International Journal of Applied Social Science
Volume 6-A (1), January (2019) : 15-20
Received : 03.11.2018; Revised : 17.11.2018; Accepted : 03.12.2018

RESEARCH PAPER
ISSN : 2394-1405

Organic Farming in North-East India: Present Status, Prospects and Problems

NILAKSHI GOGOI
M.Phil Research Scholar
Department of Economics, Dibrugarh University, Dibrugarh (Assam) India

ABSTRACT

Organic farming systems have attracted increasing attention world over due to wide adverse effects of conventional agricultural practices on human diet, environment and sustainability of agricultural production. The Organic farming is not new to the farming community of the North-East India. The paper focuses on the understanding of the potentialities and possibilities, status and the constraints associated to the organic agriculture in light of evidences from the North Eastern States of India. The paper is based on secondary data collected from different books, journals, documents, reports, websites etc. The NE region has a numerous advantages to go for organic food production and some of these are high rainfall, less use of inorganic fertilizers by the farmers, establishment of Agri-Export zone in the NE region etc. While the major challenges for organic farming in region are yield reduction, soil fertility enhancement, integration of livestock, marketing and policy etc.

Key Words : Organic farming, North-East India, Status, Scope, Prospects, Problems

INTRODUCTION

Sustainable food production system is the key to sustainable development where agriculture is the main stay of the economy. Organic farming involves management of the agro eco system as autonomous, based on the capacity of the soil in the given local climatic conditions. In spite of the ridicule poured out on organic farming by many, it has come to stay and is spreading steadily but slowly all over the world. India has been very slow to adopt it but it has made inroads into our conventional farming system. Organic farming is an alternative way to overcome the problems of sustainability, global warming and food security. Organic production systems are based on specific standards precisely formulated for food production and aim at achieving agro ecosystems, which are socially and ecologically sustainable. Organic agricultural practices are based on a maximum harmonious relationship with nature aiming at the non-destruction of the environment. The developed nations of the world are concerned about the spreading contamination of poisonous chemicals in food, feed, fodder and fiber. Naturally, organic farming system is looked upon as one of the means to remedy these maladies there. In India, organic farming is not new to farming community. Several forms of organic farming are being successfully practiced in diverse climate, particularly in rain fed, tribal, mountains and hill areas of the country. Much of the forest produce of economic importance like herbs, medicinal plants, etc., by default come under this category. Among all farming systems, organic farming is gaining wide attention among farmers, entrepreneurs, policy makers and agricultural scientists for varied reasons However, the major problem in India is the poor productivity of our soils because of the low level content of the organic matter. Organic farming involves management of the agro-eco system as autonomous, based on the capacity of the soil in the given local climatic

How to cite this Article: Gogoi, Nilakshi (2019). Organic Farming in North-East India: Present Status, Prospects and Problems. *Internat. J. Appl. Soc. Sci.,* **6-A** (1) : 15-20.

conditions. It improves soil quality, is better for the environment, and achieves greater economic sustainability than conventional farming methods.

Objectives:

The main objectives of the present paper are-

a) To examine the status and potentialities of organic farming in North-East India.

b) To discuss the main constraints of organic farming in North-East India.

c) To suggest policy measures to develop the organic farming system of the North-East India.

METHODOLOGY

The present study adopts descriptive research methodology and it is based on secondary data collected from different books, journals, government reports etc. The analysis is provided on the basis of the available literature.

RESULTS AND DISCUSSION

Current Global and Indian Scenario of organic farming:

