

A Study of Betel Vine Cultivation and Its Market Crisis in Two Selected Blocks of Ramnagar-1 and Ramnagar-2, Purba Medinipur, West Bengal

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Abstract: The betel vine (piper betel) is a perennial climber, cultivated for its leaf. In the state of West Bengal it has been cultivated on an area of around 18690 hectare. Purba Medinipur has one of highest production of betel vine in West Bengal. In this district, the climber is cultivated in Ramnagar block-1, Ramnagar block-2, Tamluk, Contai-3, Nandakumar etc. This cultivation provides livelihood for numerous families for years. Two major varieties of betel vine grown are namely bangla; haldia etc. Betel vine is considered as highly labour intensive providing employment throughout the year both in the fields of production and marketing. The estimated annual net income of Ramnagar-I and Ramnagar-II two blocks is Rs 36600 per 5 decimal lands. Almost 60% people of these two blocks are engaged as farmers, labours and traders of betel vine. The present study is an attempt to study the cultivation process and market crisis of betel vine in these two blocks. There is a clear indication that the profitability of crop can be further exported in the interest of the nation but country there is in this district lack of proper facilities of marketing of betel leaves.

Keywords: betel vine (piper betel), perennial climber, interest of the nation.

1. INTRODUCTION

Botanical name of betel vine is piper betel. In India it is known as 'pan'. betel vine is a perennial, dioeciously, evergreen climber that is grown in tropics and subtropics for its leaves that are used as a chewing stimulant. In India, betel vine is grown as an important crop in southern parts and eastern part, mainly in the states of Andhra Pradesh, Karnataka, Tamil Nadu, West Bengal, Bihar, Orissa, Assam etc. Betel leaves has good export potentiality in India and export of betel leaves to the countries like Bangladesh, Indonesia, Burma, Pakistan etc can fetch high amounts of foreign currency. West Bengal is one of the most important and largest betel vine growing states of the country. In West Bengal area under betel vine cultivation is almost 18690 hectares. Betel leaves worth Rs.120 crores had been exported from West Bengal to different states of the countries during 2013-2014.

In West Bengal major betel vine growing districts are Purba Medinipur, South 24 pgs, Nadia, Howrah, Paschim Medinipur, North 24 pgs etc. Purba Medinipur district ranks first in area under betel vine cultivation and production of betel leaves. The area under betel vine cultivation and production has recorded an increasing trend in the district and also in the blocks of Ramnagar-1 and 2.

This has brought a paradigm shift in the farm economy of Ramnagar-I and Ramnagar-II and offers a perennial employment and income opportunity to small and marginal farming communities due to its labour intensive

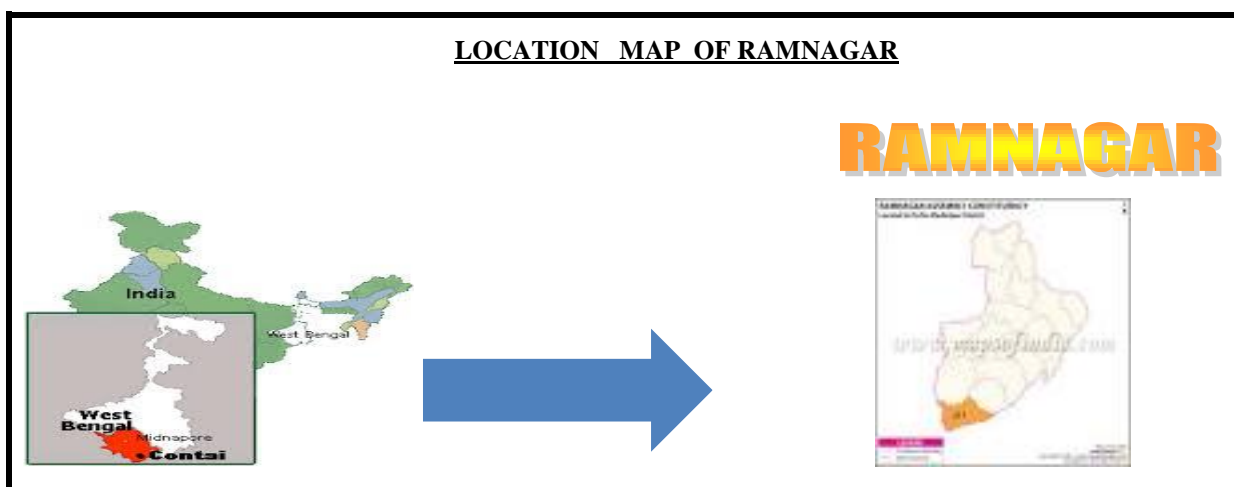
characteristics. Betel vine cultivation is highly intensive in nature and particularly suited to small holdings (may be 5 to 10 decimals land).

