

RECENT TRENDS IN ORGANIC FARMING

Kavita Panigrahi

Assistant Professor.

Rungta College of Science and Technology, Durg.

ABSTRACT: Organic farming is the practice of farming or raising crops and other livestock without using any inorganic chemical fertilizers, pesticides or any other genetically modified organisms. Organic farming is the need of the hour so that our environment which is degrading day by day due to excessive use of chemicals during cultivation and even after harvesting causes threat not only to human beings but also to the whole biodiversity. The farmers who are forced to use chemicals to keep weeds and pests from destroying their crops and to add more nutrients to the soil but they can save the world by switching to the practice of organic farming which is sustainable which is necessary not only for the present generation but also for the future generation.

KEYWORDS: sustainable, need of the hour, farmers, biodiversity, future, organic, environment, composting.

INTRODUCTION: At the end of the World War II, millions of people were dead and many were homeless. It had a catastrophic effect on the world not only socially and economically but also ecologically. The unrestrained use of weapons for mass destruction during World War II created significant environmental destruction. The problem of food shortage during and after the world war greatly affected people all over the world. To subsist up with this problem the Green revolution concept by agricultural scientist Norman Borlaug, 'The father of Green Revolution' was introduced and implemented. With the use of latest technology, high yielding varieties of seeds, synthetic fertilizers, pesticides and adoption of modern scientific methods gave a hike in food production and fulfilled the food demand. But this also raised the problems of soil acidification, soil toxicity, diminishing water resources, pollution of underground water and increase incidence of human and livestock diseases.

Resulting from the mushrooming population, industrialization, urbanization, unsustainable agricultural practices and global competition the pressure on soil is increasing and soil is degrading day by day. The only solution to resolve these problems and to repair the soil health and maintain soil fertility is to change direction towards organic agriculture, as this will not only help in healing the nature biodiversity but also combat the effects of global warming. Organic agriculture is the need of the hour as the problem of soil degradation is not only related to the farmers but also animals and the whole biodiversity.

HISTORY: Dating back to Neolithic age 10,000 years ago which is mainly characterized by the development of settled agriculture and use of tools and weapons made of stones, organic farming was practiced in ancient civilization which started with the cultivation of wheat, peas, lentils, flax etc. During the Vedic period, Ramayana and Mahabharata also have a description of organic agriculture that enlivens the total nourishing intelligence of natural law in the farmer, soil and seed to produce pure, healthy foods. It also describes mother Earth as magical which transforms all dead things into wholesome things that nourish life and soil fertility.

Kautilya Arthashastra stated that manures like oil cake, excreta of animals etc for maintaining soil health. Rig Veda stated that to be healthy, plants should be nourished by dung's of goat, sheep, cow and water.

ORIGIN: Agriculture was practiced for thousands of years without the use of artificial chemicals. In the late 1800s and early 1900s, soil biology scientists began to seek ways to remedy these side effects while still maintaining higher production. In 1921 the founder and pioneer of the organic movement Albert Howard observed the value of compost applications being an increase in the health of soil. He with his wife Gabrielle Howard who was a botanist founded an institute of plant industry to improve traditional farming methods in India. They supported traditional Indian farming practices over conventional agricultural science. Howard's work spread widely and he became to known as the "father of organic farming" for his work in applying scientific knowledge and principles to various traditional and natural methods.

In 1924 Rudolf Steiner, an Austrian occultist created and launched biodynamic farming which emphasized on treating soil fertility, plant growth and livestock care as ecologically task with mystical perspectives. Steiner involves working with cosmos, Earth and spiritual entities and gave a series of lectures on agriculture with a focus on influences of the moon, planets, non-physical beings and elemental forces. They were held in response to a request by farmers who noticed degraded soil conditions and deterioration in the health and quality of crops and livestock resulting from the use of chemical fertilizers.

In July 1939, Ehrenfried Pfeiffer, a German soil scientist and also the author of the standard work on biodynamic agriculture, gardening and compost is most widely known for his innovative work in composting. He conducted extensive research on the preparation and use of biodynamic compost and also invented *BD Compost starter*, a compost inoculants.

