Forming System and Income Security: A Case of Areca Nut Farmers’

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Abstract
India is an agriculture-based country, most of the people depending on that, for leading their life. In a rural area, people will be followed a variety of farming system, in that areca nut is one of the major commercial crops in Karnataka and it has the never-ending list of uses. It took place in all religious, social, and cultural functions. Although the production of areca nut will be localized in a few states, the commercial product of areca nut is widely distributed all over the country and will be consumed by all classes of people. Areca nut, economy is currently facing crises from several fronts keeping this background the present study was in hiriyuru. Due to the reason of rainfall, the production will be very less, in that situation government will support to the areca nut farmers, in terms of providing subsidies or bank loans and controlling the price fluctuation, these factors positively impact on development farming system of areca nut farmers. Recurrent crash in the prices of areca nut and server past and disease attacks on the palms are the serious problems in the traditional areca nut-growing regions besides, scarcity of labor or carry out various form operations in time becoming a major deterrent in areca nut cultivation in recent years. This situation called for intervention by the government, in the form of minimum support price (MSP) to give stability to the areca nut economy during 2002, similarly, unplanned areca nut explanation, impact surge, recurrent legal intervention in the use of some of the value added areca nut product like gutka and pan masala have treated the survival of areca nut economy. These have put in jeopardy the livelihood security of millions of farmers and workers depending on areca nut cultivation and marketing in India

Keywords: areca nut, mixed crop, farming system, income security, agriculture.

Introduction
Agriculture is the oldest occupation and backbone of the Indian economy with accounts for 18% of gross domestic product (GDP) and provides employment opportunities to all over India. India is agriculture based country. Where more than 50% of the population depends upon agriculture. This agriculture structure, the main source of income agriculture is not only restricted for rural people even urban people also depend on that. Most of the Indians are directly (or) indirectly depending on agriculture, some are direct with the forming and some other people will doing a business by the use of agricultural products, for getting a more profitable and to meet goals of the government. The government will give support for when of land, bank loans, and other machinery to the small former along with this we can expect some important improvement in Indian economy. Areca nut is a commercial crop in India and, it is popularly known as “betel nut”(or)”supari” it is commonly used for mastication consumed by all sections of the populations across, caste, class, region, religion, age, gender, in India. Areca nut forms an essential requisite for several religious and social ceremonies is commercial and economic importance.
According to food and agriculture organization (FAO), the world production was around 0.64 MT. Asian contribution is the largest current production of areca nut is in an area of 92.5 thousand to during 2014. Areca nut is one of the traditional areca growing country in the world at the time of 1947, part of India nearly half of the areca nut was coded to provision. As a result the country faced a shortage in supply of areca nut during the early fifties which recompensed by import of areca nut from Sri-lanka and Malaysia. In the beginning, the government of the day, therefore, encouraged the expansion of area under areca nut cultivation on a large scale and provided liberal financial assistance through cooperative and scheduled commercial banks. Areca nut is a sole crop, does not fully utilize natural resources such as water, space, and sunlight, mixed cropping is a strategy which the formers use to this strategy, for optimum utilization of available natural resources, this helps to increase income and reduce its cost as well as variability. Areca nut along with the mixed crops and dairy is together called as “areca based integrated farming system” has attracted the attention of the researcher as well as policymakers due to its significance form the income security point of view.

Review of Literature

The areca nut is an important crop in Indian agriculture; it is consumed by all section of the population. Across Caste, class, region, religion, age, and gender in India. The government provides financial support to the areca nut farmers in India for growing a large quantity of areca nut and increasing an economic strengthening of the rural farmers. (Shambhavi, A, T.S) The cultivation of crop is scattered in many states of Karnataka, Kerala, Assam, which together accounts for 89 percent of the total area and 84 percent of total production of areca nut in the country, Areca nut cultivators of Karnataka generally pay adequate attention to the selection of land planting technique; inter-cultivation, manuring, plant, protection measures and curing process (Anand S, color). The income generated from different areca based farming systems helped the majority of the farmers to cross the poverty line, indicating the role of such farming systems in the ensuring association between diversification in the income sources and income variability (Aditya KS & et al).

Objectives of the Study

1. To study the forming system and income security of areca nut formers.
2. To identify the problems faced the areca nut formers.

Methodology of the Study

The study will be covering both types of data collection, sources, i.e., primary data and secondary data. In primary data we surveying on areca nut farmers through that, taking the information about areca nut farming and income security level of areca nut farmers, in the other hand of secondary data will also collect through journals, magazine, etc.