2. LOCATION OF THE STUDY AREA

For the purpose of the study Ramnagar block-1&2 were selected purposively because these two blocks occupied larger areas of the district of about 90 hectares and 50 hectares respectively under betel vine cultivation.

Ramnagar block-1, Purba Medinipur, West Bengal located at 21°41'18''N and 87°33'01''E and has an area of 133.21 sq.k.m. There are 141 villages but for sampling major betel vine cultivated betel vine village's like-Kulbudhi, Basantapur-1, Basantapur-2, Basantapur-3 etc.

Ramnagar block-2, Purba Medinipur, West Bengal is located at 21°44'02''N and 87°33'00''E area and has an area of 162.79 s.q.k.m. The are major betel vine cultivating betel vine villages are Satilapur, Deuli, Chahaka, Karangi and Balisai etc.



3. AIMS AND OBJECTIVES OF THE STUDY

In the Ramnagar I and II betel vine cultivation and marketing occupies a predominant position. The broad objective of the study is to highlight the various aspects of betel vine cultivation and marketing the specific objectives of the study are—

1. To study the recent trends in cultivation of betel vine in Ramnagar I and II blocks of Purba Medinipur.
2. To find out the cost of production of betel vine in this blocks.
3. To study the size and pattern of employment in betel vine cultivation and over all input-output analysis of betel vine.
4. To identify the marketing practices and price fluctuations and range.
5. To analysis major problems of marketing of betel vine in Ramnagar I and II blocks of Purba Medinipur.
6. To identify constraints in betel vine production, marketing and it's explored fathered purpects in the district and state.
7. To suggest the measures for the promotion of betel vine cultivation in the district.

4. METHODOLOGY

The present study is based on primary and secondary data collected from primary survey and district hand books. The research was conducted in Ramnagar I and II blocks in Purba Medinipur district. This is an empirical study; the sample used in the study consists of 50 respondents drawn through simple random sampling technique. Information was gathered from personal discussions with farmers through interview schedule by adopting convenient sampling technique. The secondary data is collected through websites, journal and publications of agriculture department of India.

After the collection of information this was arranged in tabular form for statistical analysis and interpretation.



Photo of betel vine cultivation

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STAGE-1	DISTRICT PURBA MEDINIPUR			
STAGE-2	BLOCK-1		BLOCK-2	
	RAMNAGAR-1		RAMNAGAR-2	
STAGE-3	VILLAGES-4	NO. OF FARMERS	VILLAGES-4	NO.OF FARMERS
	1.KULBUDHI	7	1.SATILAPUR	02
	2.BASANTAPUR-1	6	2.DEULI	05
	3.BASANTAPUR-2	7	3.CHAHKA	08
	4.BASANTAPUR-3	5	4.BALISHI	10

5. RESULTS AND DISCUSSION

IRRIGATION FACILITIES IN RAMNAGAR I and II BLOCK:

It was observed during survey that in the villages of these two blocks the main sources of irrigation were ponds, tanks, well etc in betel vine cultivation field. It was also observed that more than 50% of the betel vine cultivation fields were irrigated through artificial sources of irrigation.

AGRICULTURAL WAGES IN SAMPLE VILLAGES:

It was observed that under betel vine cultivation male, female and child workers were employed in Ramnagar blocks, the prevailing rate was R.s-230-250 per day i.e. for 8 hours of male worker and R.s-130-150 per day i.e. for 8 hours of female worker.

MAIN SOURCE OF CREDIT IN THESE BLOCKS:

It was found that the source of credit were made available to them at @10-15% interest rate per year from co-operative, non-institution agencies, bank etc.

