Evaluation of the Constraints Perceived by Farmers in Production and Marketing of Betel Vines in Bankura District of West Bengal

ABSTRACT

Agriculture is the skeleton of Indian Economy and the stabilising point of social structure and economical skeleton of the country. Apart from providing National Income, ensuring food security or generating employment, Agriculture is the main stay behind the cultural commonality and the economic homogeneity of the society. The present study on betel vines was executed in Taldangra Block of Bankura district, West Bengal. The study area was chosen through purposive sampling due to dominance of commercial betel vines. Sampling was also done following the principle of convenient sampling as the study area is earlierly known to the researchers. To minimise the recall biases a personal rapport was established with the farmers before surveying & data collection. Study was conducted in Agricultural year 2023-24 by Primary data collection from 120 farmers of seven randomly selected villages. The study assessed the constraints faced by the farmers in the production and marketing of betel leaves growing and how much they have been affected by these problems. Primary data were individually taken to assess the intensity of problems at individual level, through a semi-structured and pretested schedule, employing Participatory Rural Appraisal (PRA) as per requirement. The result indicated that four major production constraints are unavailability of timely credit, yield loss due to climatic variability, high fixed Cost (mainly for establishment of orchard), lack of proper training and extension activities and major marketing constraints are higher degree of price fluctuation, middlemen involvement, lack of export services, lack of definite price policy. Other associated constraints are labour unavailability during harvest, unavailability of good planting materials, storage unavailability, leaves damage during transportation, lack of market information. Major suggestions received from the farmers regarding alleviation of these constraints are arrangement for govt. subsidy and proper training and extension programmes, direct connection with buyers

for lowering middlemen frequency and interference which unnecessarily increases the price , construction of storage house for storing betel leaves to reduce post-harvest loss .

KEY WORDS

Purposive Sampling, Convenient Sampling, Pretested Schedule, Recall Biases, Participatory Rural Appraisal, Price Fluctuation, Post-harvest Loss

INTRODUCTION

In India, medicinal plants like ghritokumari, tulsi, pudina, adrak, sarpagandha, brahmi, poppy, basak, thankuni, pan are some traditionally used medicinal plants and some of them are highly commercialised for their clinical application and medicinal proposition.

Betel vine is one of the most important medicinal plants, which is intricately woven to the fabric of our culture(Nelson &Heischober, 1999). Its cultivation has been commercialised for a long time, as leaves being the economical part. It is also known as the 'neglected green gold' of India(Guha, 2006). The leaves, known as Paanpata, is evergreen, heart-shaped which marks it as a vegetable and leafy crop with its worldwide Ayurvedic and medicinal qualities. Scientific name of Betel is *piper betel*, belonging to the plant family Pipereaceae[21,22,23].

The betel leaves are very nutritive and contain a substantial amount of vitamins and minerals. The primary constituents of betel leaves are vitamin B, C and carotene (Mazumdar et al., 2016). Leaves are rich in an alkaloid named Eugenol(Gupta, 2022). Leaves help in digestion and tend to remove the bad smell of the mouth. It is also good for the respiratory system and is used in the treatment of bronchitis, cough and other respiratory diseases or to sooth the respiratory track in the presence of any foreign body (Patra et al.,2022). The juice of betel leaves is used as an adjunct to pills administrated in the Ayurvedic medicines. The fresh crushed leaves are used as antiseptic for cuts and wounds since old periods(Madhumita et al., 2019).

Almost there are 40 popular varieties in Indian betel vines, out of which 30 are found in West Bengal(Biswas et al., 2022).For so long West Bengal is known for its betel nut cultivation and

higher genetic diversity of different varieties. Betel vines of West Bengal are known for varieties like Bangla Pan, Sanchi, Mithapati, Kali bangla, simarulibangla pan(Jain et al.,2022).

Important planting seasons in India described below.

