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Problems and Prospects of Betel Leaf Farming: A Case Study of Alipurduar District, West Bengal

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Abstract*:*

Betel leaf is popularly known as "paan in India. Betel leaf is grown in tropic and sub-tropic. It is a cash crop. In India betel is cultivated in the state of West Bengal, Orissa, Tripura, Uttar Pradesh, Madhya Pradesh, Maharashtra, Andhra Pradesh, Tamilnadu, Karnataka, Kerela, etc. It is one type of horticulture farming through which farmers can earn huge money from a piece of land. Betel vine cultivation produced income throughout the year. Huge capital investment is also required for betel leaf cultivation. In return farmer also gets maximum profit in comparison to other cultivation. But sometimes farmers face loss by natural calamity and insect disease. In India, West Bengal is a leading betel leaf-producing state. Many farmers of the Alipurduar district of West Bengal maintain their livelihood by betel-leave cultivation. The present paper is to examine the problems and prospects of the betel leaves cultivation of Brajerkuthi village of Alipurduar district of West Bengal and also suggest some suggestions to overcome the problems.

Keywords*:* Agriculture, Betel, Cultivation, Livelihood, Poverty

Introduction:

Betel vine is a perennial, evergreen, dioeciously shade loving creeper commonly known as paan, belongs to the family piperaceae. The crop is most probably a native of Malaysia (Chattopadhyay and Maity, 1990). The significance of betel leaves has been explained in the ancient literature in relation to every sphere of human life including social, cultural, religious and even day to day life, which is very much relevant even this day (Guha, 2006). The vast economic potentiality of the crop can be adequately established by the fact that about 15-20 million people consume betel leaves in India on a regular basis (Jana, 1996). The area under cultivation in India is more than 55,000 hectares with annual turnover Rs. 9000 million every year.

In West Bengal betel leave is grown in almost all the districts except the hilly tract of Darjeeling and Kalimpong and dry areas of Bankura and Purulia district. On an average about 66% production of the country is contributed by the state of West Bengal where it is cultivated on about 20,000 hectare comprising about 4-5 lakhs boroj. The crop provides a national income to the tune of 6000- 7000 million every year providing livelihood to 25 million farm families of the country and at the same time it is also provides an income of Rs.800-1000 million to the state of West Bengal. Betel leaves worth about Rs. 30-40 million are exported to the Middle East and European countries (Guha, 2006).

The main constraint of betel vine cultivation is its susceptibility to various diseases often causing huge economic loss to the farmers. The most humid shaded condition favorable for crop growth also favors diseases development. A larger section of the people of northern districts of the West Bengal is regular chewer of betel leaves. However, due to non availability of improved variety and lack of proper management practices, the huge market is dependent on the supply received from the Southern district of West Bengal. Various Government and non-government national level organizations like National horticulture Mission, National horticulture Board, are providing subsidies to the growers for encouraging betel vine cultivation in various districts of West Bengal for boosting production as well as income of the farming communities.

Study Area

For the present study Brajerkuthi village of Alipurduar district of West Bengal has been selected. Alipurduar district has six CD block namely Kumargram, Alipurduar –I, Alipurduar –II, Falakata, Kalchini, Madarihat- Birpara. The present study area Brajerkuthi is falls under Alipurduar –II CD block. The study area is surrounded by Coochbehar district in east and south, Purba Chikliguri village in the west and Dakshin Parokata in the north. It has a total population of 2107 as per 2011 census. The selected village is fully dependent on agriculture. Most of the farmer belongs to marginal category with a land holding of 1-2 acre.

Objective of the Study

The present paper seeks to analyze the problem and prospect of betel farming of Brajerkuthi village under Alipurduar -II block of Alipurduar district. The main objectives of the study are as follows:

1. To know about the physical and economical support of betel vine cultivation.
2. To examine prospects of betel leaf farming.
3. To find the problems in betel leaf farming faced by the farmers in the study area.
4. To suggest some suggestion for overcome the problems.

Data Source and Methodology

As the present study tries to find out problem and prospect of betel leaf farming of Brajerkuthi village of Alipurduar-II Block, it requires field visit and household survey in the village.

