Prospects of floriculture business in north eastern region of India

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Abstract
The use of flower and flower products is increasing everywhere in the world. Thus, the floriculture business is growing and it has become profitable. In India, the business of flower products has not developed as in other countries. There are many factors which have restricted the growth of floriculture business. The liberalization and globalization wave have opened the scope of the business. As a result floriculture has emerged as a good source of income in some states of the country. The North eastern region has entered this sector lately. Assam, the leading state of the north eastern region has required factors for growth of floriculture. Therefore, an attempt was made in this present paper to measure the scope and prospects of floriculture business in the north eastern region of India. For this purpose, in the year 2016, a survey was conducted in some select villages under Hajo circle of Kamrup district. The survey shows that business of floriculture can be the sources of livelihood to many villagers in the region. The survey findings have been highlighted in the paper.

Keywords: Business, Demand, Floriculture, Livelihood, Prospects.

Introduction
The floriculture is getting attraction in the plans in India. The Governments are trying to make this sector attractive by providing necessary infrastructures. Considering the employment potential, export and income generation and profitability, plan outlays have been raised in the successive budget estimates. Mudde (2007) remarked floriculture has prospects in income, employment and production. Dutta (2013) in his study also remarked floriculture has tremendous growth potential in Karnataka.

Assam is gifted by fertile land, suitable climate, reserves of water, forest trees, plants, fruits, flowers, fish and many more important natural resources like coal and petroleum. Because of the high growth of population and presence of large number of migrants from neighboring Bangladesh and Nepal cheap labor is also available in the state. Although, the supply of capital is inadequate, the recent development is encouraging. The agriculture sector alone produces more than 50% of India's tea, which is a major export item. The bell metal and silk industry of the state are taking place in Indian market. The tourism sector is becoming centre of attraction. But the point is that the state is lacking behind the main land of India in respect of agriculture and allied activities even after being in such an advantageous position. This factor results high rate of poverty in the state in comparison to the main lands. It is a fact, before and after independence GOI has not paid serious attention for the uplift of the backward region. Lack of infrastructure (mainly power and communication) is the main restricting factor of economic development of NER. Because of long term negligence, absence of proper planning, lack of local enthusiasm the region, which is rich in natural resources, has been identified as the region of extortion, terrorism, smuggling, extremism, conflicts and drugs/AIDS. Out of frustration the young generations of the north eastern states have joined different militant outfits. Rao (2012) in his study remarked floriculture business has high scope. As there is internal consumption and export potential it can develop farming community.

At the eve of liberalization, privatization and globalization (LPG) and India’s attention for East Asian courtiers it is high time to identify some sectors which can be developed easily and quickly. To reduce the burden of unemployment, underdevelopment and poverty and its resultant terrorism, the state needs a well designed planning. De and Singh (2016) studied prospects of floriculture business in connection to hill districts of India. He found diverse geo-climatic conditions and rich floral biodiversity can develop the floriculture in the hill states including North Eastern Region. The NER has 856 species of orchid out of 1331. These include some very rare and endangered species. This indicates the prospects of floriculture business in the region.

Thus it is observed, floriculture may be one very important productive sector in the north eastern states. All kinds of factors required for floriculture are present in this area. For example, the type of land that is required for floriculture is available in the river sides in lower Assam and tea garden areas in upper Assam. The climate is suitable for floricultural products. If the floriculture activities are done commercially, it can give livelihood to many farm families. In the south Indian states, particularly in Andhra Pradesh, Tamilnadu and Kerala floriculture is becoming a prosperous business.

In Assam, 80 percent of people are Hindu and flower is an essential item in puja parbanas i.e. religious functions. Now, in the cities and towns, even in villages also decoration by flowers and flower items is becoming a fashion among all sections of people irrespective of religion. In the public meetings and festivals also flowers and flower items are used at large. Of late in Hajo and Sonapur area of Kamrup district floriculture is becoming very popular business among the farmers. In Guwahati, a good market of floriculture products is emerging. As there is no sufficient local supply of flower items, it is being imported from...
different places via Kolkata. The present paper attempts to investigate the status and prospects of floriculture business in the north eastern states of India.

**Review of Literatures**
The sense for beautification has developed and use of flower in decoration is found increasing. All sections of the people use flower in different occasions. From the few studies concerning north eastern region it can be said that the floriculture can be a good source of income to many farm families. Our study also indicates that north eastern region including Assam can grow as a centre of floriculture business. Proper studies have not been done to identify the problems and prospects of growth of floriculture business in this economically backward region of the country.