About 38% of earth's land cover is occupied by agriculture (FOA, 2015). Although only about 1% of global agricultural land falls under organic production its share of agricultural land and farms continues to grow rapidly. According to the latest survey by the Research Institute of Organic Agriculture (FiBL) and IFOAM (2016), about 43.1 million hectares of the agriculture land are managed organically on continental basis involving more than 130 countries of the world. Organic trade is expanding at the rate of 15%–20% per year. Today at least 141 countries produce organic food commercially (Reddy, 2010) and over 150 countries are exporting certified organic products. High demand for organic foods in Europe and North America has resulted in the import of organic foods from large farms in less-developed countries (Willer and Lernoud, 2015). According to Willer and Lernoud (2015), the countries with largest organic markets include the US (approximately 44 % of the global market) followed by the European Union (approximately 41%) and China (2.4 billion euros). The highest market shares reached in Denmark (8 %), Switzerland (6.9 %) and Austria (6.5 %). The Government of India launched the National Programme for Organic Production (NPOP) developed under the guidelines of international organic production standards such as CODEX and International Federation of Organic Agricultural Movements (IFOAM) with prime objective of promoting organic farming by facilitating access to organic inputs, streamlining production, facilitating certification and developing domestic markets for organic commodities. Moreover in order to promote participatory certification of organic farming in a cluster approach, Paramparagat Krishi Vikas Yojana (PKVY) was formulated in year 2014-15. Many state-supported agencies, non-governmental organizations (NGOs) and individuals are involved in the promotion of organic farming in India. Nearly 4.72 million hectares has been brought under organic certification processes, including 0.6 million ha of cultivated agricultural land and 4.12 million ha for wild harvest collection in forests (Yadav, 2015) involving around 6 lakh farmers.

Status of organic farming in North-East India:

Organic farming is not new to the farming community of the North-East. The farmers have retained traditional practices and have shown an inclination towards organic farming that is being harnessed for the

Table 1 : State wise area (ha) under organic certification including wild harvest in North Eastern Region

North-Eastern States	2009-10	2010-11	2011-12	2012-13
Arunachal Pradesh	1897.27	243	520.43	231.49
Assam	6223.12	2047.33	2048.27	2299.21
Manipur	10871.13	2792.03	1296.91	11.25
Meghalaya	2254.12	2419.67	288.23	1780.49
Mizoram	38674.62	12544.13	7023.97	1182.00
Nagaland	29715.28	1603.54	7762.6	2916.96
Sikkim	7393.09	1726.34	25716.55	43107.74
Tripura	281.06	348.39	4.05	209.72
Total NE States	97309.86	23724.43	44661.01	51738.86
India	4551899	4427519	5550405	5211141

Source: APEDA Accredited Certified Agencies in Tracenet

development of the region with ecological benefits The region provides considerable scope and opportunity for organic farming due to least utilization of chemical inputs. It is estimated that 18 million hectare of such land is available in the North-East, which can be exploited for organic production. With the sizable acreage under naturally organic/default organic cultivation, the North-East has tremendous potential to grow crops organically and emerge as a major producer of organic products. The total production of organic produce of country during 2010-2011 is estimated to be about 3.89 million tonnes against a dismal production figure of 2.42 lakh tonnes in NER. The state wise certified organic produce in NER is presented in Table 2. The organic produce includes all varieties of food products (cereals, pulses, honey, tea, spices, coffee, oilseeds, fruits, vegetables and their value added products. Presently organic agriculture is growing rapidly in North-East India and it has now become a leading supplier of different organic herbs, organic spices, organic rice (basmati, joha), organic tea. If inspection and organic certification is streamlined, the export credibility of North-Eastern organic produce can be established in the international market.

Scope and Prospects of Organic Farming in North-East India:

Most of the cultivated areas (about 1.5 million hectares) in the NER of India excluding plains of Assam, Tripura and Manipur are adopting organic farming practices for generations. The North Eastern Region (NER) is considered as home to some niche crops like Assam lemon, Joha rice, medicinal rice and passion fruits which has high market demands and accounts for 45 per cent of total pineapple production in India. Northeast states have declared themselves "organic- farming states" where as Mizoram and Sikkim declared their intentions to move to total organic farming. Sikkim has become India's first fully organic state by implementing organic practices on approximately 75,000 ha of agricultural land. The region has a numerous advantages to go for organic food production. Firstly, the regions receive very high rainfall (2000 mm to 11000 mm per annum) and leads to profuse production of biomass including weeds, shrubs and herbs. Some of these species could be efficiently used in organic production. The organic farming is better in areas having extreme rainfall because of the higher absorption and less run-off water in the field. Secondly, the use of inorganic fertilizers and chemicals is meager in the region (Table 3). The farmers of the region, in general and hill farmers in particular are having apathy towards use of agro-chemicals. In fact, the promotion of organic farming is advocated initially in the rain-fed areas particularly in the hilly areas having little or no use of chemical fertilizers and other agro-chemicals due to poor resources with small holder farmers.

