

Review Article

POTENTIAL AGRI-BUSINESS ENTERPRISES IN NORTHEAST INDIA**Kadirvel, G. *, Bandita B. Banerjee, Amitava Mukherjee and Digia Lois Gangmei***Central Horticultural Experiment Station (ICAR-IIHR), Bhubaneswar- 751 019, Odisha, INDIA***Corresponding author's E-mail: velvet.2007@rediffmail.com***KEYWORDS:**Agriculture,
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ABSTRACT

The North East India comprising of eight states namely Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura has a total geographical area of 262180 km². Agriculture is crucially important sector providing employment and livelihood to majority of rural population in the region. It is substance low input traditional agricultural production system. There is an urgent need to promote the spirit of entrepreneurship and business attitude among the farmers and youths for transition of subsistence agriculture to profitable ventures in the region. This region has blessed with biodiversity, forest wealth, fruits and vegetables, flowers, herbs and aromatic plants, rare and rich flora and fauna, thus the region has a potential to transform into a commercial hub for Agri-business. Thus the mini-review deals the identified potential viable agri-business ventures and its details to promote entrepreneurship development, employment generation and economic inclusive growth in the north east region of India.

INTRODUCTION

Agriculture sector provides employment to half of the workforce of India and continues to remain mainstay for rural employment and livelihood while contributing 17.5% of the GDP. The North East (NE) India comprising of eight states namely Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura, which is about 8% of the country's total area with a population of about 45 million (2011 census). Northeast India has an agrarian economy and it is well known for its agricultural produces. The popular products like Khasi Mandarin of Meghalaya, Kachai Lemon of Manipur and Queen Pineapple of Tripura, which received geographical indications. However, the revenue earned from agricultural sector by this part of the country is low as compared national average. In spite of being rich in agricultural diversity in the region, it is lacking behind in terms of complete utilization and exploration of its produces. Surplus products get wasted due to lack of initiative in processing, value addition and marketing the products. Organic farming has highest potential in North East India as the pesticide and inorganic fertilizer application are less in India compared to industrial nations of the world. This has huge potential for Agro Food Processing, Horticulture, Floriculture and livestock Farming. The scope and demand of fishery is very high in North East Region, more than 95% of population are fish eaters. Presence of a large number water bodies and water resources are added advantage for an entrepreneur to get into it. The substance agriculture sector in the region

continued to provide employment to the majority of the rural population. The agriculture sector requires fresh inputs of thoughts, leadership and most importantly entrepreneurship while engaging educated youths who are looking for opportunities. This sector needs to transform from subsistence agriculture to profitable business. There is an urgent need to promote the spirit of entrepreneurship and business attitude among the farmers and youths. Keeping these views in mind, this mini-review deal the potential, viable agri-business ventures promote entrepreneurship development in the north east region of India. The paper provides specific business ventures and steps towards development and nurturing of entrepreneurship ecosystem for agriculture and allied sectors in the region.

Potential agri-business ventures**A. Agro Food Processing Ventures**

North-eastern region (NER) of India is endowed with various fruits and vegetables and has the potential to be a sunrise zone for food processing in agri-businesses. There is an immense opportunity present in food processing in the region. It is observed that simple value addition like cleaning, sorting and packaging can increase income of farmers by 42.8% per kg. Major agro-food processing ventures are:

- ✓ **Fruit Processing Ventures:** Northeast region is a hub of varied horticultural crops due to varied terrain and climate, which is suitable for pineapple, oranges, jackfruit, ginger, potato, tapioca and exotic fruits like

peach, plum, passion fruit and kiwi fruit. Fruit based products have an excellent market potential and higher profit margin for example-the taste of Queen cultivar pineapple of this region is much superior compared to other parts of India.

- ✓ **Spices Processing Ventures:** Northeastern region of India is home to a variety of spices such as the 'Lakadong turmeric' indigenous to the Jaintia Hills of Meghalaya with highest curcumin content of 7.6% , large cardamom from Sikkim and Arunachal Pradesh which is fast emerging as the second largest player in the cultivation and production, black pepper from the vast tea gardens of Assam and Garo Hills in Meghalaya and chilli peppers ranging from the famed 'Bhoot Jolokia' (King chilli) to the tiny Bird's eye chilli amongst others. This region has a spectrum of ginger varieties which suit both industrial and culinary purposes.
- ✓ **Meat Processing Ventures:** About 80% of the population from the region consumes meat which is evident from the expenditure estimates of 16.5% as against 7% in mainland India. Commercialization of traditional meat products can encourage entrepreneurship development. The entrepreneurs can take up meat processing specifically pig and poultry by producing varied products like sausages, nuggets, salami, smoked meat, meat balls and meat pickles since these products has high demand in the domestic market.

