A Study On Present Status Of Betel Nut Growers Of Assam

Durlove Borah

Abstract— India is mainly an agrarian economy and in the agricultural sector, plantation crops started playing a significant role in the economic development of the nation. Among various plantation crops growing in India, betel nut is one of the predominant crops. From this cultivation the local growers find a way of income generation and livelihood security and so it can be said that its production in India has now almost reached a level of self-sufficiency. The current study is based on both primary and secondary data. In this paper an attempt is made to bring out the present status of betel nut growers in the study area using cross-sectional data of 240 betel nut growers of Nagaon district of Assam for the year 2019. The data were analyzed through simple statistical tools and the study revealed that betel nut cultivation is done by marginal and small growers in the study area. The overall status of the betel nut growers in Nagaon district is very good as they have mentioned that the returns from betel nut are quite satisfying for them. Moreover, the study shows that the cultivation does not need any continuous efforts like other crops and the betel nut palm or tree always feed them with abundant fruits (i.e. betel nut).

Keywords— Betel Nut Growers of Nagaon District, Cost, Income Generation, Mixed Cropping, Plantation Crops, Present Status, Returns.

1 INTRODUCTION

The betel nut (Areca nut or supari) is one of the most prominent plantations as well as commercial crops are grown in India. It is the seed of betel nut palm and scientifically known as Areca Catechu. Although the betel nut palm is widely cultivated in China, Bangladesh, Myanmar, Thailand, Malaysia, Indonesia, Philippines and Sri Lanka but India produces the highest betel nuts in the world. In India, betel nut cultivation is mostly done in the states of Assam, Karnataka, and Kerala. These three states share about 83 percent of the total area of production and production of betel nuts in India. Moreover, according to the reports of Directorate of Economics and Statistics, Government of Assam, around 66.73 thousand hectares is under betel nut cultivation which forms around 14.82 percent of all India total betel nut cultivation. Its contribution to total production is around 73.87 thousand metric tons that form almost 10 percent of all India production in 2014-15. The betel nut is produced on a large scale in Nagaon district of Assam. Nagaon district has the highest betel nut production of 12.84 percent of the total betel nut in production in Assam. Here the betel nut cultivation is not only a medium of earning an income of the local farmers but also provides employment opportunities to them. Therefore, in this paper, an attempt has been made to bring out the present status of betel nut growers in the study area.

2 OBJECTIVE OF THE STUDY

The main objective of this paper is to study the present status of the betel nut growers of Nagaon district of Assam.

3 MATERIALS AND METHODOLOGY

The Nagaon district of Assam is purposively selected for the study as highest production of betel nut is found here. The entire study is mainly based on primary data but secondary data are also used. For this study, the primary data are collected through direct interview method with the help of a well-prepared questionnaire to collect the necessary information from 240 sample growers on their betel nut cultivation. These data are collected in September 2019. The data collected from the sample growers are related to their cost or expenditure incurred on betel nut cultivation, production, and revenue earned from it etc. The secondary data are collected from the Directorate of Economics and Statistics, Assam, District Agriculture Office, Nagaon, etc. Data has been also collected from some reports such as the Food and Agriculture Organization (FAO), Horticultural Statistics at a Glance, GOI, etc. Moreover, various books, research journals, research theses, and periodicals are also used to fulfill the objectives of the study. Moreover, the present study involved some economic calculations like productivity, PVR etc. Simple statistical tools like the table, bar diagram, pie diagram, etc. have been used for the analysis.

4 RESULTS AND DISCUSSIONS

4.1 Distribution of Land Utilization by the Sample Betel Nut Grower:

The size of landholding is an important determinant of the productivity of agriculture. It becomes more important in the case of plantation crops like betel nut. If the land size is viable in size there will be intensive cultivation of land which increases the productivity of the land. Distribution of land shows the utilization of land in different cultivation as well as the barren land of the growers. The following figure 1.1 shows the utilization of land by the betel nut growers of Nagaon district in different cultivation –

![Distribution of total household land based on its utilization](image)

Source: Field Survey, September 2019

Fig.1.1 shows that out of total land holdings of the betel nut growers, 46.3 percent of land area used for paddy cultivation, which is highest among the sample growers. Along with this...
36.96 percent of land area used for betel nut cultivation, 6.96 percent land area used for vegetable cultivation and the rest 9.78 percent of the land is used for other purposes.