Data were collected from both primary and secondary sources. The survey work has been carried out by using purposive sampling techniques. Samplings are made on the basis of requirement. Primary data has been collected from 100 household of Brajerkuthi village through schedule method. 50 household were selected who are engaged in betel leaf cultivation and 50 household without betel leaf cultivation. But all 100 household has land holding below 2 acre. Secondary data has been collected from different published and unpublished books and journals. Data also collected from of Alipurduar-II Block Development office and office of Parokata G.P. The data and information thus collected through extensive work and from various secondary sources are thoroughly evaluated, processed and analyzed using some statistical techniques and represented by some cartographic methods for presentation in the present paper. Data were analyzed by the percentage of respondents.

Favorable condition requirements for betel leave cultivation:

Soil and climate: Betel leaf can be grown in a wide range of soils such as sandy loam, heavy clayey loam. The clay soil is most suitable for farming the betel leaves. For farming the betel leaf fertile soil with better draining properties and also having rich organic matter is required. The betel leaves need a soil with balanced Ph. Saline or alkaline soil are not suitable for betel leaf farming. Water logging in the soil is harmful for this cultivation. Betel leaf grows very well in tropical climatic region with high rainfall and shady places. For good growth of betel leaf well and plenty sunshine and humid climate is required. The plants can tolerate extreme climates like heat or cold, but do not grow well.

Preparation garden: Preparation of garden for betel leaf cultivation is most important step. For this purpose land selected for garden should be well prepared. At the initial step soil needs to plough. All the weeds and waste material of the previous crop should be removed. The soil should be supplied with farmyard manure so as to increase the soil fertility. After this, garden structure in the prepared land should be built with bamboo pole and bamboo stick. The roof of the garden is shaded with long dry grass or paddy straw. Boundary wall of the garden is prepared with jut stick or local grass. Such type of garden is called' Pan Boroj' in local language. Betel vine is planted in liner pattern. Between two lines minimum 45 cm distance should be left. Betel vine is planted in new garden in the month of March to April.

Manures and fertilizer: The nutritional requirement of betel vines depends on the variety, soil and the climatic condition of the region. Before applying the fertilizers a soil test should be done. So, that we can know the requirements of fertilizers and nutrients required for the soil. Along with organic manure the chemical fertilizers should also be applied to the soil. After fertilization, light irrigation should be given. Appropriate amounts of nitrogen, potassium and phosphorus should be applied to the crop.

Irrigation: At the time of planting first irrigation should be given. Based on moisture content of the soil irrigation should be arranged. Generally irrigation provided during the dry season. In every year irrigation is needed for the month of March, April and May.

Expenditure: Betel leaf cultivation is capital intensive farming. It is also labour intensive farming. In every step of the betel leaf farming huge capital invest is required. At initial stage construction of a rectangular shape boroj is required for closed system betel leaf farming. For this purpose Rupees 2-3 lakhs/ ha is required. It come down to about Rupees .8 to .9 lakhs/ha in the subsequent years.. Beside this Rupees 1-1.5 lakhs/ha is needed for labour, irrigation, manures and fertilizer.

Result and discussion: The present study carried out with mainly primary data which were collected from the study area. Collected data were arranged, tabulated, and found some result. This result is discussed as follows:

Table No. -1:- Age group of betel cultivators

Age group (Years)	20-30	30-40	40-50	50-60	> 60
No. of cultivator	9	14	13	10	4
% of cultivators	18	28	26	20	8

Source: Primary data collected by the author, 2021

From table no -1 it can be seen that 28% cultivators are in 30-40 years age group, 26% are of 40-50 years and 20% are of 50-60 years. And rest 18% and 8% are in the age group of between 20-30 years and more than 60 years respectively. This indicates that mostly middle aged people are engaged in betel cultivation.

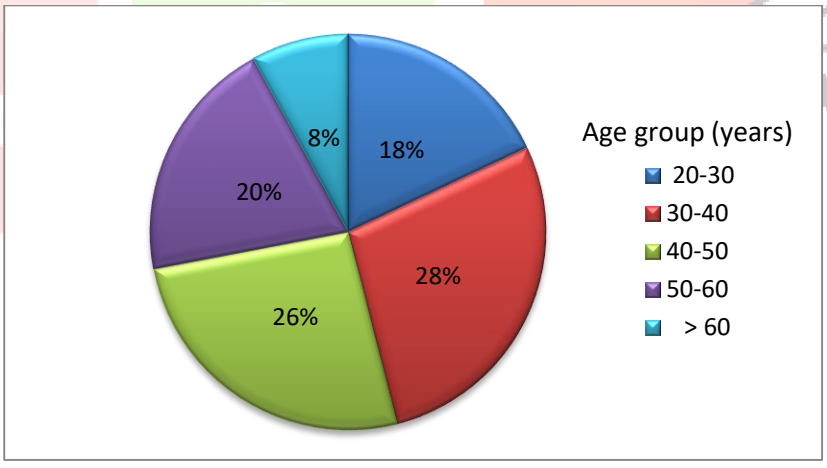

Figure No. -1: Age group of betel cultivators

Table No.-2: Educational level of betel leaf farmers

Educational level	Primary	Secondary	Graduate and above	Illiterate
No. of farmer	31	13	4	2
%	62	26	8	4