The term "organic farming" was first used by Walter James, 4th Baron Northbourne , an English agriculturalist in his book "Look to the Land" in 1940 in which he raise many of the discussions on organic agriculture. In advocating for organic Northbourne declared that *"farming cannot be treated as a mixture of chemistry and cost accountancy nor can it be pulled into conformity with the exigencies of modern business in which speed, cheapness and standardizing count most. Nature will not be driven. If you try, she hits back slowly, but very hard."*

The term "eco-agriculture" was conceived in 1970 by Charles Walters; founder of Acres Magazine, to describe agriculture which does not use "man-made molecules of toxic rescue chemistry", effectively another name for organic agriculture. Walter discusses the importance of the soil-life connection. He delivers a complete education in soils, crops and weed and insect control.

Subhash Palekar, an Indian agriculturist who is also known as father of Zero Budget Natural Farming, believes in growing crops in tune with nature. Zero Budgeting Natural Farming (ZBNF) where the total cost of growing and harvesting plants without the use of any external inputs, such as pesticides and fertilizers comes out to be zero.

PRINCIPLES OF ORGANIC FARMING: International Federation of Organic Agriculture Movements (IFOAM) on 25 September, 2005 established principles of organic agriculture. The General Assembly of IFOAM approved the principles of organic agriculture on 28 September, 2005 with the aim of the principles to

inspire the organic movement and to describe the purpose of organic agriculture to the wider world. The four principles of organic farming are:

1. Principle of Health: Organic agriculture should sustain and enhance the health of soil, plants, animals and humans and planet as one and indivisible.
2. Principle of Fairness: Organic agriculture should build on relationships that ensure fairness with regards to common environment and life processes.
3. Principle of Ecology: Organic agriculture should build on relationships that ensure fairness with regards to common environment and life processes.
4. Principle of Care: Organic farming should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

PRESENT SCENARIO: Organic farming is gaining popularity in recent times because of the health-conscious consumers. Consumers are aware that toxic chemicals and genetically modified organisms are used in growing crops which can have negative health effects on them and as a result of people around the world are increasingly consuming products of organic farming. People can experience benefits of consuming organic food. It contains no chemicals, minimal soil erosion and have high nutrient levels. Organic products lack antibiotics, artificial colour, genetically modified seeds and synthetic pesticides. Over the years, the organic promotion activities led to development of state specific organic brands, increased domestic supply and exports of organic produce.

According to Dr Monica Rubiolo from **SECO**, *“Access to good quality data on organic farming not only helps to measure success towards achieving the sustainable development goals but also to orient decision makers and other stakeholders along with the whole value chain.”*

The quality of food produced from organic farming will help in achieving the SDG of having good health and well being, clean water and sanitation, life on land and sustainable cities of and also help in analyzing the consumers approach towards a product which helps producer and traders to meet the exact market demand reducing less wastage of natural resources.

Globally, 1.5% of farmland is organic. As per a report of fao.org of 2019 organic agriculture is practiced in 187 countries and 72.3 million hectares of agricultural land which is managed by around 3.1 million farmers. However, many countries have far higher shares. In 16 countries 10% or more of all agricultural land is organic.

Table 1: Countries with area used in organic farming.

S. No	Countries	Area in million hectares
1	Australia	35.69
2	Argentina	3.63
3	China	2.22
4	Spain	2.35
5	Uruguay	2.14
6	France	2.24
7	United States	2.33
8	Italy	1.99
9	India	2.3
10	Germany	1.61

Source: www.statista.com, 2019

Few countries are trying to switch totally into organic agriculture. Some countries are consuming more organic food than others among others which are Switzerland, Denmark, Sweden, United States and Germany, France, Canada, Norway, United Kingdom etc. According to a survey made by Organic Trade Association (OTA) in 2017 organic fruits and vegetables, organic dairy and eggs and organic beverages are in trend. To cater the needs of these many countries there is a need to increase the supply of the organic foods to cope with the high demand across the globe.