4.2 Distribution of the Sample Growers based on Betel Nut Garden

In the present study area, most of the betel nut gardens are small in size and it is measured in ‘Bigha’ (a local unit of land size). In the Table 1.1, the distribution of the sample growers based on betel nut garden are shown –

Table 1.1: Distribution of Sample Growers based on Betel Nut Garden

<table>
<thead>
<tr>
<th>Garden Size (Bigha)</th>
<th>Number of Betel Nut Growers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 7.5</td>
<td>234</td>
<td>97.5</td>
</tr>
<tr>
<td>7.5 - 15</td>
<td>06</td>
<td>2.5</td>
</tr>
<tr>
<td>Above 15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>240</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey, September 2019

Table 1.1 shows that out of the total sample growers 97.5 percent growers (234) have betel nut gardens of below 7.5 Bigha land and only 2.5 percent growers (06) have betel nut gardens of 7.5-15 Bigha land. No growers are found having a garden more than 15 Bigha land. This implies that there is no betel nut cultivable garden covering above 15 bighas of land owned by the growers. i.e. the majority of the betel nut growers are marginal and small growers.

4.3 Mixed Cropping System of the Sample Betel Nut Grower

The sample betel nut growers of the study area have done mixed cropping to reduce the risk associated with the betel nut cultivation as these crops can give additional revenue to the growers. In this context, they adopt some mixed crops with betel nut cultivation such as betel leaf, black pepper, vegetable, etc.

Table 1.2: Distribution of sample growers based on Mixed Farming System

<table>
<thead>
<tr>
<th>Mixed Cropping System</th>
<th>Number of Sample Growers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betel nut + Betel Leaf</td>
<td>126</td>
<td>52.5</td>
</tr>
<tr>
<td>Betel nut + Black Pepper</td>
<td>84</td>
<td>35.0</td>
</tr>
<tr>
<td>Betel nut + Vegetable</td>
<td>30</td>
<td>12.5</td>
</tr>
<tr>
<td>Total</td>
<td>240</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey, September 2019

Table 1.2 reveals that out of the total 240 sample betel nut growers 52.5 percent (126) growers have done betel nut with betel leaf cultivation which is the highest among all other mixed farming categories. 35 percent (84) growers have done betel nut with black pepper and 12.5 percent (30) growers have done betel nuts with seasonal vegetables.

4.4 Cost Associated with Betel Nut Cultivation in the Study Area

The labor cost is incurred by the sample growers in the study area only one or two times in a year in cleaning the garden or to clean the betel nut scrubs and trees of the garden. The gestation period of a betel nut tree is five to six years. According to the growers, the first three years required two times cleaning in a year and from the fourth year it required one time cleaning in a year. The prevailing labor wage rate during 2019 in the study area is rupees 300 per day. The use of chemical fertilizer, insecticide, pesticide, and manures are not found in the study area. Moreover, rainfall is the only source of irrigation received by the betel nut growers.

Fig.1.2 shows the production of betel nuts in terms of dry-cured nuts (Kg) in the study area. During the field survey, the data of betel nut production have been collected for three consecutive years viz. 2016-17, 2017-18 and 2018-19. Although the figure shows that the productions of betel nuts are decreasing year after year, the betel nut growers are still earning profits from its production.

4.4 Cost Associated with Betel Nut Cultivation in the Study Area

The level of production can be raised by employing factor and non-factor inputs. The expenses incurred on hiring or buying these inputs is known as the cost of production. The estimation of cost in a production process is important because cost and revenue determine the producer's decision to produce a level of output which earns him a maximum profit (Bahuguna, 2016). In this study, the cost of cultivation of betel nut garden in various stages is briefly discussed with the help of the information provided by the sample growers as shown below –

Establishment Cost: The establishment cost refers to the minimum cost incurred by the producer in establishing his/her production plant in a particular place. In the case of betel nut cultivation, it is the one-time investment in betel nut garden. In this analysis, the establishment cost consists of the cost incurred on land leveling, betel nut seedling or plantation the garden, etc. Although most of the sample growers of the study area did not purchase betel nut seedling or plant from local markets and others, some growers incurred this cost. The prevailing wage rate of labor during 2019 in the study area is rupees 300 per day. The cost of one seedling on an average is 15 rupees and the average number of seedling planted per bigha is 35.