SIZE OF LAND HOLDING:

It was found that 100 percent growers in both the sample areas were operated on 15-20 decimals i.c, 6-9 katas of land. Size of land holding for betel vine cultivation was about 20-25decimals in blocks-I and 15-20 decimals in block-II. Majority of growers in these two blocks are engaged betel vine cultivation for about 15-20 years.

MARKETING FACILITIES:

It was found that in Ramnagar block-1 a pan bazaar association is functioning since 5decade by the sides of main bazaar on Digha-Conati high road. The pan markets were operative for few hours in Sunday and Thursday morning from 6am to 9am.It was observed that the price mainly depended on size variety and colour etc. from Ramnagar, betel vine is sent to Bihar, Banaras, Delhi, and Lack now, Months of Oct. to Feb. are considered good for high return while from Mar. to Sept, the return rate is low due to high production.

EDUCATIONAL STATUS OF SURVEYED POPULATION IN SAMPLE VILLAGES OF RAMNAGAR BLOCKS:

It was observed that the survey area all the growers are literate. Majority of the growers studied till the high school level and none were highly educational. Survey also shows that female 70% of the females studied till class 10 standards while 90% of the males studied till class xii standard.

CROPPING PATTERNS IN SAMPLE VILLAGES:

It was observed during primary survey that in the villages of the two blocks, the main crops are rice, betel vine, nut, vegetables; etc. These two blocks produce high amount of betel vine and fruits. Agriculture is the main source of income while many are engaged in allied activities. Monthly income of the betel vine growers are R.s5000-100000 and rice cultivates R.s20000-40000. Crop rotation is practiced in these two blocks.

VARIOUS COST COMPONENTS OF BETEL VINE CULTIVATION IN THE SAMPLED BLOCKS OF PURBA MEDINIPUR, YEAR:

Expenditures on construction of Barajas were highest in among all types of expenditures because it required various materials and a large number of labours. Per bigha expenditure on preparing land and transplanting vine on an avg. was R.s130000/-. Irrigation is an important cost item in the cultivation of betel vine.

TABLE---1. Various cost components

SL.NO	PARTCULARS OF COST HEADS	QUANTITY	R.S/ONE BIGHA
1.	LAND PREPARATION AND VINE TRANSPLANTING	1BIGHA	130000
2.	FERTILIZER APPLICATION	100K.G	50000
3.	IRRIGATION CHARGE	1TIMES/WEEK	10000
4.	PACKING,MARKETING &MAINTENANCE	1824000LEAVES	5000
5.	HARVESTING OF THE CROP	-----	2000
6.	INTEREST ON WORKING CAPITAL@10-15%	-----	36000
7.	TOTAL LABOUR USE	100PERSONS	30000
8.	CONSTRUCTION OF BAREJA	1BIGHA LAND	36150
9.	RENTAL VALUE OF LAND	-----	100
10	RISK ON WORKING CAPITAL	-----	1000
TOTAL	ALL COST	1 BIGHA LAND	R.S-300250/-