B. Quality Planting Material and Nursery Ventures

The main purpose of raising nursery plants in protected structure is to get higher profit and disease-free seedlings during off season to raise early crop in protected condition or/and open field conditions. The demand for quality planting materials like Arecanut, Black Pepper, Coconut, Guava, Lemon, Bay leaf, Large Cardamom, Banana, Litchi, Mango, Tomato, Bamboo, Capsicum, Cucumber, Peach, Plum, Mandarin, Berries and Avocado is high in North East region. This demand can be met by raising the planting materials in nurseries and shade houses.

C. Floriculture Ventures

Floriculture is becoming a trend in NEH Region and this, can be taken up as an enterprise to generate high income through sale of beautiful flowers both for domestic and export market. The major grown flowers in Northeast region are liliun, anthurium, gerbera, alstomeria, gladiolus, orchids like dendrobium, vanda, phalaenopsis, cattleya, mokara, etc.. Around 1300 species of orchids are reported in India, out of which 870 species are from Northeast India (Oyi et al., 2012).

D. Quality Seed Production Ventures

Availability and accessibility of quality seeds is the major bottleneck in the region. Quality seeds are in high demand as the major portion is supplied by private seed companies who are unaware about the North East conditions. One can take up this quality seed production business (production,

packing, labeling, marketing) for high income as this region is suitable for production of high quality seeds of paddy, maize, pulses, fruits, vegetables, flowers, medicinal plants. Indian Council of Agricultural Research has released crop varieties which are most favourable for this region.

E. Commercial Vegetable Cultivation Ventures

The high demand for vegetable makes vegetable farming in the region a highly profitable business venture. The soil and climatic condition of Northeast India is highly suitable for commercial vegetable cultivation viz. lettuce, cabbage, tomato, potato, brinjal, cauliflower, cucumber, beetroot, carrot, radish and broccoli.

F. Commercial Fruit Cultivation Ventures

The scope of commercial fruit cultivation is very high in this region due to availability of wide range of fruits both local and exotic, nuts having very high export potential. The region produces around 52.92% surplus fruits which justifies the scope of fruit processing in the region.

G. Medicinal & Aromatic Plants Ventures

North East India is a forerunner in the production of medicinal and aromatic plants. The region is one of the richest repositories of medicinal and aromatic plants (MAP) in the world. There are more than 300 species of commercially important medicinal plants produced. Medicinal crops have better economic opportunities as against the traditional field crops and characterized by high value –low volume. However, it needs a scientific approach for value addition medicinal and aromatic plants. If properly organised, the cultivation and management of medicinal plants becomes highly remunerative both in financial and economic terms for the small-scale growers.

H. Protected Cultivation of High Value Crop Ventures

Greenhouse cultivation is the most intensive form of crop production with a yield per cultivated unit area up to ten times higher yield with superior quality to that of a field crop. During winter season under north-east Indian conditions, it is difficult to grow tomato, capsicum, cucurbits, French bean and amaranth in open field condition. Different types of protected structures have been developed for growing high value crops during winter by providing protection from the excessive cold. Cultivation of off-season vegetables such as cabbage, cauliflower, broccoli, tomato etc., under greenhouses is gaining momentum in the region. Protected cultivation provides high quality crops, high production which can be marketed to creamy layer of society and also has high export potential. Floriculture under protected condition of exotic flowers like Gerbera, Carnation, Rose, Orchids are growing up with flying colours.

I. Organic Farming Ventures

Organic farming is not new to the farming community in the region. The farmers in this region have been practicing traditionally. With increased awareness and health consciousness among the people, organic food products,

especially the fruits and vegetables are s gaining momentum in the country and export market fetching premium prices.

J. Vermicomposting Ventures

Vermicomposting, organic fertilizer production has become a major component of agri-business models across the country with a very low initial investment. An aspiring entrepreneur having specific skills can initiate vermicomposting and organic fertilizer production business venture.