Source: Primary data collected by the author, 2021

Education makes people to adopt new information and technologies in agricultural activities. Table No.-2 reflect that among the surveyed family of betel leaf cultivators more than half (62%) of the farmers had primary education, while 26% farmers have secondary education. It is seen that 4% of cultivators were illiterate, while only 8% had education graduate and above.

Income level of betel leaf farmer:

Generally income level of small and marginal farmer always remain very poor if they not farm in scientific and modern way. But in case of betel leaf cultivator income level is much higher in comparison to other small and marginal farmer, who is not engage in betel leaf farming.

Table No. – 3: Income level of betel leaf and non-betel leaf farmers

Annual income (Rs.)	< 2 lakhs	2-3 lakhs	3-4 lakhs	4-5 lakhs	> 5 lakhs
No. of family of betel leaf farmer	2	6	21	13	8
% of family	4	12	42	26	16
No. of family of non -betel leaf farmer	23	17	7	2	1
% of family	26	34	14	4	2

Source: Primary data collected by the author, 2021

Annual income of betel leaf producer farmers and non betel leaf producer farmers are different in the study area. Annual income of betel leaf producer farmers are much more than the non betel leaf producer farmer of the same area. Table no -3 showing that annual income of 42 % family of betel leaf producer farmer is 3-4 lakhs whereas same income of non betel leaf producer farmer is only 14% family. 4% family of betel leaf farmer has annual income less than 2 lakh rupees whereas the same income level found in 26 % family. Above 5 lakh rupees annual income of betel leaf farmer family found 16%, but such high income among non-betel leaf farmer family found only 2%. This indicates that small and marginal farmer can grow their annual income by betel leaf farming.

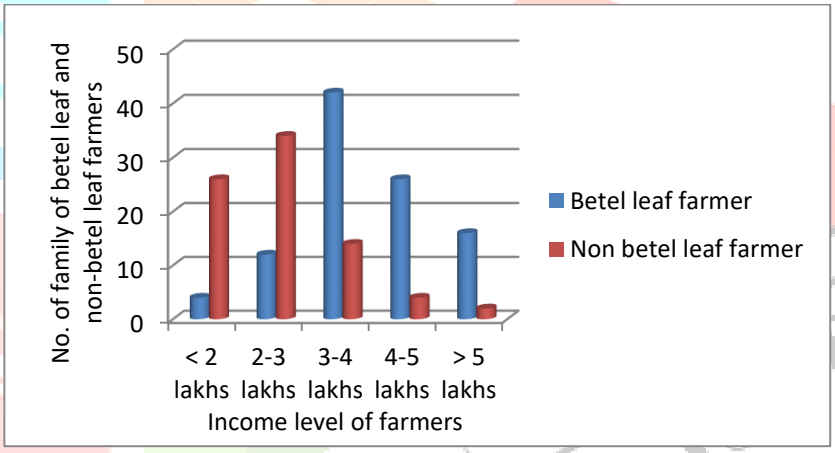

Figure No-2: Income level of betel leaf and non-betel leaf farmers

Problem faced by the betel leaf farmer: Despite of high prospect in betel leaf farming farmer of any region faced varies common problems. Betel leaf farmer of Brajerkuthi village also faces different problems. Chief problem of betel leaf farme3r found in study report are as given below:

1) **Capital Problem:** Betel leaf cultivation requires huge capital in comparison to general cultivation. For betel leaf garden preparation, construction of closed Structure, skill and unskilled labour, fertilizer and manure and irrigation arrangement farmer have to invest huge capital. Small and marginal farmer in maximum time cannot arrange this capital from their own source. In such situation cultivators of betel leaf bound take borrow loan from government bank or private sector. Indebtedness of farmer is a major problem because they have to pay the principal as well as the interest amount.