Source-primary survey from growers, 2015

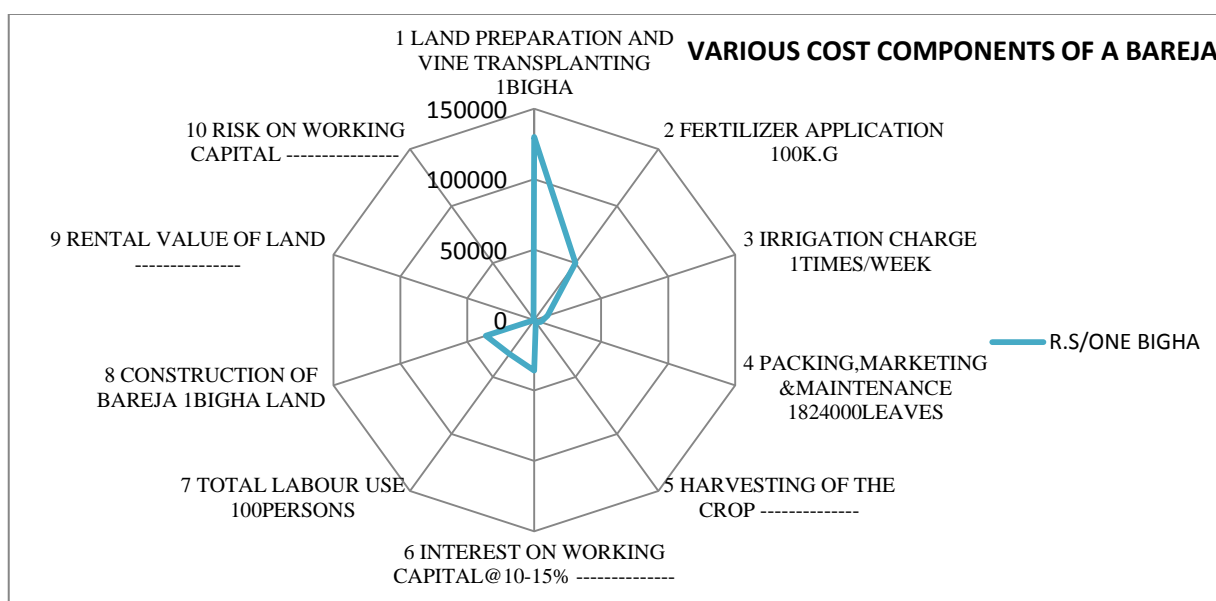


Figure 1

Per bigha expenditure on irrigation was found to have varied on seasonally and avg. Value of irrigation was R.s10000/- per year. Expenditure on packing materials, marketing and maintenance of harvested leaves is R.s5000/-. The study has been made that construction of Barajas, land preparation, use of fertilize, irrigation pattern of expenditure in different every year and every states. Total expenditures of betel vine land one bigha are near about R.s300250/-(table-1).

CONSTRUCTION COST OF BAREJA (ONE YEAR) OF 5 DECIMEL LANDS:

TABLE-2

SL.NO	MATERIALS	QUANTITY	R.S PER 5 DECIMEL LAND
1.	BAMBOO	50PICS.	5000
2.	IRON WIRE	28-70K.GS	10000
3.	COCONUT ROPE	10-15K.GS	1000
4.	PADDY STRAW& BETEL TREES	500-550BUNDLES	9500
5.	JUTE STICK/KHORI	10000PICS.	10000
6.	BAMBOO POLE	1000PICS.	50000
7.	LABOUR	15-20 PERSONS	4875
	TOTAL		90375

SOURCE-A REPORT BOOK FROM ADO RAMNAGAR, 2014

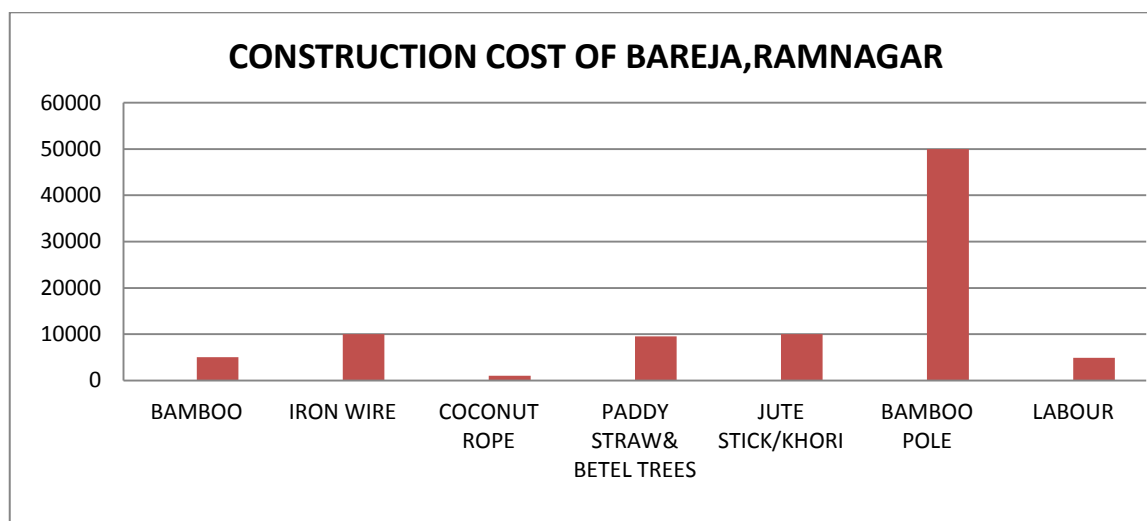


Figure 2

It may be seen from the table-2 the main item of expenditure was bamboo, which accounted R.S55000 (60% of total construction cost) on an average and which across the sample block of Purba Medinipur. The next item after bamboo was labour which accounted for R.s4875 (6% of total construction cost) on an average. The expenditure on paddy sowing on an avg. Was R.S9500 (10.5% of total construction cost) followed by iron wire R.s10000 (11% of total construction cost) coconut rope R.s1000 (1.1% of total construction cost) & jute stick R.s10000. Total expenditure in construction of Barajas for growing 5 decimal land of betel vine leaves was estimated to be R.s90375 (approx). (table-2 and fig-2).

