



Organic Farming in the Present Scenario

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ABSTRACT: In the present agricultural scenario, crop yield is declining day by day despite maximization of chemical inputs. Vicious cycle of chemical farming is now exposed in the increasing crop un-sustainability, higher input requirement, poor soil quality as well as recurrent pest and disease infestation. Moreover, in the pretext of climate change yield interference has become quite predictable under the unpredictable weather conditions vis-a-vis hike in biotic potential. The excess/indiscriminate use of pesticides and fertilizers has led to the entry of harmful compounds into food chain, death of natural enemies and deterioration of surrounding ecology (Chitale et al., 2012). Enhanced use of pesticide has resulted in serious health implications to man and his environment. Hence, enhancement and maintenance of system productivity and resource quality is essential for sustainable agriculture. Organic farming can solve many of these problems as this system helps to maintain soil productivity and effectively control pest by enhancing natural processes and cycles in harmony with environment. Today, it is clear to the agricultural community that organic farming is the best option for not only protecting/sustaining soil-plant –ecological relationship but to mitigate the adverse effect of climate change. However dearth of proper technological advancement is the major hindrance towards achieving the true objectives of organic farming. In this background, an Indian organic farming practice called **Inhana Rational Farming (IRF) Technology** has demonstrated some promising results that have brought forth the relevance of organic farming in today's agricultural scenario.

Food quality and safety are the two important factors that have gained ever-increasing attention in general consumers. Conventionally grown foods have immense adverse health effects due to the presence of higher pesticide residue, more nitrate, heavy metals, hormones, antibiotic residue, and also genetically modified organisms. Moreover, conventionally grown foods are less nutritious and contain lesser amounts of protective antioxidants. In the quest for safer food, the demand for organically grown foods has increased during the last decades due to their probable health benefits and food safety concerns. **Organic food production** is defined as cultivation without the application of chemical fertilizers and synthetic pesticides or genetically modified organisms, growth hormones, and antibiotics. The popularity of organically grown foods is increasing day by day owing to their nutritional and health benefits. Organic farming also protects the environment and has a greater socio-economic impact on a nation. India is a country that is bestowed with indigenous skills and potentiality for growth in organic agriculture. Although India was far behind in the adoption of organic farming due to several reasons, presently it has achieved rapid growth in organic agriculture and now becomes one of the largest organic producers in the world. Therefore, organic farming has a great impact on the health of a nation like India by ensuring sustainable development.

I. INTRODUCTION

Organic farming in India is an agricultural process, uses pest control derived from organic manure and animal or plant waste. This farming started to respond to the environmental suffering caused by chemical pesticides and synthetic fertilizers. It is a new system of agriculture that repairs, maintains, and improves the ecological balance. Organic farming uses organic inputs, green manures, cow dung, etc. Organic agriculture grows and develops with these principles. These can contribute to improving organic agriculture for the world.[1]

There are four principles of organic farming are as follow:-

- **Principles of Health** – The health of the ecosystem, people, and communities.
- **The Principles of Ecology** – The right balance between ecosystem and environment or nature.
- **Principles of Fairness** – Good human relationships and quality of life.
- **Principles of Care** – The considerations about the environment and environment of the future.

India ranks 1st in number of organic farmers and 9th in terms of area under organic farming.

▪ Indian Scenario Regarding Organic Farming

- 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 crore.[2]
- 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.

Organic farming is one of the widely used methods, which is thought of as the best alternative to avoid the ill effects of chemical farming. There are several definitions of organic farming and the one given by the **US Department of Agriculture (USDA)** is considered the most coherent and stringent. It is defined as 'a system that is designed and maintained to produce agricultural products by the use of methods and substances that maintain the integrity of organic agricultural products until they reach the consumer. This is accomplished by using substances, to fulfill any specific fluctuation within the system so as to maintain long term soil biological activity, ensure effective peak management, recycle wastes to return nutrients to the land, provide attentive care for farm animals and handle the agricultural products without the use of extraneous synthetic additives or processing in accordance with the act and the regulations in this part'. The origin of organic farming goes back, in its recent history, to 1940s. During this period, the path breaking literature on the subject published by J.I. Rodale in the United States, Lady Balfour in England and Sir Albert Howard in India contributed to the cause of organic farming. The farming being practiced for the last three decades in India has increasingly been found non-sustainable. The system is oriented towards high production without much concern for ecology and the very existence of man himself.[3]

II. DISCUSSION

Indian farming reveals an untapped potential reviewing the list of 172 countries practicing organic agriculture worldwide since only 0.4% of total agricultural land is under organic cultivation. In 2015, the export and domestic market of the Indian organic industry grew by 30% and 40% respectively. Organic farming has seen a drastic overall development in almost every crop type due to increase in awareness in food security and environmental safety. Health conscious consumers today will support the growth of the organic agricultural sector in many ways.

