

# Scenario of Organic Farming in the Seven Sisters of India: A Single Step towards a Green Future

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**Abstract:** *The agriculture sector faced several challenges in meeting the growing food demand of the ever-increasing population. Conventional farming as the most feasible approach to fulfill the growing demand due to its accessibility. As every coin has two sides, with several benefits conventional farming also has various drawbacks. So systematic approach towards agriculture is needed, or a Sustainable agriculture system is required with least harmful effects to the environment and which can face several natural challenges. Sustainable agriculture is a process of farming using eco-friendly methods understanding and maintaining the relationship between the organisms and environment. In this process of agriculture and animal husbandry are combined to form a simultaneous process and practice. Organic farming is one such approach that can be practiced to achieve the sustainable goals of agriculture. Organic farming is type of farming where no harmful chemicals or synthetic additives (fertilizers, pesticides, antibiotic, etc) are used, for the production of the plants. With the increasing concern about the health, they caused by the pandemic the demand of the organic food is increasing due to its numerous health benefits. The area under the organic cultivation is expanding in India, now India is the one of the major organic producer in the world. In India especially the North Eastern region, The NER comprises the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The region is characterized by diverse agro-climatic and geographical situations. The region has remained economically backward, though there is an ample potential for organic farming due to the presence of abundant natural resources.*

**Keywords:** Biopesticides, federation, organic ventures, RDA, organic seeds, Trichoderma, biocontrol agents

## 1. What is organic farming?

Although, history states that the movement for organic way of life recognized in 1905, it could gain ground after realizing the ill effects of modern agriculture in the late 1990's. In 1905, the British botanist Sir Albert Howard often referred to as the father of modern organic agriculture, documents traditional Indian farming practices, and came to regard them as superior to conventional agriculture science. Organic farming is a holistic system designed to optimize the productivity and fitness of diverse communities within the agroecosystem, including soil organisms, plants, livestock and people. The principal goal of organic production is to develop enterprises that are sustainable and harmonious with the environment. Organic farming promotes the use of crop rotations and cover crops, and encourages balanced host/predator relationships. Organic residues and nutrients produced on the farm are recycled back to the soil. This system merits consideration on the ground that most of the ill effects of modern-day agriculture are avoided. Use of agrochemical is forbidden. There is emphasis on buildup of organic matter in the soil, thereby activating biological activity. The modern concept of organic farming combines tradition, science, technology and innovation. According to the International Federation for Organic Agricultural Movements (IFOAM) definition "organic agriculture is an agriculture system that promotes environmentally, socially, and economically sound production of food, fiber, timber, etc. In this system, soil fertility is seen as the key to successful production. Working with the natural properties of plants, animals, and the landscape, organic farmers aim to optimize quality in all aspects of agriculture and the environment". Organic farming endorses the concept that the soil, plant, animals and human beings are linked. Therefore, its goal is to create an integrated, environmentally sound, safe and economically

sustainable agricultural production system. Soil is a living system linked with different natural components. Human interact with these natural components (minerals, organic matter, microorganisms, animals and plants) to achieve harmony with nature and create a sustainable agricultural production. A key feature of organic farming is the primary dependence on natural resources and those developed locally (green manures, crop residues, farm wastes, etc.), rather than external inputs (especially synthetics). The farmer manages self-regulating ecological and biological processes for sustainable and economic production of products. In view of indiscriminate fertilizer and pesticide use, deteriorating soil health and pollution of air, water, and food there is growing concern about global environment and so the concept of organic farming is gaining growing importance world over in order to develop sustainable and eco-friendly agricultural production system. Organic farming is primarily based on certain principles such as principle of health, principle of ecology, principle of care, principle of fairness. These principles show organic farming is much more than the renunciation of agro-chemicals.

