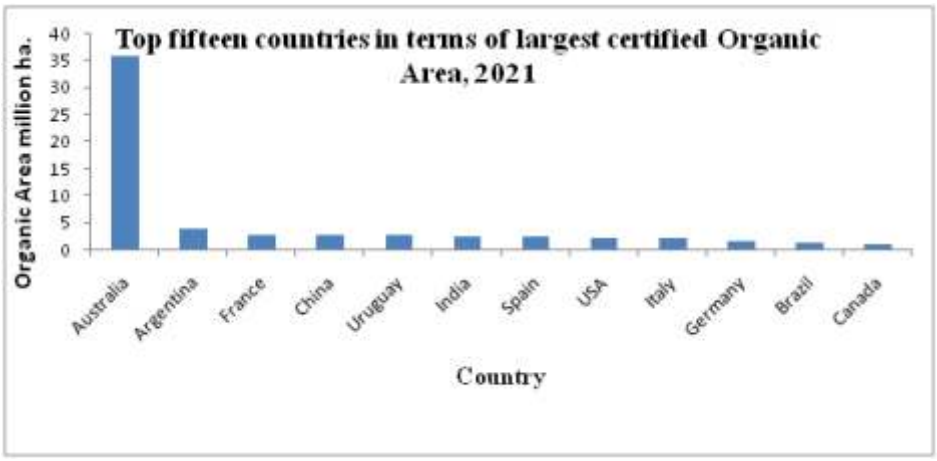
World Scenario of Organic Agriculture: According to the latest FiBL survey (The World of Organic Agriculture 2023) from 191 countries on organic agriculture worldwide, organic farmland and organic retail sales recorded a continuous growth and reached another all-time high. A bit more than 76.4 million hectares were organically managed at the end of 2021, representing a growth of 1.7 percent or 1.3 million hectares compared to 2020. Compared with 2001, when 15 million hectares were organic, organic agricultural land has increased five-fold (2021). In 2021, over 76.4 million hectares of organic agricultural land, including in-conversion areas, were recorded. The regions with the largest organic agricultural land areas are Oceania (36.0 million hectares – almost half the world's organic agricultural land, 47 percent) and Europe (17.8 million hectares, 23 percent). Latin America had 9.9 million hectares (13 percent), followed by Asia (6.5 million hectares, 8.5 percent), Northern America (3.5 million hectares, 4.6 percent) and Africa (2.7 million hectares, 3.5 percent).

Figure 1
World: Distribution of organic agricultural land by region (%), 2021



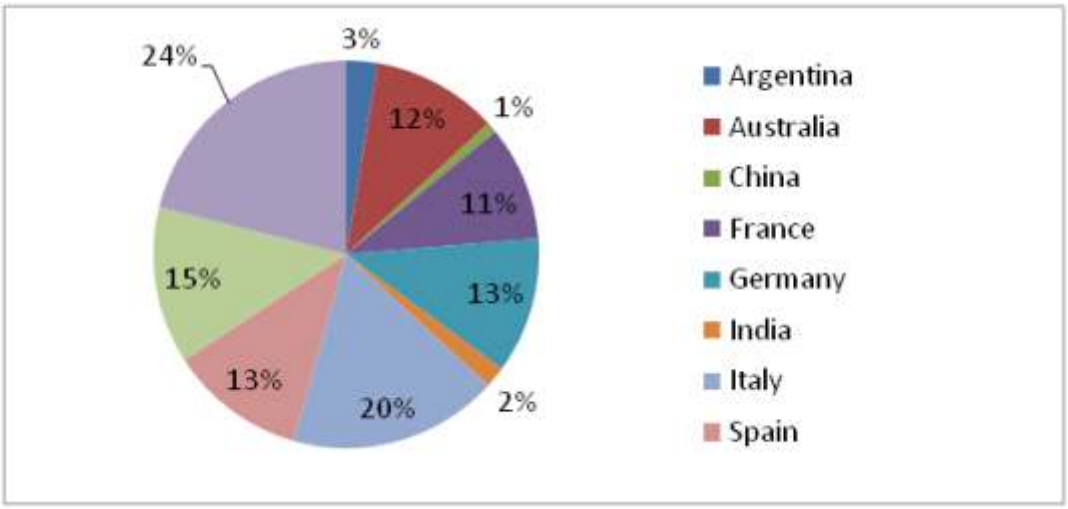
Source: FiBL Survey 2021. https://statistics.fibl.org/data.html

