

# **Present status, problems and prospects of horticulture in Goalpara District, Assam**

**Dr Bonti Bordoloi**

Geography Department, Bikali College, Dhupdhara

**Bichitra Saha**

Dept. of Computer Science and IT, Bikali College, Dhupdhara

**Dr S N Sarma**

Goalpara College, Goalpara

## **Abstract**

Diversification of agriculture is considered as an important approach for agricultural development in Assam. Having an undulated topography, monsoonal rainfall, fertile soil, large number of peasant community and labour, Goalpara district is one of the important horticulture potential districts in Assam. Besides, the growing of horticultural crops is rewarding to the farmers in terms of return per unit area in comparison to other sector of agriculture. The horticulture sector is expected to contribute significantly for food and nutritional security, employment opportunity and poverty alleviation in the district. Goalpara district covers an area of 1824 km<sup>2</sup> between 25°53'N to 26°30'N latitude and 90°07'E to 91°05'E longitude experiencing an annual average rainfall of 200-220 cm. The horticulture covers 12.67 percent of the total geographical area of the district in 2011-12 which was increased to 13.08 percent in 2013-14. Production of major horticulture crops viz. tuber crops, spices, fruits and vegetables was 2,88,960 MT in 2011-12 and it increased to 3,25,483 MT in 2013-14.

Though horticulture share is much important in entire agricultural scenario yet systematic, accurate and reliable data are scarce. Here an attempt has been made to highlight the present status of horticultural crops, problems of horticulture and possibilities for economic growth through horticulture in Goalpara district of Assam

### Introduction

Horticulture is derived from the Latin word Hortus meaning 'enclosure' and (Colere meaning to grow or to cultivate) Cultura meaning 'art and science of growing fruits, vegetables, herbs, nuts and ornamental plants (trees, shrubs, flowering plants etc.'. It indicates the cultivation of crops within enclosure meaning thereby a garden cultivation. Therefore horticulture may be defined as the science and art of growing fruits, vegetables, flowers and crops like spices and other plantation crops. The word horticulture was first conceived by Peter Laurenberg and it was used in English language by Phillip in 1678. Horticulture can also be defined as the branch of agriculture concerned with intensively cultivated plants directly used by man for food, for medicinal purposes or for aesthetic purposes. History of horticulture or fruit cultivation have their references in Vedas, Purans, and Upanishads. Oldest fruit is said to be Date Palmas its reference dates back to 7000 B.C., next is Pomegranate (3500 B.C), Grapes (2440 B.C), Mangoes, Banana and Coconut(2000 B.C), Peach and Almond(1300 B.C), Olive(100 B.C). In India Akbar's Lakhbagh in Bihar, Mughal Garden by Mughals, apple orchards in Kullu Valley by Major Bannon and Captain Lee etc are some of the examples of horticulture gardening in earlier days. After the creation of agricultural and horticultural societies in 18th and 19th century, more particularly the Horticultural Society of London (later the Royal Horticulture Society) in 1804 and the Society for Horticultural Science (later the American Society for Horticultural Science) in 1903, horticultural science got a great impetus in research and development.

Diversification of agriculture is considered as an important approach for agricultural development in Assam. Having an undulated topography, monsoonal rainfall and fertile soil, large number of peasant community and labour, Goalpara district is one of the important horticulture potential districts in Assam. Besides, the growing of horticultural crops is rewarding to the farmers in terms of return per unit area in comparison to other sector of agriculture. The horticulture sector is expected to contribute significantly for food and nutritional security, employment opportunity and poverty alleviation in the district. Goalpara district covers an area of 1824 km<sup>2</sup> between 25°53'N to 26°30'N latitude and 90°07'E to 91°05'E longitude experiencing an annual average rainfall of 200-220 cm. The horticulture covers 12.67 percent of the total geographical area of the district in 2011-12 which was increased to 13.08 percent in 2013-14. Production of major horticulture crops viz. tuber crops, spices, fruits and vegetables was 2,88,960 MT in 2011-12 and it increased to 3,25,483 MT in 2013-14. Though horticulture share is much important in entire agricultural scenario yet systematic, accurate and reliable data are scarce. Here an attempt has been made to highlight the present status of horticultural crops, problems of horticulture and possibilities for economic growth through horticulture in Goalpara district of Assam. The study of expansion of area, trend of production may be useful to farmers, agricultural administrators and policy makers.