Table 1 Different planting seasons of different states

State	Season
Andhra Pradesh	September-October
Assam	April-May and August-September
Bihar	June-July September and May-June
Karnataka	July-August
Odisha	May-June and September-November
Madhya Pradesh	January-March and September-November
Maharastra	July-August and October-November
West Bengal	June-July and September-October
Tamil Nadu	July-August

Major betel growing countries in the globe are India, Bangladesh, Thailand and Srilanka, i.e., South east Asian belt. In India, betel leaf is mostly grown in Assam, Andhra Pradesh, Bihar, Gujarat, Karnataka, Madhya Pradesh, Odisha, Rajasthan, West Bengal and Maharashtra. In India betel vine is grown in over 50,000 ha area with estimated annual turnover of 1000 Crores. India exported 6,159.39 MT of betel leaves around the world worth of Rs. 26.18 Crores during 2020-21. India is the major exporter of betel leaves to countries like Afghanistan, Australia, Bangladesh, Canada, France, Germany, Hongkong, Kenya, Nepal, United Kingdom, UAE, Saudi Arabia, Oman, Pakistan, USA, Qatar, Yemen and United Kingdom(Karthikeyan & Selvam, 2024). Only in India it is consumed by about 15-20 million people and generates direct or indirect employment opportunities of about 20 million people in India. Besides employment creations, it also contributes to the nation in terms of forex (foreign exchange) earnings. Betel leaves has good export potential and thus is a very promising commercial leafy crop(Guha,1997).

West Bengal is the largest betel vine producing states of the country. It has earlierly been mentioned that India produces almost 40 varieties of betel vines out of which 30 varieties are solely cultivated in West Bengal. In West Bengal, total area under betel vinecultivation is almost 18690 hectares.(Biswas et al., 2022b). About 66% of the total betel vine production of the country is contributed by the state of West Bengal, comprising about 4-5 lakhs of boroj(Paul, 2021). Betel leaves worth of 150 crores have been exported from West Bengal to differentstates of the countries annually. West Bengal produces about 1.39 crores betel leaves per year (Nandi, Kar and Taparia, 2022). Most of the post-harvest products of betel and other addictive which are highly sold at Bihar, Uttar Pradesh are produced from the betel grown in West Bengal. Here major betel vine growing districts are Bankura, East Medinipur, Bankura, Nadia, East Midnapur, Howrah, West Medinipur. East Medinipur district ranks first in area under betel vine cultivation. Several regions of this district are adjacent to Bankura district which is another betel vine growing district and famous for producing well sainted betel leaves. The area under betel vine cultivation and production has recorded an increasing trend in the district and also increasing annually both in production quantity and monetary value.The crop provides livelihood to 25 million farm families of the country(Mondal et al., 2019).Betel leaves worth about Rs. 30-40 million are exported to the Middle East and European countries (Guha, 2006).

Due to long-term commercialization and favourable ecosystem Betel vines orcharding has been developed in Bankura district for several decades. As a good scale of economy, it has also furnished in neighbouring districts of East Midnapur, West Midnapur and Jhargram. But being quite old and operating for several decades now it is facing several problems and the direct effects are incident on the farmers, betel growers, marketing middlemen and retailers- so all the functionaries are affected by it. This study tries to assess the major problems and their intensities of affecting the betel grower community and concerned persons in all possible means. The study also records probable means of solutions in the form suggestions furnished while data collection.

LITERATURE REVIEW

Kaleeshwari and Shridhar (2013) conducted a study in Karur district of Tamilnadu on the problems of production and marketing of betel vines. the study found that price fluctuation is the

major problem in marketing followed by large number of middlemen, credit inadequacy, lack of proper transport facility and absence of proper norms regarding grading and standardization. Among production problems paste and disease infestation was also a critical issue. Author suggested for advanced collection system of market price to prescribe a predicted price by government officials on periodical basis. They also suggested to established a research and development (R & D) wing to broaden export activities for creating a pan-world market. Presence of government official body would help to reduce the presence of middleman and increase producer share in consumers' rupees.

Vinayakrao (2013) conducted research on production and marketing of betel leaf in Amravati district. Unavailability of technical knowledge and proper transportation facilities were marked as major constraints in this region by the study.

Tholkappian (2014) conducted a study in Thanjavur district of Tamil Nadu by collecting primary data from both organic and conventional betel growers. He collected data from 30 organic and 30 conventional farmers during 2012-2013 agricultural season. The study concluded that in conventional betel cultivation farm expenditure is higher due to more usage of farm machineries resulting into higher electricity expenditures and manpower cum labour employing.

Mandal and Mandal (2016) studied financial feasibility and constraints of betel vine cultivation in coastal area of Sundarbans, West Bengal. Sundarban is ecologically a vulnerable region in the era of global warming as the coastal regions are gradually loosing their mean sea level (MSL) height and the locale of the study was chosed there to observe the condition as a betel growing zone. The study concluded that major constraints in the study area were incorrect application of chemicals (mainly fertilisers and pesticides), insect attack, disease infestations, lack of proper knowledge, lack of irrigation facilities and ecological vulnerabilities of this zone.