Figure 2
World: 10 countries with largest Organic agriculture area, 2021



The countries with the largest areas of organic agricultural land recorded in the year 2021 are given in figure 2. Countries with the most organic agricultural land were Australia (35.7 million hectares), Argentina (4.1 million hectares) and France (2.8 million hectares). India acquired the sixth position with a total organic agriculture area of 2.66 million hectares. There were nearly 1.8 million producers, most of whom were in India. The leading countries by area in Asia were China (2.75 million hectares) and India (over 2.66 million hectares) (Fibl, 2023). Many countries reported a significant increase. In absolute terms, the biggest increases were in China, France, and Spain. In China, organic farmland increased by almost 320,000 hectares (+13.1 percent), in France by nearly 228,000 hectares (+8.9 percent) and in Spain by almost 198,000 hectares (+8.1 percent). However, some countries also reported decreases. The most notable decrease occurred in Argentina, which reported almost 0.38 million hectares less (mainly grazing areas). There were almost 3.7 million organic producers worldwide in 2021. According the FiBL survey 2023, more than 91 percent of the producers were in Asia, Africa, and Europe. The country with the most organic producers was India (1599010), followed by Uganda (404246) and Ethiopia (218175).

Figure 3
Largest 10 countries in Organic Area: 2021



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Organic Farming in India under NPOP 2022-23

The information on various parameters on organic farming in India is presented in table 1. As on 31st March 2022 total area under organic certification process (registered under National Programme for Organic Production) is 10171923.53 ha (2022-23). This includes 3627115.82 ha cultivable area (in conversion) and another 4780130.56 Ha for wild harvest collection.

In 2022-23, India produced around 2972294.5 MT of certified organic products which includes all varieties of food products namely Oil Seeds, fibre, 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. The total quantity of exports in 2022-23 was 312800.51 MT. Around INR 5525.18 Crore was realized through the export of organic food (708.33 Million USD). Organic products are exported to USA, European Union, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, Korea Republic, Vietnam, Japan, etc.

Table 1
Area, Production and Export of organic Farming (2022-23)

Cultivated Area (Organic)	1764677.15 Ha
Cultivated Area (In conversion)	3627115.82 Ha
Wild Harvest Collection Area	4780130.56 Ha
Total area	10171923.53 Ha
PRODUCTION*	
Farm Production(Organic)	2664679.54 MT
Farm Production(In conversion)	288146.75 MT
Wild Harvest Production	19468.21 MT
Total Production	2972294.5 MT
ORGANIC EXPORT	
Total Export Quantity	312800.51 MT
Total Export value (INR)	Rs.5525.18 Crore
Total Export Value (US$)	708.33 Million USD

Source: Information provided by the certification bodies accredited under NPOP on Trace net