## 2. Why organic farming now?

As the pollution in the soil in the form of undissolved salts in the residues that remain are making the soil unfertile and to lose its viability, we need a stable and sustainable practice of farming. We all know the ill effects of chemicals on the environment and the ecological systems. So now its time to take in the new alternative, the new step to make the soil fertile back again. Replace the fertilizers with organic matter like farm yard manure, green manure, fish bone meal, guano meal, etc. we can use bio control agents in place of pesticides, biological microorganisms like *Trichoderma viride*, *Lactobacillus*, *Mycorrhizae*, *Azotobacter*, etc. So, if we

can utilize these resources wisely, we can definitely make it possible.

### Organic farming in India and in the context of North Eastern India.

Only 30% of India's area is cultivated with fertilizers available for irrigation systems. Farmers use organic fertilizers as nutrients for their farms. The north-eastern region of India offers vast resources for organic farming due to its low use of chemicals. Approximately 18 million hectares of land are available in north-eastern India, where people practice organic farming. India has great potential for organic farming of plants and can be a major supplier of organic products around the world. The Organic Agriculture Task Force, established by the Government of India, has found that most of the country is exploited with low-yielding chemicals. These areas can aim for high production through organic farming. India has a great opportunity to become the world's leading organic exporter. The use of chemicals affects the sustainability of the soil and reduces its effectiveness. Applying organic fertilizers is the only solution to improve the productivity of organic carbon in the soil in the future. There are 700 tons of agricultural wastes in Japan, but most of them are unused. Yields on organic systems average 10-15% compared to traditional farming, especially in intensive farming, which requires a large-scale transformation of organic farming to reduce food shortages. In traditional farming, such as rainwater farming, organic farming can increase yields. Since about 70% of the total cultivated area falls into this category, a 5-10% increase in agricultural production will help achieve the 4-5% target growth rate for agricultural production.

### In the context of North East India,

Sikkim became the first State in the world to become fully organic in 2016. North East India has traditionally been organic and the consumption of chemicals is far less than the rest of the country. Similarly, the tribal and island territories have been traditionally practicing organic farming. The major organic exports from India have been flax seeds, sesame, soybean, tea, medicinal plants, rice and pulses. There was an increase of nearly 50% in organic exports in 2018-19, touching Rs.5151 crores. Commencement of exports from Assam, Mizoram, Manipur and Nagaland to UK, USA, Eswatini and Italy have proved the potential by increasing volumes and expanding to new destinations as the demand for health foods increases. On a recent visit to the Indian Council of Agricultural Research in Meghalaya, our group was told that Northeast India is organic by default. This means most small farms have never used pesticides or fertilizers. Farmers are still using traditional methods of farming. Old fashioned farming has become strength. In other words, because Northeast India has been so far behind the times, farmers still use old fashioned farming methods. They now have a big advantage because this naturally ascribes the land as the best organic farming region. And, as research has shown, even the wild edibles eaten by the Khasi are a good source of nutrients, and considering their low cost and easy availability, need to be popularized and recommended for commercial exploitation.

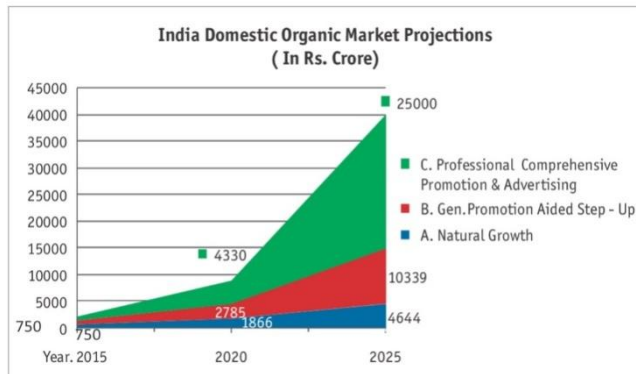


### Government Initiatives to Promote Organic Farming

Mission Organic Value Chain Development for North East Region (MOVCD). Mission Organic Value Chain Development for North East Region (MOVCD-NER) is a Central Sector Scheme, a sub-mission under National Mission for Sustainable Agriculture (NMSA). It was launched by the Ministry of Agriculture and Farmers Welfare in 2015 for implementation in the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The scheme aims to develop certified organic production in a value chain mode to link growers with consumers and to support the development of the entire value chain.