INDIA'S STATE IN ORGANIC FARMING:

“The future is great for organic in India. It's growing at a fast rate.”

-Dr A K Yadav.

Advisor, Department of Agriculture,

Government of India.

India is an agricultural country where approximately 60% of the population is dependent on agriculture. India is the top producer of milk, spices, pulses, tea, cashew and jute and ranks second in the production of rice, wheat, sugarcane, groundnut, vegetable, fruit and cotton. Despite this fact, the present scenario of Indian agriculture is not pleasant as the population is increasing at an alarming rate but the cultivable area is not. With the rise in population and globalization effected in larger demand for quantity, quality and nutritious food. Therefore, pressure on decreasing available cultivable land to produce more quantity, variety and quality of food is increasing and to satisfy the need of human, natural environment and habitat is destroyed leading to the problem of over cultivation which results in loss of soil fertility, soil degradation and desertification. The difference between organic farming and chemical farming is that in chemical farming the chemical help improve soil fertility and does not percolate into the crops but in chemical farming, the chemical degrade the soil fertility and make the soil barren after agricultural output and also results in these chemicals percolating into the food and ultimately into our food chain. Harmful chemicals such as zinc, lead and manganese that are present in pesticides and herbicides are consumed by human beings, which can have dangerous effect on our health.

With the recent global trends and concern for the global climatic changes in temperature many countries along with India are slowly turning towards organic agriculture as there is strong relationship between organic agriculture and the environment. In the past 5 years, an increase in share of organic farming area has been noticed. Organic farming will not only help in improving the soil health but also aid in improving human health by eliminating the side effect of the chemical based fertilizers and pesticides which is in extensive use to fulfill the needs of the growing population.

Status in India

Total Production	585970 M.T
Total quantity exported	19456 M.T
Value of total export	Rs. 30124 Lakhs
Total area under certified organic cultivation	339113 Ha.
Number of farmers	141904
Percentage of export	4

(source:agritech.tnau.ac.in)

The most selling organic product which is exported from India are sonamasuri brown rice, jaggery, ragi flour, sandalwood, chia seeds, oil seeds etc. The increasing share of organic farming in India can be seen in the recent years which show the increasing participation of farmers in contributing towards environment coupled with concerns over the health impacts of chemicals.

Table 2: Share of net area under organic farming in India from financial year 2016 to 2021.

Years	Share of Organic Farming area
FY 2020	2.75%
FY 2019	1.46%
FY 2018	1.31%
FY 2017	1.09%
FY 2016	1.07%

Source: Statista Research Department, July 14, 2021.

As per the available statistics, India ranks 8th in terms of World's Organic Agricultural land and 1st in terms of total number of producers as per 2020 data. (source: FIBL & IFOAM year book, 2020). Although the rate of net area under organic farming in India is increasing still a lot more is yet to achieve. Organic farming helps in achieving sustainable use of natural resources especially water is increasingly used by the agriculture industry and hence inculcating organic farming will help save our natural resources. A complete prohibition on the use of chemical fertilizers will help the soil improve its humus content and nitrogen content. Also, legumes are used as intercrops and for manuring purposes. If our country will increase the production of consumer oriented organic food then fewer crop imports will be there in our country which will have a positive impact on foreign as it will create trade surplus and will contribute to economic growth of our country.

Table 3: Organic farming coverage in Indian states during 2020-21

S.No	States	Organic area in 2019 as % of net sown area of that state
1	Sikkim	100%
2	Meghalaya	19.5%
3	Uttarakhand	18.2%
4	Goa	18.1%
5	Arunachal Pradesh	9.8%
6	Nagaland	6.0%
7	Manipur	5.0%
8	Madhya Pradesh	4.9%
9	Jammu & Kashmir	3.4%
10	Himachal Pradesh	3.3%

Source: www.apeda.gov.in

Till now, Sikkim is the first and only Indian state to become fully organic. Three states - Madhya Pradesh, Rajasthan and Maharashtra have about half the area under organic cultivation. Other states such as Chhattisgarh, Tamil Nadu, Uttar Pradesh, Telangana, Bihar, Gujarat, Karnataka, Odisha, Rajasthan and Uttarakhand have state organic certification agencies accredited by APEDA (Agricultural and Processed Food Products Export Development Authority).