MONTHLY PRODUCTION AND PRICE OF BETEL VINE IN RAMNAGAR BLOCKS:

The table 3 reveals that out of total production about 40% was product in May, June, July, August & September months. In this 5 months betel vine leaves were sold at lowest rate, due to poor quality of leaves and highly amount of produced (fig-3)

Table-3. MONTHLY PRODUCTION & PRICE OF BETEL VINE,

S.L NO	MONTHS	PRODUCTION OF BETEL VINE(NO. OF LEAVES)	PRICE OF BETEL VINE IN R.S
1.	JANUARY	96000	86400
2.	FEBRUARY	64000	60800
3.	MARCH	128000	76800
4.	APRIL	160000	64000
5.	MAY	192000	57600
6.	JUNE	192000	48000
7.	JULY	192000	44160
8.	AUGUST	192000	38400
9.	SEPTEMBER	192000	57600
10	OCTOBER	160000	80000
11.	NOVEMBER	128000	70400
12.	DECEMBER	128000	72960
		TOTAL-1824000	TOTAL-757120

SOURCE—Primary data from growers, 2015-May

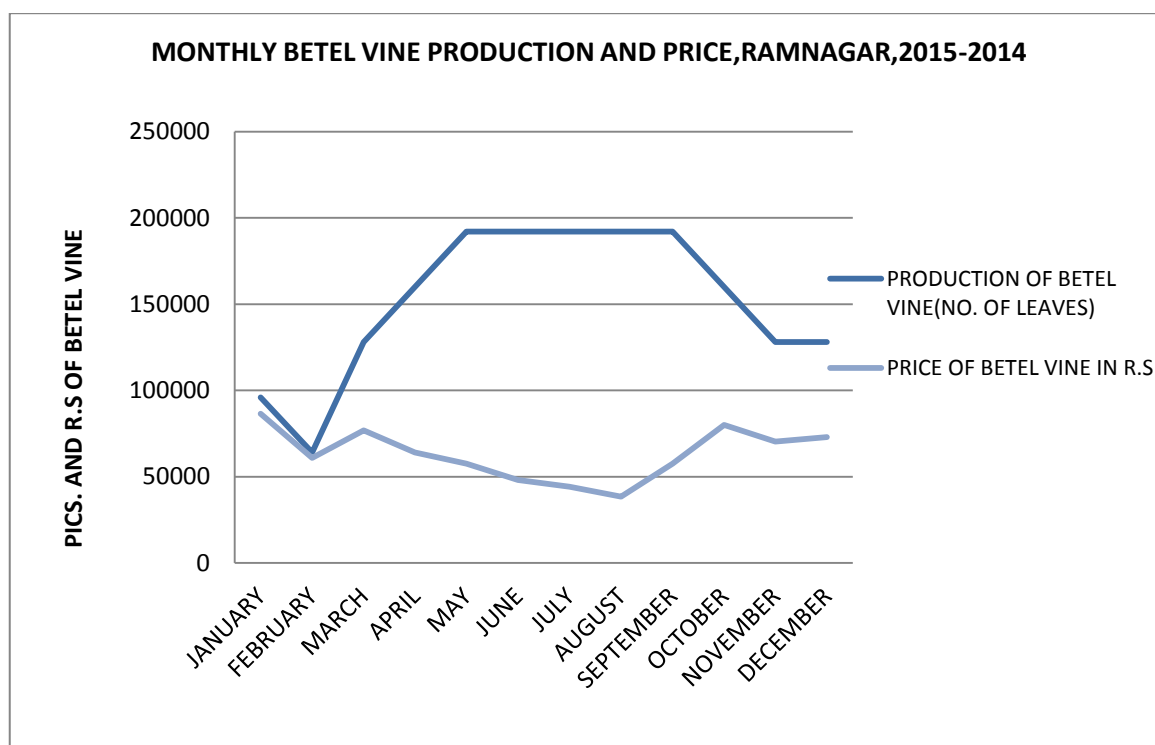
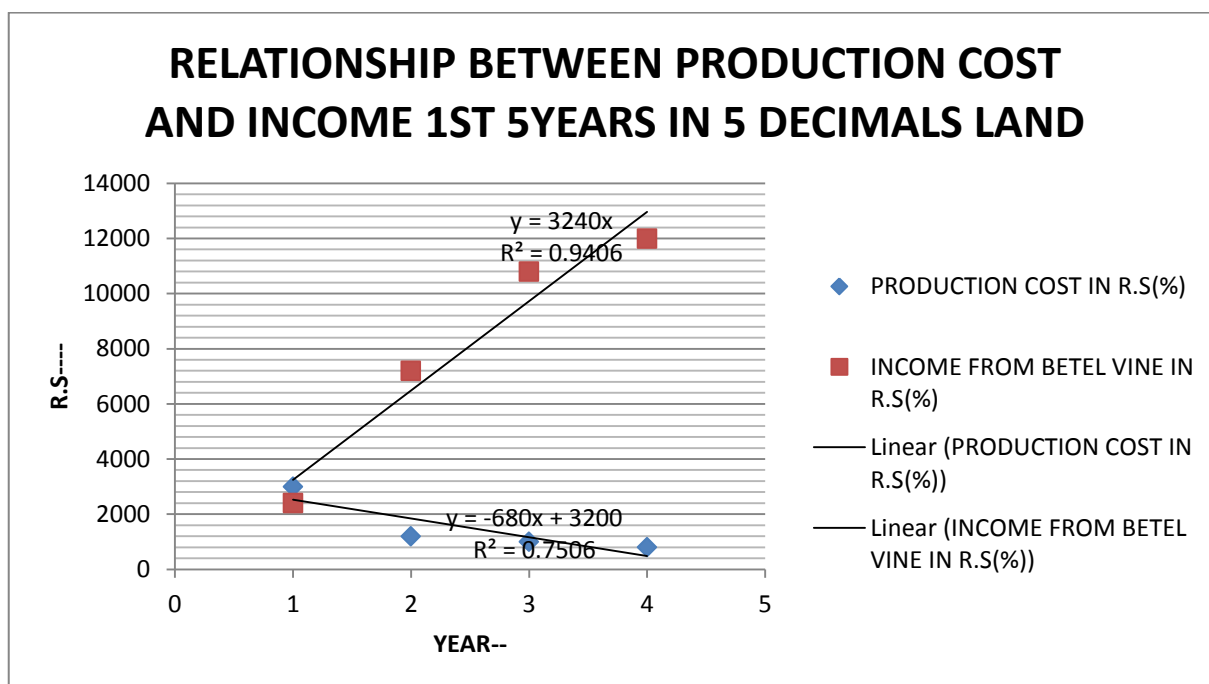


Figure 3

In the sample area mainly area mainly five months, viz. October, November, December, January, February are considered good for high return due to low produced of leaves(table-3).

May to September is considered good for production of betel vine when 6th leaves/betel tree is produced and November to February are avg. Production time when 3-2leaves/betel tree are produced.

YEARWISE ESTIMATED BREAK UP OF COST INVOLVED IN BETEL VINE CULTIVATION (1 TO 5 YEARS) IN R.S/5 DECIMALS:



The table.4 reveals that out of the total expenditure about 45% was spent during the 1st year and rest were spent in for consecutive year wish the total income comes from the investment was only 15%. Thus a loss was incurred during the 1st year which was R.s-600(1.6%). The data further indicates that after the 1st year the expenditure over income was losses and profit showed increasing year after year while in 5th year, the profit was quite high. This happened due to nearly full exploitation of the resources. The overall analysis indicates that in 5year span of time around R.s-36600 were earned as a net profit from 5decimals land of Ramnagar block (fig-4).(photo of betel vine).



Table-4.