### The study area

Situated in the south western part of the Brahmaputra valley, Goalpara district covers an area of 1824 km<sup>2</sup> between 25°53'N to 26°30'N latitude and 90°07'E to 91°05'E longitude and experience an annual average rainfall of 2322.5 mm with much concentration in the summer months. Goalpara district though covers a small area of 1824 km<sup>2</sup> it exhibits a mosaic of geomorphologically significant characteristic features such as hills, colluvial plains, undulating piedmont plains, built up plains, low-lying areas, flood plains, wetlands and actively flood affected

areas. The mighty river Brahmaputra is flowing from east to west in the northern side, the Archean massive of Meghalaya is in south, the newly created south Salmara-Mankachar district in the west and Kamrup (South) in the east. Mostly the southern boundary of the district bordering with Meghalaya is hilly area and most part of Lakhipur revenue circle and southern bank of the Brahmaputra in the district comprise flood plain and active flood plain.

### **Objectives**

Main objectives of this study are as follows

- i. To understand the present status of horticultural scenario in Goalpara district
- ii. To study the potentialities and constraints of horticulture production in the study area.

### **Database and methodology**

The base map for the study is prepared based on Indian Topographical Map of 1:50,000 scale and census map from Director of Census Operation, Guwahati. Number of horticultural pockets in the district are visited to acquire first-hand knowledge and information regarding potentialities and problems of horticulture. Secondary data are collected to ascertain the areal distribution of horticulture, trend of production of different commodities, potentials, and hindrance of horticulture expansion etc. All information are compiled using suitable statistical techniques to ascertain the findings and also data are converted to diagrams.

### **Analysis and results**

The horticultural crops occupy a place of special significance not only for economic value but also for human nutrition. Goalpara district is one of the most important horticulture crop grown districts of Assam. There are number of factors which attracts the peasants towards horticulture crops in the district. High yield per unit area (12.50 MT/hectare in 2011-12 and 13.64 MT/hectare in 2013-14) shows a positive growth of horticulture crops. Horticulture crops can be cultivated even in waste lands and undulating land. These types of land is not suitable to grow other agricultural crops. Horticulture crops not only have demand in the retail markets but also there is a great demand in whole sale market and industries as well. In addition, in case of horticulture cultivation labour remains engaged for the whole year. Gogoi and Borah, 2013 observed that one hectare of fruit production generates 860 man-days per annum as against 143 man-days for cereal crops. Some industrial attribute crops and cultural intensive crops like grape, banana and pineapple, generate much larger employment ranging from 1,000 to 2,500 man-days per hectare per annum.

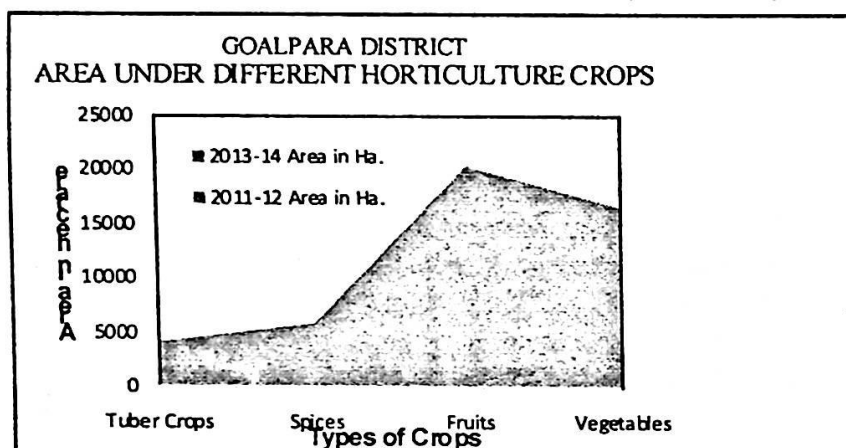
### **Expansion of horticultural crop area**