During national conclave on natural farming on December 16, 2021, our Prime Minister Shri Narendra Modi remarked that “we need not only to re-learn this ancient knowledge of agriculture but also to sharpen it for modern times. In this direction, we have to do research afresh, mould ancient knowledge into the modern scientific frame”. The Prime Minister said that those who will benefit the most from natural farming a Jan Andolan.

Because of the health and environment benefits and trade opportunities associated with organic agriculture, our Indian government is also formulating policies to encourage farmers to shift to organic methods through different schemes such as the Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development for North Eastern Region (MOVCDNER), Capital Investment Subsidy Scheme (CISS), National Mission on Oilseeds and Oil Palm (NMOOP), National Food Security Mission (NFSM) so that we can meet the international market demand which will generating more revenue and also will help in balancing the Balance of Trade (BOT).

Organic farming in India is an agricultural process, uses pest control derived from organic manure and animal or plant waste. This farming has started repairing, maintain and improving the environmental suffering caused by chemical pesticides and fertilizers. Organic waste can be reused and recycled and organic waste can be used in many other ways.

REASONS FOR BOOMING ORGANIC FOOD INDUSTRY:

1. Robust awareness: A recent trend can be seen towards a healthy lifestyle of people all over the world. The perception of consumers towards attaining good health has been directed towards healthy eating and demanding

nutritional rich diet. Because of this realization there is a sudden and rapid increase in the demand for organic food.

2. Digitalization: Because of the high speed connectivity in various digital platforms and ability to produce texts, images, audios and designs using technology the spread of good results and positive impact of organic food on mind and soul has increased the demand for organic food.

3. More nutritious and flavourful: As compared to the food grown by using chemical fertilizer, manure and pesticides, organic food are more nutritious, healthy and are also more flavourful. It reduces health risks and increases the chance of longevity of life by combating against diseases like cancer

4. Eco-friendly: Organic farmers use organic manures which are eco-friendly that supports the life of soil and other useful organisms in the soil. Organic farming also helps in controlling land and air pollution on which we all live and are dependent directly or indirectly for all our resources and source of energy.

5. Sustains biological diversity: With no use of harmful chemical substances, organic agriculture promotes nature's biological diversity present in soil and environment and does not harm them. It also promotes animal health as they depend completely on nature.

6. Sustainable livelihood: With the high cost of living because of the dearness it gets difficult for the marginal farmers to sustain livelihood with the use of chemical substances. By the use of biological manures which is pocket friendly, farmers can produce more crops in less cost. Hence, helps them to sustain their livelihood.

7. Government support: Government is also taking initiatives to promote organic farming. Government is encouraging farmers by giving them relaxation under many schemes and providing them subsidies. This is because of the global demand of organic products which not only is healthy but will also lead to revenue generation for the country.

CONCLUSION: Organic farming is a viable alternative for harmful chemical agricultural practices that leads to deforestation, soil pollution and water pollution. Government and international organizations should help farmers financially to propagate organic farming that will help save our agro-ecosystem and biodiversity. Also, organic farming can be considered as a way in which we reduce air pollution, conserve water, reduce the usage of poisonous chemicals and artificial ingredients in the food. This sustained method of agriculture helps farmers in maintaining a constant and judicious balance of crop yield and saving our environment. Organic food market is experiencing vigorous growth with the advancement of demographic divided, improved purchasing power and growing level of health consciousness. If the farmers completely switch to organic farming then organic farming and economic development will go hand in hand and will make our country more healthy and wealthy. Practicing organic farming will not only put fewer burden on soil but also less burden on pocket of farmers which comprises more than 50% of the work force in India and contributing 17-18% to country's Gross Domestic Product. It is indispensable to shift to organic farming in order to give a sustainable future to the next generation and for the revival of nature. Although this is a time taking process and will take its own course of time to replenish but a very crucial and important step towards the well being of our planet Earth.

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