Pavithra H.K. (2016) studied on economic analysis of betel leaf farming in Tumkur district, Karnataka. They observed that betel vine cultivation was well recommendable for its economical feasibility. But the major constraints are higher transportation cost and payable commissions. Seasonality was a strong factor observed in arrival of leaves and pricing of betel leaves in the market. Colour and season were also important factors influencing the price of the leaves. Price fluctuation and labour shortage were found to be the major constraints in betel-leaf cultivation in gubbi and Pavagada taluks.

Sahoo and Sahoo (2017) observed that betel cultivators were facing various difficulties during production, marketing, some general constraints in agronomic functioning in Puri district of Odisha. They asserted that the assistances provided by the government are not sufficient enough to sustain the farmers community. They critically remarked that government should take proper steps to safeguard and protect betel farmers' interest and increase their profitability.

Patra and Pradhan (2018) studied on some socioeconomic aspects of betel vine cultivation of Bhogarai area of Balasore district, Odisha. They observed some agrobiological factors to limit the production, most specifically the severity of pests and diseases, inadequacy of irrigation and water supply, soil infertility, severe rainfall and winds. Traditional management and lack of trained labour, usage of poor planting materials are the principal factors behind low betel leaf productivity.

Tsuruta (2018) studied on the socioeconomic profile of betel leaf farmers, they sampled three villages in Baharchara, Chattagram, Bangladesh and data were collected from 580 households. The researchers came to the conclusion that the betel leaf farmers were very poor, their education level is low. Despite of favorabilities they could not wove the fruits of the favours.

Banu and Princy (2019) studied the marketing problems of betel leaf at Madurai district in Tamil Nadu. They observed that due to high perishability of betel leaves a little damage to the leaves makes it infected causing an attraction to bacterial population hence causes a great price loss. The betel market was characterized by high dominance of market intermediaries in that region, nonavailability of proper storage facility, high transportation cost, lack of market information to the growers and sellers, unorganized market.

Biswas, Saha and Dash (2019) conducted a study on Agricultural knowledge information system of betel vine growers in Nadia district, West Bengal. The study shows betel vine growing is gradually increasing its popularity in the Nadia district considerably as a cash crop though growers were using their own traditional planting materials since long and growing their crops with their indigenous knowledge, skill and their past experiences and they had little awareness regarding the improved method of cultivation and recent technologies. Establishment of research station, transfer knowledge information system and marketing system might be useful for highering the return on betel vine cultivation and making it a more economically lucrative farming.

Rahman et al. (2019) studied the profitability and the existing marketing channel of betel leaf in Bagerhat district, Bangladesh. The marketing channel in the study area was dominated by the intermediaries, which is a major problem in this area.

Ghosh &Acharaya (2020) conducted a study on Environmental Impact Assessment of Kolaghat Thermal Power plant, East Midnapur district, West Bengal and its effect on neighbouring crop population. The study found that the thermal power plant produces huge amount of fly ash which ultimately reduces betel growers' level of income. It forms a black carbon layer above the leaves blocking its stomata. Thick layer of fly ash reduces the quality of leaves and bronzing occurred in the green leaves and shoots which affect production along with the betel vine boroj formation. Those farmers who have higher land for betel vine cultivation in this area are susceptible to more economic damage due to affected leaf quality, followed by hampered production and less yield

Mondal, Saha *et al.* (2020) conducted a study on the rejuvenation of the betel farming economy in South Bengal in post-cyclone period. They took primary data from 51 betel farmers of FinghaDhaowri village of South 24 Parganas in West Bengal. The study revealed lack of knowledge among farmers regarding postharvest management. The study also argued that organic farming is advantageous for low input cost and cheap requirement of various components. Again, in the post-covid situation rejuvenation of the boroj might be possible by adopting organic farming coupled with application of low cost inputs, proper and scientific management practices, industrial skill development training in a community based approach. It might lead into upliftment and development of the rural economy of Bengal and upscaling agrarian economy.