Table
2 State-wise Area under Organic certification NPOP 2022-23

S.No.	State Name	Cultivated Area		Total Area (In Ha)
		Organic Area (In Ha)	Conversion Area(In Ha)	
1	Madhya Pradesh	686208.31	831168.8	15,17,377.11
2	Maharashtra	258638.55	1025675.6	12,84,314.15
3	Gujarat	84404.36	851526.64	9,35,931.00
4	Rajasthan	216440.36	364239.43	5,80,679.79
5	Odisha	77950.82	117128.66	1,95,079.48
6	Uttarakhand	32634.01	65,759.72	98,393.73
7	Telangana	7288.85	77,185.37	84,474.22
8	Karnataka	44342.45	37,673.11	82,015.56
9	Sikkim	75453.18	22.096	75,475.28
10	Uttar Pradesh	52422.44	15,584.61	68,007.05
11	Andhra Pradesh	26949.05	35,966.97	62,916.02
12	Tamil Nadu	18652.5	39,914.20	58,566.70
13	Jharkhand	1499.76	52,620.11	54,119.87
14	Kerala	32602.71	11,511.74	44,114.45
15	Bihar	17594.82	15,152.76	32,747.58
16	Jammu & Kashmir	25093.94	7,510.56	32,604.50
17	Meghalaya	21652.71	2,356.33	24,009.04
18	Assam	15593.93	7,473.49	23,067.42
19	Mizoram	4796.84	15,264.10	20,060.94
20	Tripura	2490.13	17,124.31	19,614.44
21	Chhattisgarh	13258.18	3,641.68	16,899.86
22	Arunachal Pradesh	3109	9,773.68	12,882.68
23	Nagaland	7550.61	5,002.56	12,553.17
24	Goa	11203.22	1,193.19	12,396.41
25	Himachal Pradesh	8507.25	2,557.85	11,065.10
26	Manipur	7682	3,003.50	10,685.50
27	Punjab	890.12	9,002.53	9,892.65
28	West Bengal	7479.66	1,314.58	8,794.24
29	Haryana	2265.54	629.22	2,894.76
30	LADAKH	0	121.42	121.42
31	Pondicherry	21.17	0.34	21.51
32	New Delhi	0.72	16.67	17.39
33	Andaman & Nicobar Islands	0	0	0.00
	Total:	1764677.15	3627115.82	53,91,792.97

Source: Information provided by the certification bodies accredited under NPOP on Tracenet

Among all the states, Madhya Pradesh has covered largest area under organic certification followed by, Maharashtra and Gujrat during 2022-23 in table 2. The top three states account for about half the area under organic cultivation. The top 10 states account for about 80 per cent of the total area under organic cultivation in 2022-23. Chhattisgarh has covered largest area under wild collection followed by Madhya Pradesh and Rajesthan during 2022-23 in table 3.

State wise organic farm production for the year 2021-22 is presented in table 4. Madhya Pradesh is the largest producer followed by Maharashtra, Rajasthan, Karnataka, and Odisha. In terms of commodities, Fiber crops are the single largest category followed by Oil Seeds, Sugar crops, Cereals and Millets, Medicinal/ Herbal and Aromatic plants, Spices & Condiments, Fresh Fruit Vegetable, Pulses, Tea & Coffee. This shows a wide coverage of crops under organic farming in the country.

Table 3
State wise organic Area under Wild collection for the year 2022-23

S.NO.	State Name	Organic Area (In Ha)
1	Chhattisgarh	3,235,754.28
2	Madhya Pradesh	804,864.98
3	Rajasthan	356,895.48
4	Himachal Pradesh	202,215.76
5	Punjab	63,879.73
6	Uttar Pradesh	30,018.80
7	Kerala	19,718.20
8	West Bengal	14,700.00
9	Jammu & Kashmir	14,399.00
10	Tamil Nadu	9,816.11
11	Goa	8,006.78
12	Uttarakhand	6,321.41
13	LADAKH	5,000.00
14	Odisha	3,612.07
15	Karnataka	2,815.81
16	Andhra Pradesh	1,754.00
17	Andaman & Nicobar Islands	155.00
18	Maharashtra	107.15
19	Jharkhand	96.00
	Total:	4780130.56

(Source: The information provided by the certification bodies accredited under NPOP on Tracenet)