Labour Cost: The labor cost is incurred by the sample growers in the study area only one or two times in a year in cleaning the garden or to clean the betel nut scrubs and trees of the garden. The gestation period of a betel nut tree is five to six years. According to the growers, the first three years required two times cleaning in a year and from the fourth year it required one time cleaning in a year. The prevailing labor wage rate during 2019 in the study area is rupees 300 per day. The use of chemical fertilizer, insecticide, pesticide, and manures are not found in the study area. Moreover, rainfall is the only source of irrigation received by the betel nut growers.
Other Costs: The other costs associated with betel nut cultivation are the cost of harvesting the nuts, transport, etc. The harvesting cost includes the cost of labor for plucking and collecting. On the other hand, transportation cost refers to the cost involved in carrying the sack of products from the garden to the local market. But as in the study area, the number of growers who sold betel nut per unit basis (P/ton, a local unit of measurement of betel nut) is absent, so these costs are not present. The costs of betel nut production are calculated only for the marginal and small growers who sold as whole garden to the traders in the study area –

Table 1.3: Estimated Costs of the Marginal and Small Growers

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Nature of Cost</th>
<th>Estimated Cost (Rs)</th>
<th>Marginal</th>
<th>Small</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Establishment Costs</td>
<td></td>
<td>1465.56</td>
<td>5015.36</td>
<td>3240.46</td>
</tr>
<tr>
<td></td>
<td>Land Revenue</td>
<td></td>
<td>227.64</td>
<td>848.69</td>
<td>538.16</td>
</tr>
<tr>
<td></td>
<td>Land Leveling</td>
<td></td>
<td>980.34</td>
<td>1966.67</td>
<td>1473.5</td>
</tr>
<tr>
<td></td>
<td>Betel Nut Seedling or Plantation</td>
<td></td>
<td>257.58</td>
<td>2200</td>
<td>1228.8</td>
</tr>
<tr>
<td></td>
<td>Labour Cost</td>
<td></td>
<td>1075</td>
<td>2666.67</td>
<td>1870.83</td>
</tr>
<tr>
<td></td>
<td>Other Costs</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Harvesting Costs</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Transportation Costs</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total Cost (A+B+C)</td>
<td></td>
<td>2540.56</td>
<td>7682.03</td>
<td>5111.29</td>
</tr>
</tbody>
</table>

Source: Field Survey, September 2019 (figures in brackets indicate Percentage)

Table 1.3 shows that the average cost of betel nut cultivation of the sample growers in the study area is 5111.29 rupees. Almost 63.39 percent of this cost constitutes the establishment cost. Under this cost category, labor cost on land leveling occupied the highest proportion which is 28.83 percent and the minimum cost is on land revenue which is 10.52 percent. Moreover, 36.61 percent of the total cost constitutes the labor cost of labor for cleaning the garden once or twice a year. But it is observed that the whole garden sellers are not incurred the harvesting and transportation cost in the study area. However, the cost incurred by small betel nut growers is slightly higher than the marginal growers.

4.5 Total Revenue of the Betel Nut Growers in the Study Area

In economics, the revenue refers to the money receipts of a producer from selling its output. In the words of Dooley (2003), the revenue of a firm is its sales receipts or money receipts from the sale of a product. Total revenue is estimated as a product of quantity sold (Q) and the price of the good (P). In the present study, the revenue from betel nut cultivation is also calculated in the same way. The average quantity sold of betel nut in the study area is 378.85 kilogram and the average price of the betel nut ranges from Rs 15-25 per kilogram. Hence, it will be rational to take the price per kilogram as an annual average price, which is Rs 20 for the year 2018-19. But the price fluctuated every season.

Table 1.4: Estimated Revenues of the Marginal and Small Growers

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Types of Grower</th>
<th>Estimated Revenue (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Marginal</td>
<td>9155.56</td>
</tr>
<tr>
<td>2</td>
<td>Small</td>
<td>33666.67</td>
</tr>
<tr>
<td>3</td>
<td>Average</td>
<td>21411.11</td>
</tr>
</tbody>
</table>

Source: Field Survey, September 2019

Table 1.4 shows that the average per bigha revenue earned by the marginal and small betel nut garden growers in the study area is 21411.11 rupees. It is observed that the small garden growers earned more revenue than the marginal garden growers in the study area. This is because, as the garden size becomes bigger it will have more betel nut trees, resulting in more output and more revenue. The distribution of total income earned by the sample growers in the year 2018-19 from betel nut cultivation in Nagaon district are shown with the help of the following figure 1.3-

Fig. 1.3: Distribution of Sample Grower’s Income from Betel Nut

Source: Field Survey, September 2019

Fig.1.3 reveals that out of total sample growers 68.75 percent (165) grower’s income from betel nut is below Rs 10000, which is highest among all other income categories. Moreover, 18.33 percent (44) grower’s income ranges from Rs 10000-20000, 7.5 percent (18) grower’s income ranges from Rs 20000-30000 and 3.75 percent (9) and 1.67 percent (4) grower’s income ranges from Rs 30000-40000 and above Rs 40000 respectively. But as the cost of production of betel nut cultivation is low, so the majority of the growers always in a position of earning profit.