Bipul Kumar (2021) studied in Deo block of Aurangabad district in Maharashtra. The study concluded that the most important constraints for betel vine cultivation in this area was boroj preparation, severe incidence of pest and discases, high price fluctuation of leaves, high wages of labour, lack of govt. subsidy, high input costs, high postharvest losses, lack of storage facilities. Although inspite of crucial constraints farmers continue betel vine cultivation , the significant reason being it generates regular and quick liquid income and offers higher net returns as compared to other crops, basically cereals or fruit crops.

Mazhar, Jahanara *et al.* (2021) conducted a study on the constraints analysis of the betel vine growers of Malappuram district of Kerala. A total 120 betel vine growers were randomly selected from six villages. It was observed that almost half of the respondents felt the constraints ‘severe’

(45%) in betel vine cultivation, followed by ‘not severe’ (31.66%) and ‘very severe’ (23.33%) feeling categories. Most of the respondents experienced labour shortage as well as high labour cost as the most problematic constraint, and the second most important constraint found by the research work was price fluctuation, and followed by water scarcity, transportation and insects and diseases occurrence.

Jena (2021) studied on economic analysis of betel vines in Bhograi block of Balasore district in Odisha and observed that the main constraint was price rise of raw materials for boroj preparation and input costs, lack of proper training. Another major reason was natural calamities and approaching cyclones: because Odisha is a coastal state and hence it is very frequently attacked by severe to very severe cyclones.

Palanichamy, Rohini *et al.* (2022) conducted a study on Tanjavore District of Tamil Nadu focusing on the betel vine production and constraints faced by the betel growers. Price fluctuation is the major constraint, along with the problem of insufficient govt. support, lack of financial sponsoring, disease and pest infestations, unavailability of labour forces, and as betel vine growing is a labour-intensive work; a lacuna of daily maintenance can be economically hazardous.

Kumari , Dey *et al* (2022) conducted a study on Betel vine considering it an economically promising natural reservoir. The study concluded the economic possibility and profitability of betel vine farming, but also apprehended on the economic crises due to the diseases such as foot rot, leaf spot, powdery mildew, and collar rot. Again, mosts of the farmers got seasonal revenue from field crops, whereas betel vine cultivation provided a year-round income from a tiny plot of land and that too after a small investment and small area.

Sathya *et al.* (2022) studied on the economic analysis on production of betel vine in Thanjavur district of Tamil Nadu and concluded disease and pest infestation were the biggest problems in the production of betel vine, followed by labour unavailability, because of daily work pressure in farm, lack of healthy seed vine, lack of daily maintenance. Price fluctuation was the major marketing constraints.

Kumar, Yadav *et al* . (2023) conducted a study on economic feasibility of betel vine cultivation in Bundelkhand, Varanasi, and Unnao districts of Uttar Pradesh. The study concluded that betel vine farming is best suited for small-scale farmers with a stable source of work and income. The main challenges experienced are lack of quality planting materials, disease and pest infestations,

lack of market information and possibility of natural calamities. Due to its perishable nature and price fluctuations, they are going to be the biggest marketing challenges faced by betel vine farmers. The study found that establishing a market intelligence system to forecast prices in advance may be beneficial for increasing the return on betel vine cultivation.

Mahfuza, Ahamed*et al*. (2023) conducted a study on Livelihood and Income Generation by Betel farming in Rajshahi District of Bangladesh. Primary data were collected through face-to-face survey and Participatory Rural Appraisal (PRA) approach. The CARE livelihood approach was applied to determine the impact of betel farming on livelihood employing Focus Group Discussion (FGD) and different observation technique. The results of the study concluded that inadequate credit, associated market and production risks were the main constraints of betel leaf farming in the study area.

RESEARCH METHODOLOGY

All kinds of researches, specially in Social Science, taking samples is a crucial task since it is not possible to tabulate or account entire population. Here, for sampling, we need to follow some scientific principles to obtain sample regression function (SRF) from population regression function (PRF). Hence using sampling techniques we collect data from entire population to have it as true and errorless representation of the entire population where social scientists are doing their operations and research observations. Then before coming to a decision we need to discuss and conclude from taken samples utilising analytical tools. As samples are the scientifically taken representatives of the entire population, it gives a clear and undeniable imagery of the population. In economic analysis also it is not possible and very time consuming, labour and capital intensive to take dataset from all farmers, producers or orchard owners, middlemen, market functionaries and others, hence social scientists have to rely on samples. It also critically depends on the use of appropriate analytical tools for data analysis before reaching into proper inference.