Table No. - 4: Loan for betel leaf cultivation

Loan for betel leaf cultivation	Yes	No
No. of family	31	19
% of family	62	38

Source: Field survey by the author, 2021

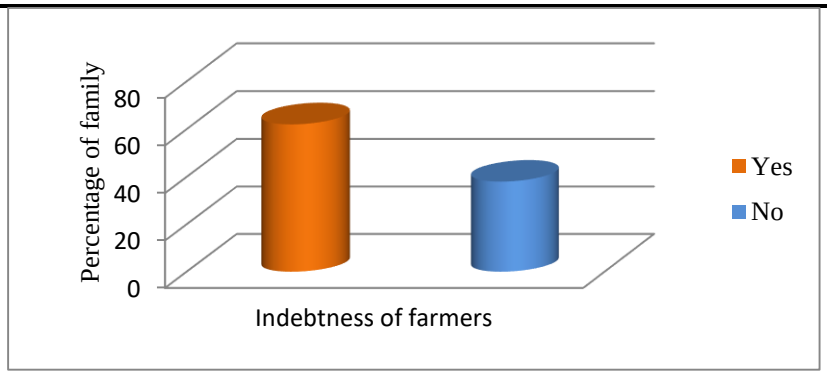

Figure No -3: Indebtedness of betel leaf farmers

2) **Natural calamity:** Natural calamity often create problem to the betel leaf cultivators. Storm such as norwester storm attacks in March and April months in every year. When such storm attack with high velocity betel leaf structure or boroj get collapse. If boros collapse due to storm farmer faced huge loss. They have to reconstruct the structure and major portion of betel vine become damage. A portion of betel leaf cultivator of Brajerkuthi area also faces such problem is last 5 years.

Table No – 5: Norwester storm attacks in damaging Boroj

Damage by Natural calamity	Yes	No
No. of family	23	27
% of family	46	54

Source: Primary data collected by the author, 2021

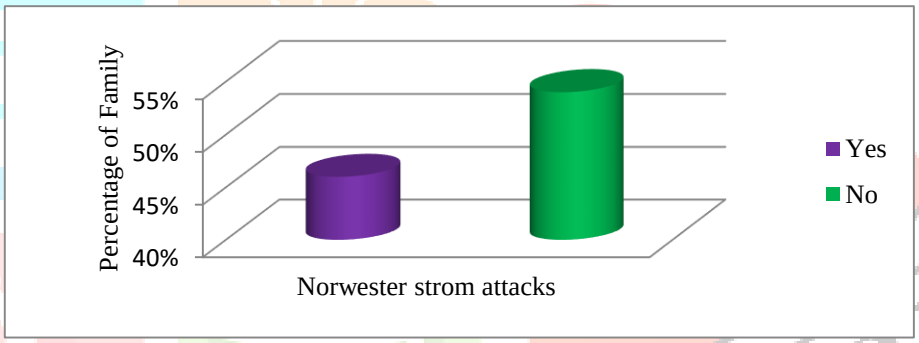

Figure No.-4: Norwester storm attacks in damaging Boroj

3) **Other problems:** Except above discussed problems betel leaf cultivators of the study area are also faces few other problems. The study area has no proper irrigation system from government side. Farmers have to arrange irrigation facility with cello pump for their won interest. Betel leaf production also hamper many time due pest and fungus infection on betel vine and leaf. Many far are not aware about crop insurance. Most of them have no proper knowledge of applying fertilizer and pesticide in betel leaf cultivation.

Finding and suggestion: The major finding of the present study is that betel leaf cultivation is one of the most important horticulture in Alipurduar as well as in the study area. The present study finds that betel leaf cultivation can be viable source of livelihood for rural farmer because there remains a possibilities high profit margin in this cultivation. But it is also found from the present study that the betel leaf farmers face multiple problems such insufficient irrigation facility, lack of capital, occurrence of natural calamity , pest and fungal attack, lack of knowledge about crop insurance etc. Hence active measures should be taken from the government side to provide the basic facilities required for betel cultivation. These are:

i) Issue of loan by the bank with concessional rate of interest.

ii) Setup of cold storage by the government in every block or district so that farmer can store betel leaf during excessive production.

iii) Arrangement of irrigation system for better production of betel leaf.

iv) Establishment of research centre in the district to improve techniques and methods of betel leaf cultivation.

v) Training and skill development program in the study area for betel leaf cultivation.

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