According to WHO, the total global organic food market presently is around \$37 billion. Of this \$14 billion market is for herbal plants and medicines, which is expected to reach \$5 trillion by the year 2050. According to International Fund for Agriculture and Development (IFAD), India has more than 15,000 certified organic farms.[4]

Organic farms are generally more profitable and environmental friendly, as it uses fewer chemicals and the residue is comparatively less chemical-intensive. It provides many ecological benefits and delivers nutritious food. Studies show that practicing organic systems over a long period of time can also provide equal yields or even outdo the conventional methods. It is necessary for organizations working in the organic food business to increase awareness among customers in non-metro cities. Sikkim, India's North-Eastern State, with 75,000 hectares of land under organic cultivation is an organic state. By 2030, Meghalaya, another northeast state of India also eyes to convert 200,000 hectares of land into organic cultivation. In Kerala, more than 100,000 farmers are adopting the organic farming practices.[5]

Due to climate changes, organic farming has made an important place around the globe. The Indian Government is promoting organic farming through **various schemes under National Mission Sustainable Agriculture (NMSA). The Government has introduced Paramparagat Krishi Vikas Yojna (PKVY) and Organic Value Added Development (OVCDNER) schemes** under the NMSA to promote organic farming in the country. In this scheme, the state governments, based on cluster for every 20 hectare land, will support farmers by offering financial assistance for maximum one hectare land. The Government has allocated about \$730 for every hectare of land during the period of transformation for three years. The Government of India also announced an investment of almost \$15 million towards organic market development and around \$44 million for the participatory guarantee scheme (PGS) which is an organic quality assurance system that certifies producer that are active participating in organic farming.

The recent seminar on organic farming, conducted by the Chandigarh State Agricultural Marketing Board in collaboration with **Kheti Virasat Mission of Punjab** to promote sustainable & ecological farming practice, was an attempt to promote the eco-friendly concept of cultivation. The seminar was attended by experts, farmers, counselors and teachers in order to promote organic farming, reducing the dependency of chemicals and fertilizers for the farmer's and eventually the end consumers benefit. The seminar was an attempt to make Chandigarh and surrounding regions adopt organic farming. Further, to reduce the use of chemicals fertilizers and pesticides, the State Department of



Agriculture in Goa launched a state sector scheme to promote organic farming. The scheme provides 50% assistance on cost of organic inputs, of approximately \$150 per hectare and maximum up to 2 hectares per beneficiary.[6]

To reduce the adverse effect of burning crops and global warming, the Bulandshahr District Administration, in the state of Uttar Pradesh, requests farmers to take up organic farming and grow multiple crops. The intention was to spread awareness about the demerits of crop burning and to promote weather-resistant farming in order to minimize the damage caused by the unpredictable weather changes. To ensure the food security in India, a scientist from **Central Arid Zone Research Centre (CAZRI)**, Arum Kumar Sharma, initiated practicing and promoting organic farming in Dantiwara village, Rajasthan. In his eight years of intensive research at CAZRI, his team came up with a conclusion that organic farming is the cure of all ill-effects caused by using chemical fertilisers and pesticides. He believes that Green Revolution has to come into action focusing on organic practices instead of chemical farming by concentrating on 60% of dryland, we have today. Around 400 Bigha agricultural lands in Dantiwara have been put under organic farming practices with constant motivation and spreading the word throughout the country.[7]

India has been self sufficient in food staples for over a decade now. Organic agriculture will prosper in India and will contribute in feeding 1.5 billion people by 2030. According to statistics by Assocham and TechSci, the organic farming market in India will reach around \$1.36 billion by 2020 with a growth rate of 25-30% per year. Organic farming is rapidly growing in India and investors agree that challenges do exist in this sector but as soon as awareness and educational training about the benefits and the set-up of organic farming is spread to the farmers, a positive economic outcome will follow.