The methodologyadopted for the present study of data collection and techniques used are described under following heads –

(3:1) Sampling framework

(3.2) Collection of data

(3.3) Analysis of data

3.1 Sampling framework

3.1.1. Selection of District **:**

The state comprises 23 districts, among these districts **Bankura** district was be selected purposively for the present study.

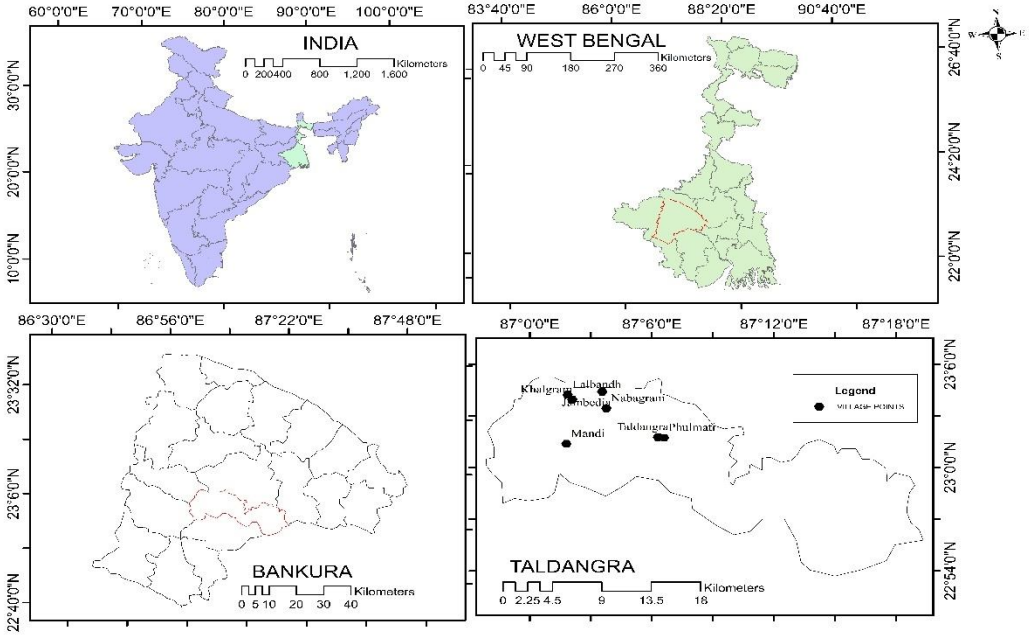
3.1.2. Selection of Block **:**

There are 23 blocks in Bankura district. Out of them **Taldangra**block was be selected purposively for this study, due to high betel vine cultivation and higher no. of betel growers and orchard owners in this region.

3.1.3. Selection of Villages :

A complete list of all villages within the block was be prepared with the help of block office. Out of which 5% villages were be selected randomly for present study.

Fig. 1 – Map of the Study Area (composed by Arc GIS Software)



Tab. 2 Total no. of villages selected in Taldangra block

Serial No.	Selected Villages
1	Taldangra
2	Phulmati
3	Jambedia
4	Khalgram
5	Lalbandh
6	Mandi
7	Nabagram

3.1.4. Selection of Respondents (Farmers**) :**

A complete list of farmers was be obtained from the selected gram panchayats of block. These farmers were be arranged in ascending order and out of total villages 10% Respondents were be selected randomly and then selected respondents were be divided into following categories on the basis of land holding size.

Tab.3. Selection of respondents

Serial No.	Villages	Total no. of Betel farmers						Total no. of respondents					
		Marginal	Small	Semi-medium	Medium	Large	Total	Marginal	Small	Semi-medium	Medium	Large	Total
1	Taldangra	30	30	50	20	30	160	3	3	5	2	3	16
2	Phulmati	40	70	30	20	20	180	4	7	3	2	2	18
3	Jambedia	0	30	50	60	20	160	0	3	5	6	2	16
4	Khalgram	0	20	80	60	20	180	0	2	8	6	2	18
5	Lalbandh	40	40	60	40	0	180	4	4	6	4	0	18
6	Mandi	40	20	50	50	0	160	4	2	5	5	0	16
7	Nabagram	10	90	0	80	0	180	1	9	0	8	0	18
Total		160	300	320	330	90	1200	16	30	32	33	9	120

3.1.5. Selection of Market :

The primary and secondary markets were be selected purposively for the present study.