In India, the area under horticulture crops which was 12.77 million hectares during 1991-1992 has increased to 23.69 million hectares during 2012-13. In Goalpara district, there is a marked expansion of area of horticultural crops excluding area of fruit cultivation. Tuber crops area increased by 18.86 percent though there is a decrease of fruit area between 1911-12 and 2013-14 (Table 1 and Fig 1). Increasing awareness for economic benefits of horticulture among masses, the demand of horticultural crops is rising day by day hence more and more areas are included in horticultural crops.

**Table 1:**  
**Expansion of horticultural area in Goalpara district, 2011-12 and 2013-14**

Horticultural crops	2011-12 Area in Ha.	2013-14 Area in Ha.	% increase / Decrease
Tuber Crops	1935	2300	18.86
Spices	2866	3025	5.55
Fruits	10255	10000	-2.86
Vegetables	8060	8542	5.98

**Fig.1:** Expansion of area of different horticultural crops in Goalpara District



### Increase of horticultural Production

With a rational management of increased crop production leads economic stability in any region. Production of horticultural crops in the study area shows a rising trend. Production of tuber crops are increased by 41.87 percent while fruits recorded 10.28 percent increase during 2011-12 and 2013-14.(Table 2 and Fig. 2)

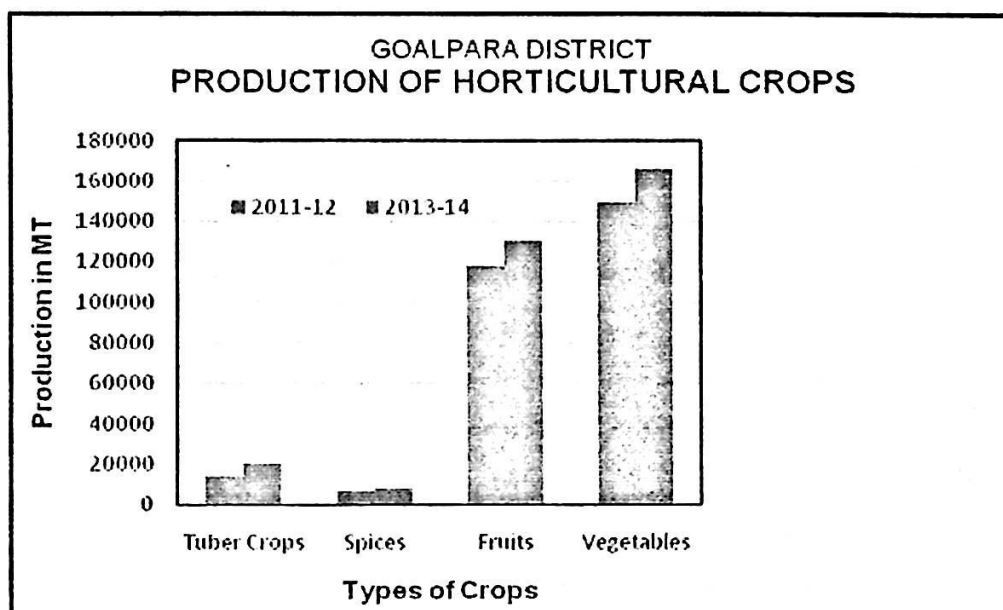
**Table 2:**  
**Production of horticulture crops in Goalpara district**

Horticultural Crops	2011-12	2013-14	% of increase/ decrease
	Production in MT	Production in MT	
Tuber Crops	14499	20570	41.87
Spices	6591	7732	17.31
Fruits	118341	130510	10.28
Vegetables	149529	166671	11.46