III. RESULTS

Organic farming is free of chemical pesticides and chemical fertilizers as it tries to strike a harmonious balance with a complex series of ecosystems. The International Federation of Organic Agriculture Movements (IFOAM) is the worldwide umbrella organization for the organic farming movement which has been established from 1972 at Bonn (Germany). According to IFOAM, "Organic Agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on an ecological process, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and good quality of life for involved". The development of organic agriculture is based on some principles which make it a very important economic activity of the world. These principles are the roots from which organic agriculture grows and develops. The principles apply to agriculture in the broadest sense including the way people tend soils, water, plants and animals in order to produce, prepare and distribute food and other goods. They concern the way people interact with living landscapes relate to one another and shape the legacy of future generations. The following are the important principles related to organic agriculture which preserve biodiversity in this world through organic farming. **The principle of Health ;The principle of Ecology; The principle of Fairness; The principle of Care.**[8]

The growth story of organic farming is unfolding with increasing demand not only in India but also globally. In a world battered by the COVID pandemic, the demand for healthy and safe food is already showing an upward trend and hence this is an opportune moment to be captured for a win-win situation for our farmers, consumers and the environment.

India ranks first in number of organic farmers and ninth in terms of area under organic farming. Sikkim became the first State in the world to become fully organic and other States including Tripura and Uttarakhand have set similar targets. North East India has traditionally been organic and the consumption of chemicals is far less than rest of the country. Similarly the tribal and island territories are being nurtured to continue their organic story.

With the aim of assisting farmers to adopt organic farming and improve remunerations due to premium prices, two dedicated programs namely Mission Organic Value Chain Development for North East Region (MOVCD) and Paramparagat Krishi Vikas Yojana (PKVY) were launched in 2015 to encourage chemical free farming. With the simultaneous thrust given by the Agri-export Policy 2018, India can emerge as a major player in global organic markets. The major organic exports from India have been flax seeds, sesame, soybean, tea, medicinal plants, rice and pulses, which were instrumental in driving an increase of nearly 50% in organic exports in 2018-19, touching Rs 5151 crore. Modest commencement of exports from Assam, Mizoram, Manipur and Nagaland to UK, USA, Swaziland and Italy have proved the potential by increasing volumes and expanding to new destinations as the demand for health foods increases.[9]

Certification is an important element of organic produce to instill customer confidence. Both PKVY and MOVCD are promoting certification under Participatory Guarantee System (PGS) and National Program for Organic Production



(NPOP) respectively targeting domestic and exports markets. The Food Safety and Standards (Organic Foods) Regulations, 2017 are based on the standards of NPOP and PGS. The consumer should look for the logos of FSSAI, Jaivik Bharat / PGS Organic India on the produce to establish the organic authenticity of the produce. PGS Green is given to chemical free produce under transition to 'organic' which takes 3 years.

About 40,000 clusters are being assisted under PKVY covering an area of about 7 lakh ha. MOVCD has brought in its fold 160 FPOs cultivating about 80,000 ha. For these clusters to become sustainable, it is important that henceforth market led production starts in a contract farming mode, so that there is a ready market for the produce and industry also gets the desired quality and quantity when required. This is being pursued in right earnest with bulk buyers including the phyto extracts industries. The commodities with highest potential include ginger, turmeric, black rice, spices, nutri cereals, pineapples, medicinal plants, buckwheat, bamboo shoots, etc. Supplies have started from NER including for Mother Dairy from Meghalaya, Revanta Foods and Big Basket from Manipur. Number of instances of farmer groups setting up markets in RWAs and selling directly is increasingly becoming common especially in Maharashtra and Karnataka where fresh organic produce is lapped up by the urbanites and farmers get a better bargain with no intermediaries. The presence of aggregators is imperative to bring about economies of scale for the small and marginal farmers. Hence the concept of market led One district - One product is being encouraged, as also development of more clusters in the vicinity of bigger towns where the appetite for organics will be much more. [10]

When the pandemic struck India, access to quality food was as high on priority for the country as much as health. Advisories to States on supporting direct marketing in order to decongest mandis led to number of States issuing orders and amending legislations, thereby opening up market options to farmers. Working within the constraints posed due to disruption in logistics, access to regular markets, decrease in demand, number of States and clusters innovated and converted this crisis into an opportunity. The **Green Caravan of Kohima** created market linkages from all villages of Nagaland to urban areas for vegetables, handicrafts and handlooms (www.instamojo.com). There was online sale of fruits and vegetables by FPOs in Maharashtra and doorstep delivery in specially designed electric vans in Punjab. Manipur Organic Agency (MoMA) mobilised all the 15 FPCs of MOVCD to collect produce and transport to two organic wholesale centers at Sanjenthong and Chingmeriong in Imphal for onward delivery to consumers.

