

An economic analysis of Trend and Growth of Exports of Organic Products in India

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Abstract

Farmer trading opportunities exist for organic agriculture in both developed and developing countries. As more farmers switch to organic agricultural methods, there is an increase in the export of organic food from India. Due to low domestic consumption, the U.S. and Europe represent the majority of the Indian organic food market. Among other related goods, India has emerged as a major supplier of organic spices, herbs, and basmati rice. The primary drivers of the Indian organic food industry are the country's strong support for agriculture exports, the rising demand for organic foods in developed countries, and these factors combined. Organic food products are about 20–30% more expensive in India than non-organic food items. This study looks at the growth and development of organic farmers as well as the export of organic goods from India between 2001–2002 and 2022–2023. Using percentage approaches, coefficient of variations, linear trend, and compound growth rate, the growth of organic farming in India was contrasted and examined. Secondary data can be found online, in books, newspapers, documents, brochures, and other comparable sources, among other places. It was shown that the trend coefficient was statistically significant for both Indian producers and exporters of organic products. India saw a 31.1 percent growth in organic product exports and an average increase in organic producers of 3.6 percent. India's organic farmers have seen growth rates of 12.02 percent and 9.23 percent, respectively, in their exports of organic goods. According to the R^2 result, the independent variables may account for 44% of the variations in organic product exports from India and 39% of the variations in organic producer differences.

Key words : Organic agriculture, biological cycles, food production, exports, labour input.

India is among the fastest-developing countries in the world, and the country's main industry is agriculture⁵. People cultivate different agricultural products and export quality and healthy products worldwide. In recent years, organic farming as a cultivation process is gaining increasing popularity⁹. Foods grown organically are becoming increasingly popular among consumers and farmers⁴.

A green lifestyle includes eating foods that are grown organically⁸. The main goals of producing food organically are to preserve and improve deep-rooted soil fertility, inspire and improve biological cycles in the farming system, reduce pollution of all kinds, avoid using pesticides and synthetic fertilisers, preserve genetic diversity in food, take into account the significant socio-ecological effects of food production, and produce enough high-quality food¹².

There is a considerable increase in magnesium, iron, and phosphorus in organic plants. In addition, they have higher concentrations of manganese, iodine, chromium, molybdenum, selenium, boron, copper, vanadium, and zinc as trace elements and calcium, sodium, and potassium as significant elements¹⁷. Since organic farming forgoes the use of synthetic pesticides, the majority of which have the potential to harm local terrestrial and aquatic fauna as well as water and soil, it is thought that organic farming is less detrimental to the environment¹⁴.

Organic farming enhances the physical and biological properties of soil in comparison to conventional farming. This is achieved through the increase of organic

matter, biomass, enzymes, soil stability, enhanced water percolation, reduced wind and water erosion, and better soil stability¹⁰. Per unit area or yield, organic farming requires less energy and generates less waste¹¹. Additionally, even in years of drought, organic farms produce more due to the improved quality and capacity of their organically maintained soils to retain water¹⁶.

Because organic farming needs more labour, each farm can provide more employment that generates cash³. Some organic products also have short supply against high demand with a resultant increase in cost¹³. Organic farming appears to generate 30% more employment in rural areas, and labour achieves higher returns per unit of labour input¹⁵.

Over the past three decades, the overall amount of cropland under organic farming has expanded significantly since 1985⁶. In 2017, there were 69.8 million hectares of organically managed land registered worldwide, an increase of 11.7 million hectares or 20% from the previous year. This is the biggest increase in organic farming that has ever been noted¹⁸.

In 2002, organic farming produced over 14,000 tons in India, of which 85% was exported⁸. With 35.65 million hectares of organic land, Australia has the most organic land, followed by India, which came in eighth place with 1.78 million hectares of total organic land¹⁸.

According to the Indian Competence Centre for Organic Agriculture, the value of the worldwide market for food produced

organically is expected to reach USD 102 billion by 2020, up from USD 26 billion at present⁸.

India's leading states with organic agricultural practices are Uttarakhand, Gujarat, Kerala, Karnataka, Madhya Pradesh, Sikkim, Rajasthan, Maharashtra, Tamil Nadu, and Himachal Pradesh⁷.

India ranked seventh in terms of organic agricultural land and eighty-eighth in terms of the ratio of organic crops to total agricultural area, according to a survey by the Agricultural and Processed Food Products Export Development Authority and the Research Institute of Organic Agriculture⁸. However, the last few decades have seen a notable expansion of the organic industry in India¹⁹.

The amount of arable land increased approximately three times, from 528 171 ha in 2007–08 to 1.2 million ha in 2014–15². According to an analysis by the Indian Associated Chambers of Commerce & Industry, the market for organic food is growing at a rate of almost 25% per year, and as a result, it is predicted to grow from USD 0.36 billion in 2014 to USD 1.36 billion in 2020¹⁹. This research examines the growth and trend of organic producers and exports of organic products in India between 2001–2002 and 2022–2023.

Objectives :

The current study's objectives are:

1. To research the expansion of organic agricultural regions in India.

2. To ascertain India's organic producer growth.
3. To learn about the expansion and trends of India's exports of organic goods and producers.

The study concentrated on secondary knowledge. The research employs the census approach. In order to compare and analyse the development of organic farming in India, percentage approaches, coefficient of variations, linear trends, and compound growth rate were employed. Secondary data was gathered from publications, books, newspapers, pamphlets, and other sources, including the Internet.