YEAR	PRODUCTION COST IN R.S (%)	INCOME FROM BETEL VINE IN R.S (%)	LOSS	PROFITE
1 ST YEAR	3000(15%)	2400(5.5%)	600(1.6%)	-----
2 ND YEAR	1200(18%)	7200(16.7%)	-----	6000(16%)
3 RD YEAR	1000(15%)	10800(25%)	-----	9800(26.7%)
4 TH YEAR	800(12%)	12000(27.7%)	-----	11200(30.6%)
5 TH YEAR	600(9%)	10800(25%)	-----	10200(23.9%)
	TOTAL R.S-6600	TOTAL R.S-43200		NET INCOME R.S-36600

Source-A report book on betel vine in Ramnagar block, 2013-2014.

Table-5. Problems of betel vine production

GENERAL PROBLEMS			
S.L.NO	PROBLEMS	%OF RESPONSE	RANK
1.	LACK OF AVAILABILITY LAND	25%	4
2.	HIGH LABOUR COST	95%	1
3.	HIGH COST OF FERTILIZER & PESTICIDE	80%	3
4.	NO RESERCH CENTER NEARBY	85%	2
5.	NO INSURANCE FOR BETEL VINE CROP	40%	5
MARKETING INTERMEDIARIES PROBLEMS			
S.L.NO	PROBLEMS	%OF RESPONSE	RANK
1.	NON-AVAILABILITY OF STORAGE FACILITIES	80%	2
2.	PRICE FLUCTION	95%	1
3.	IMPROPER METHOD OF SALES	40%	5
4.	LACK OF GOVT. SUPPORT	55%	4
5.	NON-AVAILABILITY OF INSURANCE	63%	3

Source-primary survey from growers, 2015,

GENERAL PROBLEMS OF BETEL VINE PRODUCTION:

These were categorized into two broad groups i.e. general problem and marketing problems of betel vine production in ramnagar-1&2 blocks..The general problems constraints included of an availability land, high labour cost, fertizer-pesticides cost, non –availability of research center, betel vine crop insurance. The marketing problems constraints include no availability of storage facilities, price fluctuation, improper method of sales, and lack of Govt. Support.

Table-5 shows that among general problem, high labour cost (95%) was recorded as most important in these two blocks reported by all the intermediaries. After price fluctuation 80% of the traders reported that the non availability of storage facilities is a major problem was luck of Govt. Support and improper method sale.

6. RECOMMENDATIONS

On the basis of field survey in sampled areas of Ramnagar blocks some of the important efforts required in this two blocks are presented here under----

1. Improvement in quality of betel vine crop.
2. Need for development of low cost technique of Barajas construction.
3. Spread of methods and techniques to the growers like use of fertilizer, pesticides, irrigation etc.
4. Market price should be collected and published periodically by the Govt. to help the farmers.
5. There is need to develop a pan Mandy and cold storage of pan.
6. Research may be under taken to utilise betel leaves for other medical purposes and efforts towards evolving disease-registrant varieties. There is need to establish a research centre for improving the quality of products.
7. The Govt. should gear up its extension agencies to educate the farmers.

7. LIMITATIONS OF THE STUDY

On the basis of field investigation in sample area of Ramnagar Block some of the important efforts required in this two blocks are presented here under-

1. The present study is confined to two blocks of the district. Hence the results obtained from this may not be generalized for whole of the district.
2. The primary data comes from farmers and no proper statistics are maintained..

3. The secondary data relating to area of this particular crop district wise, block wise, village wise are not available for last 10 year. Therefore, it has limited the scope of the study.
4. Since prices of betel vine are highly fluctuating growers fail to supply exact quantum of benefit earned from its production and trade.

8. CONCLUSION

In India, betel vine is grown as an important cash crop. The betel vine farming activities congener ate employment opportunities for throughout the year. It is one of the most important cash crops. The central and state Govt. Should jointly take appropriate steps to improving pest management of betel vine form activities to establish a research and development board, to enhance export oriented activities meeting global standards, to reduce intermediaries in marketing.

The farmers also face lack of scientific knowledge of technology and inadequate availability of seed for maintaining cultivation.

ACKNOWLEDGEMENT

I express my deep sense of gratitude to my respected prof. Dr. Asok Roy, Associate professor in Asutosh college, on his guidance and supervision of the present work and entitled A study of betel vine cultivation and its market crisis in two selected blocks of Ramnagar-I, II, Purba Medinipur, west Bengal. I would like to thanks the local people of the study area, Ramnagar-I, II blocks.

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