The organic e-commerce platform www.jaivikkheti.in is being strengthened for directly linking farmers with retail as well as bulk buyers. Infusion of digital technology in a much bigger way has been a major takeaway during the pandemic period and is a welcome norm here to stay, saving in expenses on travel, logistics, etc while not compromising in any way on the quality of information sharing. In fact, video conferencing and webinars makes possible outreach with many more in the field, with minimum disruption in their works too and which was not possible in physical meetings. The NER States also participated in a webinar on Integrated Organic Farming models developed by ICAR, for increasing productivity, integrated nutrient and pest management and hence increase in farmers' income. Video conferences are being held to understand the issues being faced by companies and strengthen the conversations with States and Regional Councils responsible for handholding clusters and in the process new partnerships are being forged for direct procurement from the farmers/farmer groups. [11]

Natural farming is not a new concept in India, with farmers having tilled their land without the use of chemicals - largely relying on organic residues, cow dung, composts, etc since time immemorial. The philosophy underlying organic farming of integration of the elements - soil, water, microbes and 'waste' products, forestry and agriculture is the correct recipe for sustainable use of natural resources, which are coming under severe stress due to ever increasing requirement of food and feedstock for agri based industry. This is also in sync with the Sustainable Development Goal 2 targeting 'end hunger, achieve food security and improved nutrition and promote sustainable agriculture'. Hence with greater awareness and capacity building of the producers on compliance with international standards, Indian organic farmers will soon be reinforcing their rightful place in global agri trade. [12]

IV. CONCLUSION

Organic Mahotsav 2019 is the 7th in series of the popular biennial conventions held by the Organic Farming Association of India. The event is being held in Udaipur (Rajasthan) at Shilpgram from 29th November to 1st December, 2019.

The convention provides a platform for organic farmers from all over India to share, learn and grow. Renowned scientists, policy makers, seed savers, innovators come together to bring the developments in organic farming to a common platform - the ultimate goal being growth of our farmers while also replenishing our natural resources.



As a new initiative this year, we are involving consumers who have been supporting, as a part of the organic movement. Awareness and involvement of the youth in organic agriculture at every level is a key focus area. A youth incubation program will be developed to promote innovative ideas in the field of organic farming.

There is a developing significance on health benefits as people are getting cognizant about the food themselves their relatives and family members. Thus, there is a degree for organic farming developed products. Prior people used to expend quality local vegetables, heartbeats and organic products. This brought about a life span and solid way of life. [13]

More than 60 % of India's arable land is under traditional agriculture, where no synthetic inputs are being used. Although, the products grown under such systems have so far not been defined as organic products but by all mean they are genuine organic products. In view of their wide availability there is an urgent need to ensure premium prices for the produce grown in these regions. Unfortunately, these farmers are so involved in their struggle for survival that they have no time to figure out what is organic and what is not? These organic products are sold to the middleman and are being marketed along with other chemically grown products. It is the lack of awareness among the consumers in our country that some times the chemically grown products which look healthy and attractive, in spite of having alarmingly high level of pesticide residue fetches higher prices than the poorly looking organic products.

There is neither subsidy for organic cultivators nor incentives to practice organic cultivation. There are many areas in India where crop residues, manures, legumes and neem are being used to grow their crops. They rely on crop rotation and interplanting, to do their job. These farmers practice, farming through organic inputs. Now it is high time that attempts are made to classify these practices accordingly. If this is done, the poor farmers will get a premium price for their low yields. This will also go a long way in alleviating poverty and raising the living standards of the poor villagers. Most of the agriculture in backward and tribal areas especially in the hills of northern, eastern and northeastern region could be safely classified as organic. We must take advantage of this opportunity by arranging a market for these products both for domestic and export market.

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