### Economic scenario of organic farm produce in the NEH reg. of India

The produce from the organic farming i. e., the organic products have great demand in current day markets as everyone today is being health conscious. As the organic products are harvested by utilizing only organic inputs from sowing till it reach the consumer hands, they have no chemicals in them thereby possessing non harmful effects on human health. They have enriched and strong nutritional value of the content they have in them. These organic products are being marketed with high prices thereby benefitting the farmer and special packaging is made to attract the farmers. They are being sold on a large sale in supermarkets like Reliance Smart, Reliance fresh, Dmart, Spencers, More, etc. They are also selling them in form of organic juices, squashes, jellies and jams. Many ecommerce applications have been launched in the name of organic products like Amazon grocery, flipkart fresh, swiggy green, etc. This stream has a lot of scope for entrepreneurship development. If the scope of marketing in this stream is exploited well and utilized well there is a huge opportunity for the country in the international markets. Companies are witnessing notable growth as demand from metro cities increase with the entry of several new players in the organic food market such as Conscious Foods, Sresta, Eco Farms, Organic India, Navdanya and Morarka Organic Foods to name a few. India-based Sresta Natural Bioproducts Pvt. Ltd. has emerged as the market leader, with 37% value share of the packaged organic food market and 7.8% share of the packaged organic beverage market.



### Export market of organic produce in India.

The major organic food commodities that are exported from India are tea, rice, fruits & vegetables coffee, cashew nut, pulses, cotton, wheat, spices, oil seeds and herbal products.

Organic agricultural export market is one of the major drivers of greening of agriculture in India. The current production of organic crops is around 14,000 tons (Gari bay 5V and Jyoti K, 2003), Out of this productions, tea and rice contributes around 24% each, fruits and vegetables combine makes 17% of this total production. From India around 11,925 tons of organic product is exported, that makes around 85% of total organic crop production. Major export market for Indian producers are Australia, Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, Singapore, South Africa, Saudi Arabia, UAE, UK, and USA. Estimated quantity of various products that are exported from India in 2002 is shown below. This shows that around 3000 tons of tea was exported and in quantity term it was the highest, next major exports are rice (2500 tons), fruits & vegetables (1800 tons), cotton (1200 tons) and wheat (1150 tons).

Let's see the merits and demerits of organic farming,

- Replenishing the polluted soils
- A step towards sustainable development
- Maintaining ecological balance
- Improving soil health
- Creating stronger network of soil microbes through enhancing nitrogen fixation in the soil.
- Improving human health
- Enriching the quality of food products
- To stay away from GMO's
- Conserving agricultural diversity
- To prevent antibiotics, drugs and hormones in animal products used by humans.
- Economic benefits as we no need to buy chemical fertilizers, pesticides and weedicides, etc.

It's not like there are only merits of organic farming but also few demerits are present such as problems in practical applications. Organic food production has shown reduced yields which is very hard to estimate its sustainability with the growing population in the current day. There are chances of crop failure as chemical pesticides and weedicides are more effective than bio pesticides and bio weedicides. Also, there will be a problem regarding the uptake of nutrients as the chemical fertilizers which are mostly inorganic in nature i. e., the form which plants can take up easily and here we

use complex organic compounds like farm yard manure, green manure, compost, and animal based complex foods like guano meal, bone meal etc. which take time to break down as simple salts that can be up taken by plants hence making the process slow and there are also chances of occurrence of physiological diseases.

On mentioning both the merits and demerits of organic farming considering its economic scenario and benefits I conclude that organic farming is one of the best methods we have today that should be taken up for a sustainable and healthy agricultural practice in the country.

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