Primary data: It is original data directly collected by the respondents through the filling of the questionnaire from the respondents, interaction with them in the study we are going to surveying 30 respondents in the geographical area of hiriyur.

Secondary data: The data, which is already collected by someone through existing data the study, will be going to collect the information like magazines, newspapers, journals, government publications, etc.

Scope of the Study

The study will be covering income security of areca nut farming; the result of the study will provide information about the trend in area and productivity level of areca nut in the geographical area of hiriyur town. The study also helps to understand the marketing and processing pattern followed in that town. The farming cost of areca nut profit margin and price spread is creating relevance to the policymakers to device measure that help overcome problems in marketing of areca nut and, that also indicates the efficiency of areca nut market the result of the study will help to farmers, market factionaries and processing industries, etc.

Need for the Study

The oldest occupation in the world and backbone of our Indian economy is agriculture.
In an agricultural economy, the areca nut is the major commercial crops yield and provides income security to the farmers. But the problems faced by areca nut farmers are significantly influenced on yield and income security to the farmers. Nowadays in an agricultural sector the mixed crop creates new opportunity to the farmers to grow. The present study attempts to address the role mixed crop as a compensatory measure which acts as an alternative income generation activity.

Problematization

The study will analyze the problems experienced by the areca nut growers in areca nut cultivation. As per the enquiring, the farmers have reported many problems, whereas they have quoted same problems about the irrigation, use of organic manures pest and disease control, interpreting, harvesting, and marketing. The major constraints faced by the areca nut growers were intercropping decreases the yield of the main crop, Did not get minimum price to the areca nut by middle man, possibility of transferring diseases from intercrop to the main crop, lack of knowledge about pest and disease, load shading and shortage of water in April and May these are all problems faced by areca nut farmers.

Limitations of the Study

1. The accuracy of the data majorly depends on farmer’s response.
2. The study essentially a micro level study.

Data Analysis and Interpretation

Table Demographic Profile of Areca nut Farmers

<table>
<thead>
<tr>
<th>Age</th>
<th>Fq</th>
<th>%</th>
<th>Education</th>
<th>Fq</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-35</td>
<td>16</td>
<td>27</td>
<td>Illiterate</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>35-45</td>
<td>24</td>
<td>40</td>
<td>SSLC</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>45-55</td>
<td>18</td>
<td>30</td>
<td>PUC</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>55-65</td>
<td>02</td>
<td>03</td>
<td>Graduate</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Fq</th>
<th>%</th>
<th>Gender</th>
<th>Fq</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>46</td>
<td>77</td>
<td>Male</td>
<td>46</td>
<td>76</td>
</tr>
<tr>
<td>Unmarried</td>
<td>14</td>
<td>23</td>
<td>Female</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey

Gender

The above table shows the gender information regarding farmers. Here, in this case, the maximum respondents will be male that is in the portion of 76%, most of the respondents in farming are male, because of the fall under education, unemployment, self-reliant, etc, these factors influencing on the people for depending on the areca nut farming system.

Age

The above table the information regarding the age of areca nut farmers, here most of respondents of areca nut farming is belongs to the 35 to 45 years old age people. The data shows below 55 age group people 97% of the respondents they are in areca nut farming.

Education

The above table shows the educational qualification of the areca nut farmers, in that we are observing most of the people having minimum education like SSLC and PUC qualification and remaining farmers are illiterate. We are going to observe the education qualification of the areca nut farmers, through the survey identified that most of the rural farmers having interest towards education, but due to some reasons they depend on that agriculture.

Marital Status

The above table helps to know about the marital status of the areca nut farmers, here, in this case, most of the respondents were married, for their
life leading purpose they are depending on areca nut farming system and also they lead satisfactory life from this farming system. Another factor is, some unmarried people will be doing the areca nut cultivation due to a reason of the unemployment, and self-employment, the income level of areca nut plantation, etc. these factors influencing on the unmarried people also depending on the agriculture.