Some other strengths of NER for organic farming are:

a. The region is home to some of the high value niche crops like Assam lemon, Joha rice, medicinal rice, sticky rice (Manipur), pineapple, aromatic rice of Tripura (harinarayana and kalikhasa), Khasi mandarin, ginger, turmeric (Meghalaya), French bean, King chili, bird eye chili (Nagaland) Assam tea, large cardamom, ginger, pine apple and passion fruits which has high market demands.
b. Less pressure on food demand due to thin population density as compared to vast natural resources available in the region.

Table 2 : State wise certified organic production (tonnes) including forest produce in North-Eastern Region

North-Eastern States	2009-10	2010-11
Arunachal Pradesh	710.02	2127.29
Assam	2328.89	14716.95
Manipur	4086.39	19239.25
Meghalaya	843.56	15674.64
Mizoram	14473.28	177509.02
Nagaland	11120.41	6627.47
Sikkim	2766.73	5174.44
Tripura	106.18	527.25
Total NE States	36417.46	241596.3
India	1703465.70	38,87,197.19

Source: APEDA Accredited Certified Agencies in Tracenet

Table 3 : State wise fertilize consumption (kg/ha) in North-Eastern Region (2011-12)

State	N	P	K	Total
Assam	36.85	11.97	18.42	67.25
Tripura	33.72	17.77	8.83	60.32
Manipur	28.28	4.16	1.89	34.33
Meghalaya	9.73	3.69	0.74	14.17
Nagaland	1.54	1.01	0.41	2.96
Arunachal Pradesh	1.99	0.36	0.11	2.46
Mizoram	7.48	1.71	0.49	9.67
Sikkim	0.00	0.00	0.00	0.00
NE India (Average)	28.9	9.59	13.19	51.67
All India (Average)	90.1	41.18	13.14	144.33

Source: State of Indian Agric, 2012-13, MoA, Government of India

c. Dependence of mid and high altitude farmers on within farm renewable resources.
d. Time tested indigenous farming systems and use of ITKs in agriculture are mostly prevailing in the region.
e. Agri-Export Zones (AEZ) has already been established for organic cultivation of pineapple in Tripura and for ginger in Sikkim.

Constraints of Organic Farming in North-East India:

Low amount of nutrients and high C: N ratio of different organic residues:

Organic nutrient sources like farmyard manure, compost, poultry manure, straw, etc. contain very low amount of nutrients, not sufficient to meet the nutrient requirements of crops thereby forming a large gap exists between the available potential and their utilization. Slow release especially when temperature remains low for most period of crop growth makes the synchronization of nutrient release and their uptake by crop plants a difficult task. Although many organic residues like paddy straw, wheat straw, sugarcane trash, can be used to make up the plant nutrients need yet they have a wider C: N ratio. If they are not fully decomposed and added as such, will cause immobilization of nutrients.

Low yield of crops:

With the use of organic sources of nutrients, the yield of the crop is very low especially during initial stages, although it may stabilize later, yet complete dependence on pure organic farming will not be sustainable in the long run.

Small holding and poor farmers:

Most farmers in NER are outlined as small holdings and poor. They are not directly connected to markets to buy or sell food. Since organic farming's main attraction is export, small farmers are less able to compete when the international trade brings down prices even in local markets.

Market and Infrastructural problems and lack of target (institutional) groups:

Market development, especially domestic markets, continues to be one of the biggest challenges facing organic agriculture. Closed corner location, remoteness and isolation from major markets are the prime constraints. Lack of supply and a narrow product variety leads to lack of interest by actors throughout the supply chain, inhibiting consumer demand and creating an obstacle to procurement by public and private institutions. High consumer prices may also limit consumer interest. There is tremendous lack of infrastructural facilities for processing, packing, storage etc. to meet the organic standards and to avoid contamination of organically produced food. On one hand, target groups of organic food products such as big hotels, restaurants, airlines, cafes, etc. which can afford to pay premium prices for high quality organic foods are completely lacking. On the other hand, common people cannot afford to pay higher prices for organically produced food indicating low domestic consumption.

Control of weeds:

Organic sources of nutrients promote profuse proliferation of weeds that compete with the plants for different nutrients, space, light, water, etc. On the other

hand, weedicides cannot be used in organic farming, and thus economic weed control remains a challenge in organic farming.