Table-1. Growth of Organic Farming Areas in India

S. No.	Year	Organic Farming Areas (in Lakh Hectares)
1	2012-13	7.23
2	2013-14	47.20
3	2014-15	48.94
4	2015-16	57.10
5	2016-17	44.53
6	2017-18	35.67
7	2018-19	34.29
8	2019-20	36.70
9	2020-21	43.39
10	2021-22	91.20
11	2022-23	93.11
	Total	539.36
	Mean (x)	49.03
	Standard Deviation	24.77
	Coefficient of Variation (CV)	50.52%

Source: APEDA, 2023

Table-1 charts the expansion of India's certified organic farming area. The table unequivocally demonstrates the cyclical trend area of organic farming in India. The area used for organic farming was only 7.23 lakh hectares in 2012–13; it rose to 57.10 lakh hectares in 2015–16 before beginning to decline. The Participatory Guarantee System (PGS), which was implemented in 2015 as part of the "Paramparagat Krishi Vikas Yojana" (PKVY), is to blame for this decrease. The certified region under NPOP has been shrinking ever since.

On the other hand, it began to rise in 2020–21 and reached its highest points of 91.20 lakh hectares in 2021–22 and 93.11 lakh hectares in 2022–23. The growth suggests that an increasing number of farmers are implementing organic agricultural methods. The growing number of organic farmers is indicative of the growing acceptance of organic agricultural methods.

Table-2 Growth of Organic Producers in India

S. No.	Year	Organic Producers (in millions)
1	2001-02	1426
2	2002-03	5661
3	2003-04	5147
4	2004-05	5147
5	2005-06	5147
6	2006-07	48846
7	2007-08	141904
8	2008-09	195761
9	2009-10	340000
10	2010-11	677257

11	2011-12	400551
12	2012-13	547591
13	2013-14	600000
14	2014-15	650000
15	2015-16	650000
16	2016-17	585200
17	2017-18	835000
18	2018-19	1093288
19	2019-20	1149371
20	2020-21	1366226
21	2021-22	1599010
22	2022-23	1599010
	Total	12501543
	Mean (x)	568,251.95
	Standard Deviation	522,483.18
	Coefficient of Variation (CV)	91.95%

Source: FiBL Statistics, 2023

The number of organic producers in India is seen in Table-2. The figures show that India's organic producer base is growing exponentially. There were 1,426 organic producers in 2001–02; this figure increased to 0.67 million in 2010–11 and 1.59 million in 2022–23. Given India's enormous population, it makes sense that organic manufacturers have seen exponential development. Given that India is the most populous nation on earth, 85% of its farmers are small and marginal farmers with fewer than two hectares of land under cultivation¹. Furthermore, because organic farming is more profitable and less expensive, small and marginal farmers are the ones who use it the most. The quicker adoption rate of organic farming by farmers can be attributed to these variables.

Table-3. Organic Export in India
(in Million Euros)

S. No.	Year	Organic Export (in Million Euros)
1	2001-02	13.44
2	2002-03	13.15
3	2003-04	15.7
4	2004-05	17.26
5	2005-06	49.12
6	2006-07	74.46
7	2007-08	81.31
8	2008-09	87.73
9	2009-10	118.68
10	2010-11	128.41
11	2011-12	291.2
12	2012-13	291.2
13	2013-14	303
14	2014-15	268.58
15	2015-16	268.58
16	2016-17	456.26
17	2017-18	641.39
18	2018-19	613.3
19	2019-20	811.35
20	2020-21	880.15
21	2021-22	891.23
22	2022-23	899.51
	Total	
	Mean (x)	327.96
	Standard Deviation	318.12
	Coefficient of Variation (CV)	97.01%

Source: FiBL Statistics, 2023

The trend of organic product exports is displayed in Table-3. The graph indicates that India's organic exports have grown exponentially between 2002 and 2003. FiBL, which tracked organic product sales in euros, provided the statistics. India exported organic goods for €13.44 million in 2001–02, €291.2 million in 2012–13, and subsequently continued on a stable trajectory till 2016–17. Organic exports quickly increased after 2016–17 and reached €641.39 million in 2017–18. In 2020–21, this rise increased to €880.15 million, and in 2022–2023 it reached €899.51 million. India is always working to accommodate the growing demand for organic products, particularly from industrialised nations, as evidenced by the trend of organic export. The rise of organic producers and exports of organic goods in India from 2001–02 to 2022–23 is shown in Table-4.

It was shown that the trend coefficient for Indian organic product exports and producers was statistically significant. It shows that, on average, the number of organic producers had expanded by 3.6 percent, while the export of organic products from India had climbed by 31.1 percent. The growth rates reported by organic producers and exporters of organic products in India are 12.02 percent and 9.23 percent, respectively. According to the R^2 value, fluctuations in organic producers

Table-4. Trend and growth of growth of organic producers and exports of organic products in India

Particulars	Trend Coefficient		R^2	Compound Growth Rate in Percent
	a	b		
Organic producers	5.711	0.036*(4.802)	0.392	12.02
Organic Export	7.916	0.311*(6.125)	0.437	9.23

Figures in brackets represent 't' values

*Significant at 5 percent level.

(0.392) and exports of organic goods from India (0.437) account for 39% and 44%, respectively, of the variation in independent variables.

It is concluded that the foundation of organic farming must be laid by production, cultivating, and exporting standards that actively support ecologically sound practices and foster development that is socially, economically, and environmentally sustainable. The government is placing a high priority on increasing exports of organic products to different nations in an effort to promote solid business ties and boost the country's economy. More organic products can be produced with government assistance, such as loans and subsidies for organic farmers. India is a major exporter of several items, including tea, Basmati rice, and organic spices, which are in high demand in global markets. As a result, the government evaluates the product and certifies business owners that practice organic farming. Evaluating the quality of the product and increasing exports of different organic agricultural products will be helpful.

Conflicts of Interest :

The author does not have any conflict of interest.

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