Prajapati (2012) said open field cultivation is a good idea. The process must be clearly linked to the end user. The process like flower cultivation, storage, processing, product development and marketing should have clear chain. As most of the agricultural products are perishable in nature, and flowers are being highly perishable open cultivation must be directly attached to the storage and processing unit. Patwardhan (2012) observed cut flowers have market potential. The export of cut flowers can give good foreign exchange reserve. Misra and Ghosh (2015) observed that the production and business of floricultural products have been increasing consistently. They opined that to make it sustainable business, new strategies must be followed. That can give good results in long run. Gaur (2016) remarked as India is endowed with various types of naturally viable form of nutrients, it will help in growth of organic cultivation. The climate and eco system is also favorable. The country has a very strong traditional farming system. The innovative farmers, dry lands and least use of chemicals can help growing organic farming. As said the north-east and hilly regions of the country dominated by rain fed tribal and subsistence agriculture for a long period is organic by default. Organic farming has high prospects in the region. The availability of required infrastructure, low use of chemicals the limit of the public investment indicates the prospects of organic farming.

Kassa (2017) concluded that environmental concerns are growing because, floriculture requires intensive use of chemical fertilizers and pesticides, disposal of waste materials, and pollution of water bodies and needs more water than in conventional farming. In addition to the thoroughly monitored waste management system the adverse effect of pesticides on the environment includes the effect on non-targeted lives, air pollution, and increased pesticide resistance by targeted pests, water, and soil quality degradation. On the other hand, fertilizers unlike pesticides, are not inherently toxic. Karuppayah (2017) remarked that though India has been identified as centre of different variety of orchids and the country has rich genetic diversity, the research contribution is very limited for the improvement of production and sale of orchid in India. The main reason is that much importance has not been given for development of floriculture. Harisha (2017) also observed various factors restricting the growth of floriculture. In spite of strong productive base, India’s contribution to export of floriculture is not encouraging. The low performance is the result of non availability of proper space, shortage of airlines.

The results, findings and discussions of referred studies establish the fact that there is high demand for flower and flower made products among the people in India. Therefore, floriculture business can be developed in India in general and NER including Assam in particular. If the problems are addressed properly the region in general and the state of Assam can flourish in this field. Our study also shows prospects of floriculture business subject to solution of some constraints.

**Research Methodology**
Data on the general background and farming method of each household in the sample have been collected by interviewing a senior member (usually the head of the household) of the farm family. The data was collected during October to December in the year 2016. For carrying out the interviews and for recording the information given, one Household Schedule of questions was used. In the Household Schedule various questions were put relating to the aspects like reasons for adopting flower farming, way of production, problem of credit, problem of marketing of flower, the sources of inspiration for flower farming etc. The secondary data were collected from various sources like Statistical Hand Books of Assam, Directorate of Economics and Statistics, Govt. of Assam, Directorate of Horticulture and FP, Assam, Agriculture Department, Govt. of Assam, CMIE reports, Mumbai, NEDFI data bank, Guwahati, District Agricultural Officers of concerned districts, Chief Engineer of Engineering division, Department of Agriculture, Govt. of Assam. Personal discussions and interviews with experts and experienced farmers also provided necessary data. The primary data were collected from four villages under Hajo circle of Kamrup district namely Bordodhi, Sattendha Bholma, Kulhati and Abhaipur. The software SPSS was used to tabulate and process the collected data.