Table 4
State wise Organic Farm Production for the year 2022-23

S.No.	State Name	Organic Production (In MT)	Conversion Production (In MT)	Total Area (In Ha)
1	Madhya Pradesh	738,201.84	87,424.57	825,626.41
2	Maharashtra	724,946.90	65,380.40	790,327.30
3	Rajasthan	311,170.77	11,802.18	322,972.95
4	Karnataka	237,090.18	1.25	237,091.43
5	Uttar Pradesh	215,506.50	2,013.01	217,519.51
6	Gujarat	89,978.28	49,750.40	139,728.68
7	Odisha	64,976.16	65,100.84	130,077.00
8	Jammu & Kashmir	50,230.38	0.00	50,230.38
9	Uttarakhand	43,954.51	0.00	43,954.51
10	Kerala	42,729.09	5.16	42,734.25
11	Tamil Nadu	24,964.04	109	25,073.04
12	Andhra Pradesh	24,190.25	0.00	24,190.25
13	Bihar	19,853.89	0.00	19,853.89
14	Chhattisgarh	17,703.47	0.00	17,703.47
15	West Bengal	15,409.18	0.00	15,409.18
16	Assam	14,497.86	0.00	14,497.86
17	Meghalaya	9,919.69	0.00	9,919.69
18	Himachal Pradesh	6,978.06	0.00	6,978.06
19	Punjab	482.98	5,940.72	6,423.70
20	Jharkhand	4,363.09	0.00	4,363.09
21	Haryana	2,679.58	0.00	2,679.58
22	Goa	2,488.52	70.14	2,558.66
23	Telangana	837.64	433.05	1,270.69
24	Arunachal Pradesh	793.00	0.00	793.00
25	Tripura	332.78	216.04	548.81
26	Mizoram	334.00	0.00	334.00
27	Sikkim	51.90	0.00	51.90
28	Manipur	11.00	0.00	11.00
29	Pondicherry	4.00	0.00	4.00
	Total:	2664679.54	288246.75	2952926.29

(Source: The information provided by the certification bodies accredited under NPOP on Tracenet)

The country has made significant contribution in the exports of organic commodities. At the state level, Goa, Andaman & Nicobar Islands, Rajasthan, Madhya Pradesh, Jammu & Kashmir, Punjab, Chhattisgarh have recorded the major share in export of organic commodities in 2022-23 in Table 5.

Table 5
State wise organic Production from Wild area 2022-23

S.NO.	State Name	Organic Production (In MT)
1	Goa	4,820.01
2	Andaman & Nicobar Islands	3,624.00
3	Rajasthan	2,767.19
4	Madhya Pradesh	2,336.21
5	Jammu & Kashmir	1,574.62
6	Punjab	1,309.48
7	Chhattisgarh	1,029.77
8	LADAKH	710.5
9	Karnataka	416.233
10	Odisha	316.92
11	Andhra Pradesh	214.109
12	Uttar Pradesh	154.859
13	Uttarakhand	106.024
14	Tamil Nadu	67.091
15	Maharashtra	21.2
	Total:	19468.21

(Source: The information provided by the certification bodies accredited under NPOP on Tracenet)

CONCLUSION

In the last four decades, global population doubled from 3 to 6 billion. It has also been noticed that the volume of population from 3000 B.C. to 1950 is almost same or less from 1950 to 2030. It means that the galloping explosion of population has been made during the last 5-6 decades only. Food and nutritional neither conventional farming with inorganic alone nor organic farming only with the use of organic input can face this challenge. Combination of organic and inorganic is undoubtedly the best option as on today unless the existing dietary system is changed. The immediate task is to arrange the availability of organic inputs and low cost certification process. Therefore, we need to increase the production but in a feasible and sustainable manner. Preserving a clean and green environment is very important and thus environmental sustainability needs to be maintained which can be achieved through organic farming. India has great potential and is bestowed with lot of natural resources to produce all varieties of organic products due to its various agro climatic conditions. But the whole process needs more study and it is a ultimate choice of farmers and consumers who will finally dictate the policy for better agriculture in the country.

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