Source: District Agriculture Office, 2016

## Horticulture for Sustainable Farm Income and Protection of Environment

**Fig. 2:** Production of horticulture crops during 2011-12 and 2013-14 in Goalpara district



### Crop-wise horticulture production, 2011-12 & 2013-14

With the expansion of horticulture crop area, the production also increased. There is a marked increase in production percentage in some crops while other show a decline trend. Among the crops, onion and potato show a trend of 64.99 and 54.87 percent increased respectively. But the jackfruit and coconut show a negative growth percentage of -46.42 and -24.56 percent respectively (Table 3 and Fig 3). Production of all other crops show an increasing trend during 2011-12 and 2013-14.

**Table 3:**  
**Production of different horticulture crops in Goalpara district**

Horticulture Crops	2011-12	2013-14	% of increase/ decrease
	Production in MT	Production in MT	
Potato	10422	16141	54.87
Topioca	1531	1813	18.42
Sweet Potato	2546	2616	2.75
Onion	757	1249	64.99
Chillies	390	483	23.85
Black Pepper	177	204	15.25
Turmeric	405	423	4.44
Zinger	3264	3629	11.18
Garlic	603	749	24.21
Corriander	812	812	0
Orange	4489	4722	5.19
Pineapple	6968	7713	10.69



Papaya	7572	8415	11.13
Banana	64073	74077	15.61
Assam Lemon	1373	1971	43.55
Coconut	3041	2294	-24.56
Arecanut	3209	3354	4.52
Guava	3294	3406	3.4
Litchi	3195	11985	275.11
Jackfruit	19141	10266	-46.42
Mango	1581	1787	13.03
Kharif crops	47607	42003	-11.77
Rabi crops	111922	124668	11.39
Others	593	1316	121.92