3.1.6. Selection of Market Functionaries:

A list of all market functionaries of both primary and secondary market was be prepare with the help of market head out of total market functionaries 10% market

functionaries were be selected randomly from the market for present study. These market functionaries were be considered for data collection regarding different marketing cost and other charges in different marketing channels.

Tab. 4 Selection of Market Functionaries

Serial No.	Market Functionaries	Total No.	Selected
1	Processing Unit	0	0
2	Commission Agents	40	4
Total		40	4

Period of Study**:**

The data were be collected for the Agricultural year 2023-2024

3.2. ANALYTICAL TOOLS :

To fulfil the specific objectives of the study, based on the nature and extent of the data, the following analytical tool was employed.

3.2.1. Garrett's Ranking technique

Constraints perceived and the measures for improvement suggested by the producers in production and marketing of betel vine were prioritized by using Garret's ranking technique by using the following formula-

$$\textbf{Percentage} = \mathbf{100}\ (\boldsymbol{Rij} - \boldsymbol{o}.\mathbf{5})\ \boldsymbol{Nj}$$

Where

Rij = The rank given to 'i'th item by the 'j'th individual

Nj = The numbers of items ranked by the 'j'th individual

The percentage position of each rank is be converted into scores using Garret's table. For each constraint, score of individual respondents for whom scores are added. Thus, mean score for each constraint is be ranked by arranging them in descending order.

3.2.2. Programming Language Applied :Arc GIS

Arc GIS is an online Geographic Information System (GIS) software developed in 1999. It is highly used for creating study area map for determining position at global or geographical scale.

RESULTS & DISCUSSIONS

Constraints in Betel Production

The major constraints faced by the farmers in betel orcharding in the concerned area are noted here. Lack of credit and timely unavailability are major issues regarding farmers financing. They are not getting timely credit and refinancing which delays major agronomic operations of cropping. Climatic fluctuations often delay harvesting which sometimes lead to yield loss. Being an orchard crop it requires a comparatively high fixed cost for establishing the orchard, unlike the cereals, pulses or others. Farmers are not always trained , labour and good quality planting materials are often unavailable in time.

Tab. 5. : Constraints faced by farmers in Betel vines production

Serial No.	Constraints	Total Score	Average garret score (n=100)	Rank
1	Yield loss due to climatic variability	6513	65.13	**II**
2	High Establishment Cost	5648	56.48	**III**
3	Lack of proper training	4951	49.51	**IV**
4	Unavailability of good planting materials	3543	35.43	**VI**
5	High labour cost	2474	24.74	**VII**
6	Labour unavailability during harvest	4393	43.93	**V**
7	Credit unavailability	7546	75.46	**I**

From Tab. 5, various constraints faced by betel growers in production of betel leaves can be understood. Among various constraints Credit unavailability is the most important problem in the study area. The other problems are Yield loss due to climatic variability, followed by High Establishment Cost, Lack of proper training, Labour unavailability during harvest, Unavailability of good planting materials, High labour cost are the constraints occupying the 2^{nd}, 3^{rd}, 4^{th}, 5^{th}, 6^{th}, 7^{th} position in descending order.