4.6 Profit Volume Ratio (PVR) of the Sample Growers

The Profit Volume Ratio (PVR) is one of the important measures of profitability of a firm or producer. It is also known as ‘contribution ratio’ as it shows the relationship between contribution and sales value of the firm. i.e.,

Profit Volume Ratio = Contribution / Sales Value × 100

Where Contribution = Sales Value – Variable Cost

In the present study, except ‘land revenue’ given by the betel nut growers, all other costs are taken as a variable cost for the calculation of Profit Volume Ratio. Higher the PVR higher will be the profit enjoyed by the betel nut grower and vice versa.

Table 1.5: Profit Volume Ratio (PVR) of the Sample Growers
Table 1.5 shows that both the minimum and maximum profit volume ratio is highest in 7.5-15 bigha gardens. Similarly, the average profit volume ratio is also the highest in the same category. This implies that with an increase in betel nut garden size, the profit volume ratio of the growers also increases.

### 4.7 Productivity of Betel Nut Gardens in the Study Area

Productivity is an essential factor in every production process. It indicates the ratio of output to the input used in the production. If the productivity is higher than it implies that more output is produced using the same level of inputs. Although productivity is measured in quantity terms, due to lack of common physical unit of measurement, the monetary terms of inputs and outputs are used in the present study. The productivity of the betel nut gardens in Nagaon district is calculated with the help of the following formula –

\[
\text{Productivity} = \frac{\text{Output (Sales Value)}}{\text{Input (Cost)}}
\]

Table 1.6 shows the productivity of betel nuts in the study area and to calculate the productivity, the betel nut gardens are divided into three categories. In the case of below 7.5 bigha gardens, the minimum productivity is found 0.78 and maximum productivity is found 11.02; while the minimum productivity is 3.25, maximum productivity is 26.5 and average productivity is found 5.88 in case of 7.5-15 bigha gardens. The maximum productivity is found in 7.5-15 bigha gardens which are 26.5. This implies that an increase in garden size also increases the productivity of betel nuts.

Table 1.6: Productivity of Betel Nut Gardens

<table>
<thead>
<tr>
<th>Garden Size (Bigha)</th>
<th>Minimum Productivity</th>
<th>Maximum Productivity</th>
<th>Average Productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 7.5</td>
<td>0.78</td>
<td>11.02</td>
<td>3.6</td>
</tr>
<tr>
<td>7.5 - 15</td>
<td>3.25</td>
<td>26.5</td>
<td>5.88</td>
</tr>
<tr>
<td>Above 15</td>
<td>-</td>
<td>-</td>
<td>-</td>
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Source: Field Survey, September 2019

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### 4.8 Uses of Produced Betel Nuts in the Study Area

The betel nut and the betel leaf are the most used complimentary pair entered India during the early Gupta period and merged into our culture. The popularity of this pair increased steadily and became an essential commodity for us. According to Ahuja and Uma (2011), betel nuts are regarded as an auspicious symbol of hospitality and it reflects a moral, social and legal commitment. Moreover, the demand for betel nuts and its chewing products is steadily increasing in India as well as in many other countries of the world. For these reasons, the growers of Nagaon district have produced a large number of betel nuts. As reported by the sample growers of the study area, the main uses of the betel nut cultivation can be represented with the help of the following figure 1.4 Fig.1.4: Distributions of Betel Nuts According to its Uses in the Study Area

The figure 1.4 reveals that, out of total sample growers of the study area, the majority of the growers, i.e., 77.91 percent (187) growers produced betel nuts for the preparation of supari as these are heavily demanded in the local as well as national market. However, 10.83 percent (26) growers produced it for color production. The red varieties of betel nuts are used for color productions that are sold in different packets in the market. 8.34 percent (20) growers produced it only for home consumption as it became an essential part of local culture and heritage, and only 2.92 percent (07) growers produced and used it for making various items of art and craft. Recently interest in art in betel nuts has been generated and some art items are available in the market. Moreover, the handicrafts made with betel nuts are also seen in the markets.

### 5 CONCLUSION

From the above study, it is seen that the overall status of the betel nut growers in Nagaon district are very good as they have mentioned that the returns from betel nut are quite satisfying for them. The cultivation does not need any continuous efforts like other crops and the betel nut palm or tree always feed them with abundant fruits (i.e. betel nut). Moreover, the average costs of cultivation of marginal and small growers of the study area are 5111.29 rupees, whereas the return from it is 21411.11 rupees. Hence, the betel nut growers always enjoyed profit from this cultivation.

### 6 REFERENCES


Agriculture Statistics on Areca Nut (https://des.assam.gov.in)