Source: District Agriculture Office, 2016

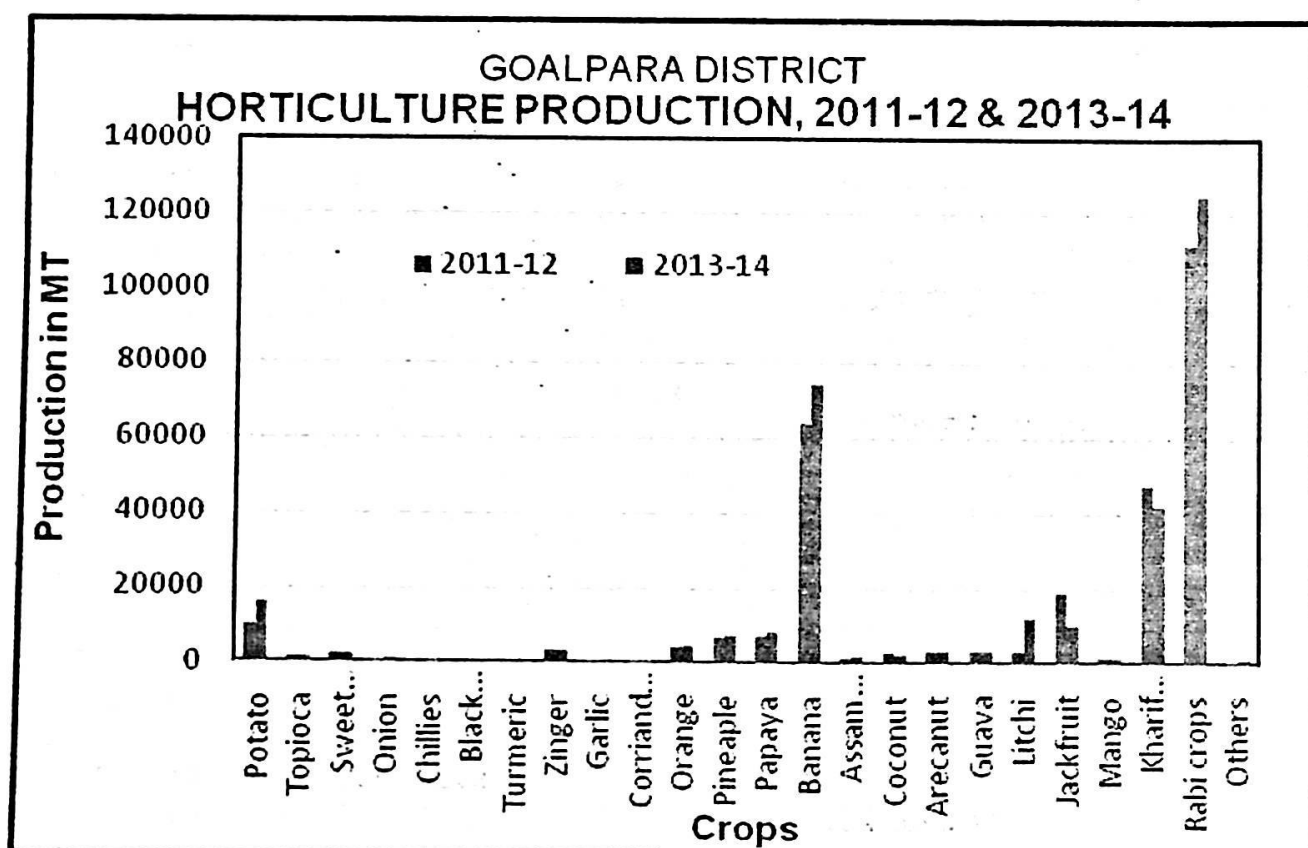


Fig.3: Crop-wise production trend of different horticulture crop in Goalpara district

#### Problems in horticulture

Though there are moribund problems in horticulture in the district, the major problems are summarised as follows:

- Poor cultivation practices and scarcity of trained manpower

- Problems of processing and marketing facilities
- Inadequate investment for long gestation Period
- Dearth of insurance coverage and lack of awareness

### Conclusion

In view of the practical significance and academic importance of horticulture crops in Goalpara district, an attempt has been made here to put forward some conclusions and suggestions based on data analysis, field observation and experiences gained in this work

- There is marked expansion of horticultural area in Goalpara district. More areas should be incorporated to strengthen the horticulture crops.
- The rising trend of horticultural production is observed during study period
- Coconut, jackfruit and kharif crops shows decline in production during the study period.

### Suggestions

- Effective management and monitoring mechanism should be developed by the agriculture department
- Peasants should be trained to get more production and scientific cultivation
- Organic farming practice should be developed
- Processing centre should be established.
- Proper marketing mechanism will benefit the peasants to a great extent
- Insurance coverage for horticulture crops should make available in easy steps

### References

- Ahmed, A H, 2012: Horticulture: A Viable Option for Economic Empowerment of Rural Farmers in NER, in Empowerment in Independent India Eds. Baruah A, Singha M G, Das B and Hazarika R, Assam Book Hive, Guwahati, pp 42-50
- Gogoi, M and Bora, D, 2013: Baseline Data on Area, Production and Productivity of Horticulture Crops in North -East and Himalayan States- A Study in Assam, Agro-Economic Research Centre for North-East India, Assam Agricultural University, Jorhat - 785013, Assam
- Government of Assam: Statistical Handbook of Assam, 2011, Directorate of Economics and Statistics, Assam, Guwahati.
- Government of India: Planning Commission 2007: Report of the Working Group on Horticulture, Plantation Crops and Organic Farming for the XI Five Year Plan (2007-12)
- Government of India, 2014: Hand Book on Horticulture Statistics, Ministry of Agriculture, Department of Agriculture and Cooperation, New Delhi
- Government of Assam: District Agriculture Office, Goalpara, 2016
- Gupta, S, 2013: Production and marketing of fruits and vegetables in Punjab: a case study of Patiala district, Ph D Thesis, Punjabi University, Patiala
- Prasad, V M, Lal, SB and Karahana, P K, 2015: Fundamentals of Horticulture, Kitab Mahal, New Delhi