**Results**
Following are the summary of survey findings regarding prospects of floriculture NER including Assam.

1. The state of Assam has advantage in becoming a producer, exporter of flowers and allied materials because of its favorable climate to grow throughout the year, cheap labor, good demand for flower, urbanization and urban influence, eco friendly products etc.
2. Religious activities are increasing in the state. In such functions flowers are used. There are thousands of Hindu temples in the state and some of them are very famous. Floriculture is concentrated in Hajo area of Kamrup district. Hajo is well known for the temples namely “Madhav Mandir”, “Kedar Mandir”. In these areas flowers are produced mainly to supply to the devotees of these temples. The present retail market of
flower is also situated near “Sukreswar Mandir” at Guwahati.
3. The process of LPG has raised the demand for flower because of a dramatic change in the life styles of people in India as well as in NER including Assam, especially in metropolitan centers.
4. The traditional flower can be grown in open fields without heavy capital and sophisticated structures. This has encouraged the farmers to do floriculture farming. It was found that the profit per bigh/katha area is more in case of flower than the production of rice or other vegetables. People have started using flower in even small functions like birth day celebration. The use of flower in marriage functions is also increasing.
5. There has been much talk on the future prospects of floriculture. The discussions are going on in various seminars, media. Flowers have been produced with local seeds and small investment. It can be an alternative source of income to the educated youth the region.
6. The demand for cut flowers in cities has increased as the culture of presenting flower bouquets on all occasions is spreading. Florist shops are increasing in the big cities as like in Delhi, Mumbai, Kolkata, Hyderabad, Banglore and Pune. Attractive flower arrangements in corporate offices, hotels, marriage halls, welcoming the guests and passengers with flowers and bouquets in airports and meetings have become the practice in recent years. Presenting flower bouquets to the patients for speedy recovery, best wishes to election winners and winners of sports is also taking place as a new practice. The presence of florist shops near hospitals indicates this trend. In the marriage functions also the couples are now a days blessed with bouquets rather than presenting gifts.
7. As of now, the small and marginal farmers are not undertaking modern floriculture. They are hesitant to take it up due to high cost and the risks involved in it. Still there is scope for motivating them to take it up by providing cost effective technology to produce export quality flowers and take the advantage of the increasing global demands for flowers and earn better incomes.
8. The young farmers in surveyed areas and few other places like Sonapur, Kamalpur, Nalbari are found attracted to production of modern flowers. Sonapur area is becoming a famous plot for nursery. The business of Nursery is developing in Sonapur and Guwahati (Maligaon).
9. Flower production is becoming popular, as female members can also help in the business. The female members can actively participate in this business. Therefore floriculture is becoming a family business in the surveyed areas. Another advantage of this business is that it facilitates multi cropping in agriculture. Service holders and businessmen have also practiced floriculture as it can be done in small scale.
10. Some sample farmers expressed their fear that if demand for flower increases the illegal migrant farmers will enter to this business. As a result the local farmers will suffer. This fear has no valid base.

Discussion
Motivating Factors for Taking Floriculture by Sample Farmers
Ali and Ghafoor (2016) found significant effect of education and infrastructure on losses at a commission agent level. As said education, experience, floriculture area, and picking method; picking time and extension services had a significant impact on losses on farm level.

In the survey it is found that various factors have been attributed by the sample farmers for taking up flower farming as their occupation (Table 1). The most common combination of factors attributed is low cost of cultivation, easy maintenance and good income.

Opinions and Suggestions of the Farmers on Modern Floriculture
Sudhagar (2013) identified some factors to indicate vast opportunity of floriculture business in India. He found a market is growing, where the demand exceeds supply. He also found, due to intense cold, high energy cost, production in most of the European countries is becoming limited during winter months. In comparison to that in India most of the festivals fall during this period. Therefore the demand of flowers remains peak. This point raises the prospects of growth of floriculture in India. Khan and Fazili (2015) also did a SWOT analysis on floriculture in Kashmir. They found the high production costs in developed countries provide opportunity as they rely largely on imports to meet their domestic demand. They concluded that most major flower producing countries at present are industrialized countries and are small in area.

Table 1: Distribution of sample farmers by influential factors

<table>
<thead>
<tr>
<th>The factors</th>
<th>Bordadhi</th>
<th>Sattrala Bhoma</th>
<th>Kulhati</th>
<th>Abhaipur</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>low cost, easy maintenance, good income</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>(50.00)</td>
<td>(43.39)</td>
<td>(41.66)</td>
<td>(42.10)</td>
<td>(45.00)</td>
<td></td>
</tr>
<tr>
<td>Neartness to the market, low cost and easy maintenance, everyday</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>(11.11)</td>
<td>(15.79)</td>
<td>(16.67)</td>
<td>(15.79)</td>
<td>(15.00)</td>
<td></td>
</tr>
<tr>
<td>Good price/motivation of other farmers</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>(5.55)</td>
<td>(15.79)</td>
<td>(8.33)</td>
<td>(15.79)</td>
<td>(11.25)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>19</td>
<td>24</td>
<td>19</td>
<td>80</td>
</tr>
<tr>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td></td>
</tr>
</tbody>
</table>
A wide range of reasons was expressed for this kind of feeling. More than 32 per cent of the sample farmers attributed that taking up of modern floriculture was not possible as their holdings were small and required resources were not available to take up capital intensive activity. However, 4 per cent indicated that modern floriculture was good and one could expect higher yield and returns than traditional floriculture. The rest indicated lack of training and credit facility (Table 2). A majority of the farmers reported that they continued to grow flowers in traditional way due to lack of proper information and training. More than this, they were scared of modern floriculture, as it required lot of investment and there was no guarantee of bigger market for modern flowers, unless, the state gave minimum support price and good infrastructure.