<table>
<thead>
<tr>
<th>Farming system</th>
<th>Fq</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areca nut + Cocanut</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Areca nut + Banana</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Areca nut + Dairy farming</td>
<td>01</td>
<td>03</td>
</tr>
<tr>
<td>Areca nut + Betel</td>
<td>03</td>
<td>10</td>
</tr>
<tr>
<td>Areca nut + Flower plantation</td>
<td>04</td>
<td>14</td>
</tr>
<tr>
<td>Areca nut + Vegetables</td>
<td>01</td>
<td>03</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey

### Table Farming system and Income Security

<table>
<thead>
<tr>
<th>Farming system</th>
<th>Fq</th>
<th>Cost</th>
<th>Sales</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areca nut + Cocanut</td>
<td>10</td>
<td>110167</td>
<td>225667</td>
<td>115833</td>
</tr>
<tr>
<td>Areca nut + Banana</td>
<td>11</td>
<td>72833</td>
<td>207500</td>
<td>123333</td>
</tr>
<tr>
<td>Areca nut + Dairy farming</td>
<td>01</td>
<td>61167</td>
<td>123833</td>
<td>62667</td>
</tr>
<tr>
<td>Areca nut + Betel</td>
<td>03</td>
<td>21167</td>
<td>52333</td>
<td>34500</td>
</tr>
<tr>
<td>Areca nut + Flower plantation</td>
<td>04</td>
<td>35000</td>
<td>101667</td>
<td>66667</td>
</tr>
<tr>
<td>Areca nut + Vegetables</td>
<td>01</td>
<td>27667</td>
<td>74000</td>
<td>46333</td>
</tr>
</tbody>
</table>

### Graph 1 Areca nut farming system

**Farming system and Income Security**

The above table and graph show the information regarding the cost incurred for growing the mixed crop in areca nut plantation. Here we know the variety costs incurred for producing the variety crop, as mixed crop and also sales revenue as well as the return will be representing. By observing the above statistics, we know that which one is better among these crops, which one gave more return with less cost and, also here we observing areca nut + coca nut is better-mixed crop as compared to other forming systems.

### Findings

**Determinants**

The study has identified that the major influencing factors on farmers depending on areca nut farming system, are self-reliant or self-employment, income level, illiteracy, etc. Regarding farmers satisfaction, the selected variable is safety and security from areca nut as compared to other crops.

### Dependency

The study has observed the relationship between gender and, satisfaction level, in case of depending on the areca nut farming system, more than 76% of male respondents depend on areca nut farming in hiriyuru.

**Problems of Farmers**

The study has observed, some problems will be faced by the areca nut farmers like marketing, rainfall, irrigation, technology, warehousing etc. Most of the farmers depending on the rain for doing agriculture, but rainfall is the major problem for them.

**Mixed Crop**

Some farmers will be adopting some mixed crop with areca nut cultivation, those are coconut, banana, betel, flower plantation etc.

**Satisfaction, Willingness, and Expectation**

The study would find out most of the respondents having satisfaction regarding price and they want to continue this farming system in their entire life. Some of the farmers try to give suggestions to others and motivating them for growing areca nut. The study has observed some poor farmers will be expected some facilities like subsidies and bank loans etc., for making better cultivation in future days.
Suggestions
Problems Faced Areca Nut Farmers

By the research study, we identified, some problems faced by areca nut farmers, such as rainfall, finance/loan, irrigation, new technology, warehousing facility, good marketing conditions, brokers interventions, transportation, etc.

Government Intervention

Government intervention is very important, in the form of providing subsidies and bank loans are extremely important for the poor farmers for further expansion of areca nut cultivation.

Conclusion

The present study, observed that areca nut is an important source of livelihood for the rural peoples whose lands are not suitable for other food crops cultivation. Thus, areca nut becomes an important source of livelihood and acts as the dominant source of income to the cultivators. By farming the research study we are getting the proper information, regarding areca nut farming system. Most of the farmers depending on that due to the reason of the livelihood, income level, cost, and risk factor also impact on that. In addition to areca nut cultivation, in the study areas, other allied agriculture activities were also cultivated which in turns adds their income; their socio-economic conditions would have been improved provided are being more literate. As the current study was conducted in rural areas, there are so many problems faced by areca nut farmers, like technology, rainfall, irrigation, marketing, warehousing etc. and also the major problem is finance. Hence, areca nut is cultivated by using simple and traditional method without consuming modern inputs like fertilizer, pesticide, hybrid seed, irrigation etc. here in this farming system most of the farmers will be having a mixed crop cultivation also for reducing the risk, as well as cost and they will be getting more income from the mixed crop up to some certain period. But the rainfall is the major problem every farmer. In terms of income, per unit seller is getting more profit than the whole garden seller, areca nut cultivation is providing more than 50% income of the total income. It will give safety and security for every farmer, for a longer period of time in their life. Through the questionnaire or survey, we observed, most of the farmers having satisfaction towards areca nut farming system they won’t continue this cultivation in their entire life. Due to the reason they are getting more income as compared to other crops, they will be having willingness towards areca nut for the suggestion to others for cultivating the areca nut farming system.

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