Scarcity of biomass:

Readily available and abundant organic sources are not enough to meet the requirements of composts, vermicomposts etc. A lot of organic wastes and plant residues get lost in the fields either because of difficulty in collection or to handle or use properly.

High input costs:

Local or farm renewable organic resources like neem cakes, groundnut cakes, cow dung, earthworms, etc. are becoming costlier day by day than the conventional or industrially produced chemical fertilizers and pesticides. Chemical fertilizers are easier to purchase given the farmer has purchasing power.

Lack of awareness:

There is lack of awareness and knowledge about modern methods or techniques of composting, vermicomposting etc., among the farmers from the preparation as well as application point of view and thus both quality and efficacy are poor at the end.

Benchmark survey:

A great challenge in organic farming promotion is the benchmark survey for identifying the potential areas in north eastern regions and other regions in India as well.

Certifying oriented problems:

Before producing marketable products an organic farm has to have a transition period of 1 to 3 years depending upon the certifying agency's requirements and during this period the farmers have to grow the crops as per standards set for organic farming and thus produce about 3/4 of the normal yield. Yet they have to market the produce in the open general market. Small and marginal farmers can hardly afford to do so.

Policy Suggestions:

Research is beginning to show the benefits of organic farming. Studies show it to be ecologically productive and financially viable, and producing more nutritious yields than vertically integrated production methods. Here are some ways to promote and scale up organic agriculture.

a. The govt. should develop appropriate extension services to inform small-scale farmers about organic farming and how to practice it.
b. The govt. should develop strong linkages between growers and consumers, with minimum influence of middlemen.
c. The govt. should take necessary actions to reduce the costs of certification to make them accessible to small farmers, without diluting standards.
d. The govt. should make biofertilizers, bioagents, biopesticides and other organic inputs available to smallholders in sufficient quantities and at reasonable prices.
e. The govt. should encourage and develop the domestic market for organic products.
f. The govt. should provide subsidies and other financial support to help small-scale growers cover the initial expenses of converting to certified organic farms. Ensure that organic farming gets a level playing field with Industrial agriculture.
g. The govt. should improve infrastructure such as roads, transportation, storage facilities, etc.
h. The govt. should try to enhance linkages in the supply chain of organic products – forwards to processors, wholesalers and retailers, and backwards to suppliers of inputs such as seed and synergize the benefits of the ecotechnological empowerment of the rural communities.
i. The govt. should establish research centers to promote research on organic agronomic practices, biocontrol of diseases and pests, biofertilizers, etc.
k. The govt. and policymakers should take into account the positive externalities of organic farming into account when setting development policies.

Conclusion:

Organic farming is gaining momentum in recent years as a sustainable crop and soil management practice especially for the small and marginal hill farmers. It promotes soil health and carbon sequestration and provides multiple ecosystem services including mitigation of climate change. Integrated organic farming system will not only promote organic food production but also reduce dependence on external resources through efficient

recycling of on-farm biomass and other resources. The need of the hour is adequate capacity building and providing technology backstopping to the stakeholders. Marketing and value addition are important areas of concern for the farmers to get actual benefit out of organic farming. A close public- private partnership is warranted to achieve the desired momentum. Certification of organic products by the resource poor farmers is another major challenge to the region. With the policy support, farmers can be grouped and community certification can be achieved in a cost effective manner for sustainable livelihood development.

REFERENCES

APEDA (2014). Organic production and current scenario in India. http:// www.apeda.gov.in/apedawebsite/organic/Organic_Products.htm.

Bujarbaruah, K.M. (2004). Organic Farming: Opportunities and Challenges in North Eastern February. 2004. ICAR Research Complex for NEH Region, Umiam, Meghalaya.

Food and Agriculture Organization of the United Nations (FAO), (2015). Online Database (accessed August 2015); http://faostat.fao.org/site/377/default.aspx#ancor.

Willer, H., Lernoud, J. and Kilcher, L. (eds). (2015). The World of Organic Agriculture: Statistics and Emerging Trends 2016, (FiBL-IFOAM).

Yadav, A.K. (2015). Organic Agriculture at a Glance. Available online: http://krishijagran.com/farm/scenarioinIndia /2015 /03 / Organic- Agriculture - At- a- Glance (accessed on 2 April 2015).

****