Table 2: Opinions of the farmers on modern floriculture

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Bordadhi</th>
<th>Sadtala Bhma</th>
<th>Kulhati</th>
<th>Abhaipur</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Good, but the initial investment cost of cultivation is high as such only big farmers can take up modern floriculture</td>
<td>4.44</td>
<td>10.00</td>
<td>9.12</td>
<td>5.57</td>
<td>5.08</td>
</tr>
<tr>
<td>2. Good future, but small and marginal farmers don’t have money and knowledge for undertaking modern floriculture</td>
<td>33.06</td>
<td>41.92</td>
<td>42.08</td>
<td>32.03</td>
<td>34.00</td>
</tr>
<tr>
<td>3. Good but proper market is required where higher yield can be expected</td>
<td>26.00</td>
<td>16.08</td>
<td>0.00</td>
<td>23.00</td>
<td>16.98</td>
</tr>
<tr>
<td>4. Not responded.</td>
<td>46.00</td>
<td>44.00</td>
<td>48.00</td>
<td>40.00</td>
<td>47.54</td>
</tr>
</tbody>
</table>

Source: Field survey

Table 3: Opinion of farmers on future prospects of floriculture

<table>
<thead>
<tr>
<th>Opinion</th>
<th>In Percentage</th>
<th>In no of farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intend to stop floriculture due to indifferent attitude of Govt. and high cost of production</td>
<td>21.25</td>
<td>17</td>
</tr>
<tr>
<td>2. Having good future</td>
<td>67.5</td>
<td>54</td>
</tr>
<tr>
<td>3. No future</td>
<td>11.25</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>80</td>
</tr>
</tbody>
</table>

Source: Field survey

Out of the total sample, 84.4 per cent provided some suggestions. Of these, majority of the sample farmers expected that the Govt. should provide sprinkler sets, modern agricultural equipments, pesticides and fertilizers (35.63) at subsidized rates. 25 per cent suggested for permanent market structure. Another 14.37 per cent of the farmers suggested that Govt. should provide minimum support price as markets fluctuates frequently (Table 4). In order to make them to stay in this activity, there was need to introduce a mechanism for affective price support and stability in the production.

Table 4: Suggestions by the Growers for the Improvement

<table>
<thead>
<tr>
<th>Nature of suggestions</th>
<th>Total (in percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt. should provide improved and disease tolerant seeds plants</td>
<td>9.16</td>
</tr>
<tr>
<td>Govt. should provide sprinkler, modern equipments, fertilizers and pesticides in subsidized rate</td>
<td>35.63</td>
</tr>
<tr>
<td>Needs timely market infrastructure and minimum support price</td>
<td>14.37</td>
</tr>
<tr>
<td>not Given any suggestions</td>
<td>15.6</td>
</tr>
</tbody>
</table>

Source: Given any suggestions

Following steps can improve the business in India as a whole and NER in special

1. The yield can be increased by providing technical guidance and supply of improved plants and seeds and by extension to other areas. A separate department is needed to supply the required data on floriculture.
2. The farmers can be motivated for production of Gerbera as the cost of production is low. In view of high demand the growers of ‘rose’ have to be given more support. Appropriate strategy should be initiated for capturing this prospective market.

3. Cooperative farming can be encouraged to realize the economics of scale; minimize price fluctuations and regulate the supply of the flowers with the demands. Scientific and modern baggage should be made available so that the farmers can carry flowers to the market without great loss.

4. Cost-effective technology should be provided to traditional flower growers to improve their quality and compete with modern flower growers. A large amount of Narzi flowers remain unsold. These can be used as fodder to the animals. If proper training is given, these can be used profitably. It can be good source of food to the broiler firms.

5. The Govt. departments like Horticulture and Food Processing, NABARD can provide training to the farmers so that farmers can use the latest and modern techniques of floriculture. Flowers can be used for producing color which may be good and profitable business.

6. The flowers used one time can be used for food/color. Proper training in this regards will help the young farmers. The natural power of the soil is damaged by more use of chemical fertilizers. The use of chemical fertilizers shall have to be restricted. So, the farmers should be given proper knowledge in this regard.

**Conclusion**

Going by the present trends in area, production, exports and enhancements outlays for floriculture developments one can definitely predict a good future of this sector. The rapid urbanization, increase in per capita incomes, change of life styles, information technology and corporate booms are responsible for the rapid growth. The growing popularity of flowers in corporate sector, IT sector, elections, presentation of flowers instead of other materials is another indicator of its future development. If proper policies are adopted by Government departments, Floriculture business can change the picture of some villages in Assam in particular and the NER of India in general. The satellite town-Hajo, situated 30 km from capital city Guwahati has proved that this business can be good source of livelihood to many families in the villages under Kamrup district. There is good prospects of floriculture business. So, the various problems of the flower farmers and sellers shall have to be resolved properly.

**Conflict of Interest:** None.

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