K. Apiculture Ventures

✓ **Honey Production venture:** This region has rich tradition of honey bee rearing and honey usages. Beekeeping can be an income-producing venture by providing pollination services to orchards and farmers. Flora of this region is most suitable for Honey Bees. Both the natural and cultivated vegetation in the region constitute an immense potential for development of beekeeping.

✓ **Honey Processing Ventures:** The region has substantial natural potential for development of apiculture and honey processing. This high-quality honey production could provide the inputs for development of honey-based food processing industry.

L. Mushroom Ventures

✓ **Mushroom Production Venture:** Mushroom is a highly nutritious source of vegetarian diet. Mushrooms are a highly coveted item of food in the North-eastern Region. The different kinds of edible mushrooms that are consumed in the region grow as wild. It is a low volume-high value commodity venture and it can grow indoors and rooms or huts. The agro-climatic condition of the region is well-suited for growing mushrooms, besides the naturally available biomass.

✓ **Mushroom Spawn Production Ventures:** The word spawn in the mushroom industry means the planting material, which consists of the vegetative body (mycelium) and its substrate. In other words spawn could be regarded as analogues to the seeds of the higher plants. As the growing demand and market of Mushroom is increasing, the requirement of Mushroom Spawn is also increasing.

✓ **Mushroom Processing Ventures:** Fresh mushroom have very limited shelf life, but processed and dried mushrooms properly packed can be stored over a long period. Processed and preserved mushrooms will ensure the availability throughout the year. Mushroom processing ventures include packaging, labelling and preserving as Canned Mushroom, Mushroom Pickle etc. which is in high demand in domestic and international market.

M. Fishery Ventures

✓ **Fish Production Ventures:** With more than 90% of population being fish eaters in the region, there is heavy demand for fish but a wide gap exists between supply and demand. Although this region endowed with

abundant water bodies, continues to reel from a shortfall of fish supply. Presence of a large number water bodies and water resources are added advantage for an entrepreneur for this venture.

✓ **Fish Fingerling Production Ventures:** Quality Fish fingerling production is lacking in North east India thus there is high demand for fingerlings.

✓ **Ornamental Fish Production Ventures:** North East is called as Ornamental fish capital of India. North East India accounts for 82% of the total ornamental fish in India. Ornamental fish culture and breeding can be taken up as an enterprise which can generate high income by selling beautiful ornamental fishes. Moreover, it is also having high demand in export market.

✓ **Fish Processing and value addition Ventures:** Processed fish has very high demand in NE Region. Dried fish is a popular food and imported from West Bengal, Odisha and Bangladesh. The largest dry fish market of Asia is situated at Jagiroad in Morigaon district of Assam with a transaction of 40 crores per year.

N. Farm tools & implements production Venture

Agricultural land in North East India is hilly and mostly small land holdings therefore farmers in this region require traditional small tools and implements. The main farming system in North East Region is shifting cultivation which requires special tools. Production and marketing of these tools and implements through developing potential entrepreneurship by imparting hands on training in manufacturing of improved tools and implements has a great scope in the region.

O. Livestock and poultry venture

The north east region is 48 percent deficient meat, 70 percent deficient milk and 72 deficient eggs thus there is high demand for livestock products. The meat consumption pattern is also 2-3 times higher than the national average (Kadirvel et al., 2018). This highlights the importance of livestock products. The region produces around 70,000 MT of pork and thereby leaving a deficit of 5-10 thousand MT of pork per year. Milk production rate in the (1.62%) is lower than the national average (4.27%) (Kumar et al., 2007) and hence per capita availability of milk in the region (86 g/day) is much lower than the national average (299 g/day). Thus demand of Milk and dairy products are very high in North East Region. Pig is one of the prime important livestock species reared by rural tribes of NE region of India. Piggery and poultry ventures are one of the potential ventures in the region.

CONCLUSION

The Northeast India hence has immense scope and potential for food processing and other related agri-businesses. The weather and water availability of the region favours cultivation of agricultural produces. The various government schemes in the region makes favourable setting up food processing and agri-businesses as a lucrative

option. There are many small scale unorganized entrepreneurs and it can generate employment at low levels. Agri-business entrepreneurship promotes capital formation by tapping the diverse agricultural resources, which contributes to increase employment generation and accelerate economic growth. The entrepreneurship promotes the economic growth and balanced development in the region.

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