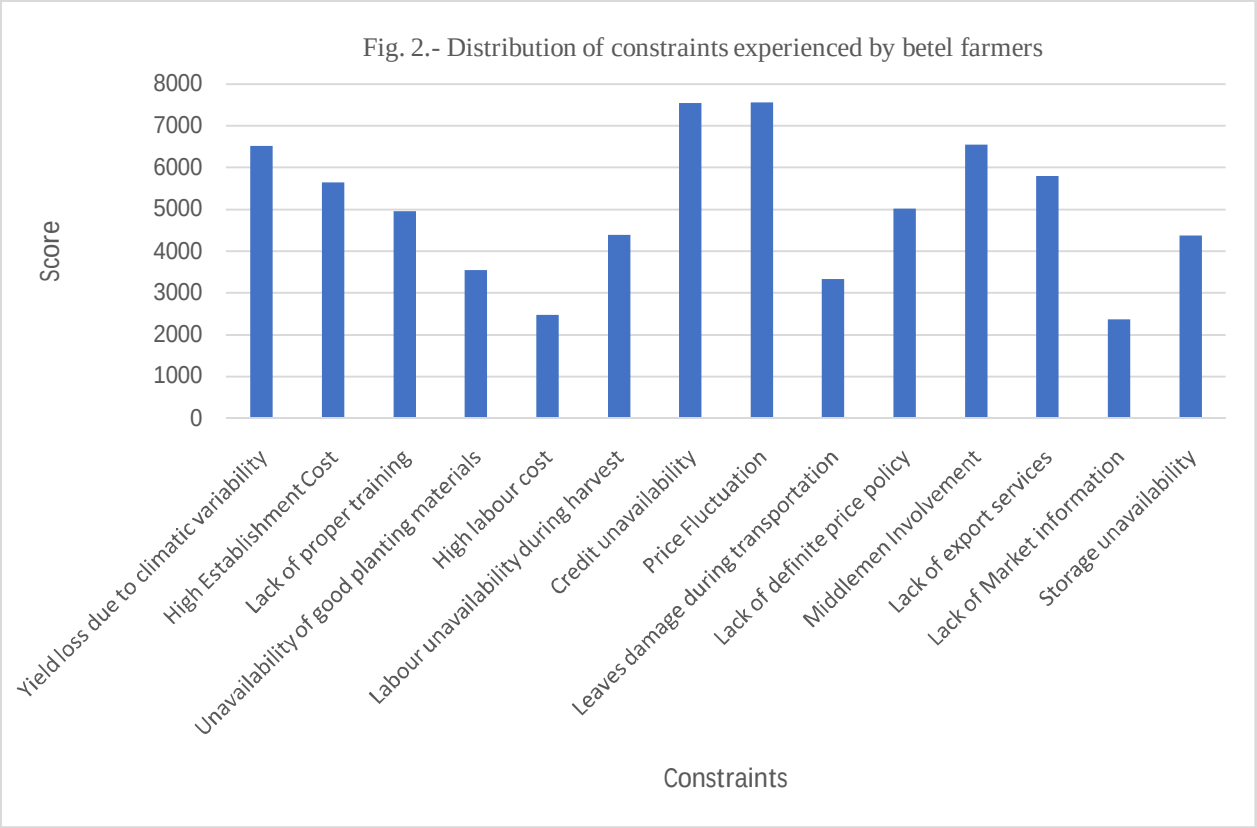
Constraints in Betel Marketing

Price fluctuation is a major problem in betel farming. There is no way of early tracking of prices or getting an idea on what the possible range of price can probably occur. As occurred everywhere in Indian Agriculture, presence of middlemen decreases the share of farmers and unnecessarily increases the cost which is to be bore by the consumers. So a higher a marketing chain is costly for both the consumer and farmer. Betel export to foreign countries may fetch good amount of foreign currency through export but no such facility has been employed or arranged by the govt., Otherwise it can boost rural economy as well as forex reserve of the country. There is no proper storage system, price policy or integrated system of taking or providing market information. Leaves are the economic parts of betel vines although sometimes leaves are damaged while transporting.

Tab. 6. : Constraints faced by farmers in Betel vines marketing

Serial No.	Constraints	Total Score	Average garret score (n=100)	Rank
1	Price Fluctuation	7563	75.63	**I**
2	Leaves damage during transportation	3330	33.3	**VI**
3	Lack of definite price policy	5013	50.13	**IV**
4	Middlemen Involvement	6547	65.47	**II**
5	Lack of export services	5790	57.9	**III**
6	Lack of Market information	2369	23.69	**VII**
7	Storage unavailability	4368	43.68	**V**

From Tab. 6, various constraints faced in marketing of betel leaves can be understood. Among various constraints Price Fluctuation is the most important problem in the study area. The other problems are Middlemen Involvement, followed by Lack of export services, lack of definite price policy, Storage unavailability, Leaves damage during transportation, Lack of Market information are the other constraints occupying 2^{nd}, 3^{rd}, 4^{th}, 5^{th}, 6^{th}, 7^{th} position in descending order.



Suggestions to overcome constraints

Tab. 7. : Suggestions by betel farmers regarding production				
Serial No.	Suggestions	Total Score	Average garret score (n=100)	Rank
1	Cultivation of drought tolerant varieties	5106	51.06	**V**
2	Proper training and extension programmes	6513	65.13	**II**
3	Supply of good planting materials	7133	71.33	**I**
4	Govt. Subsidy	6100	61	**III**
5	Loan disbursement at proper scheduling	5633	56.33	**IV**

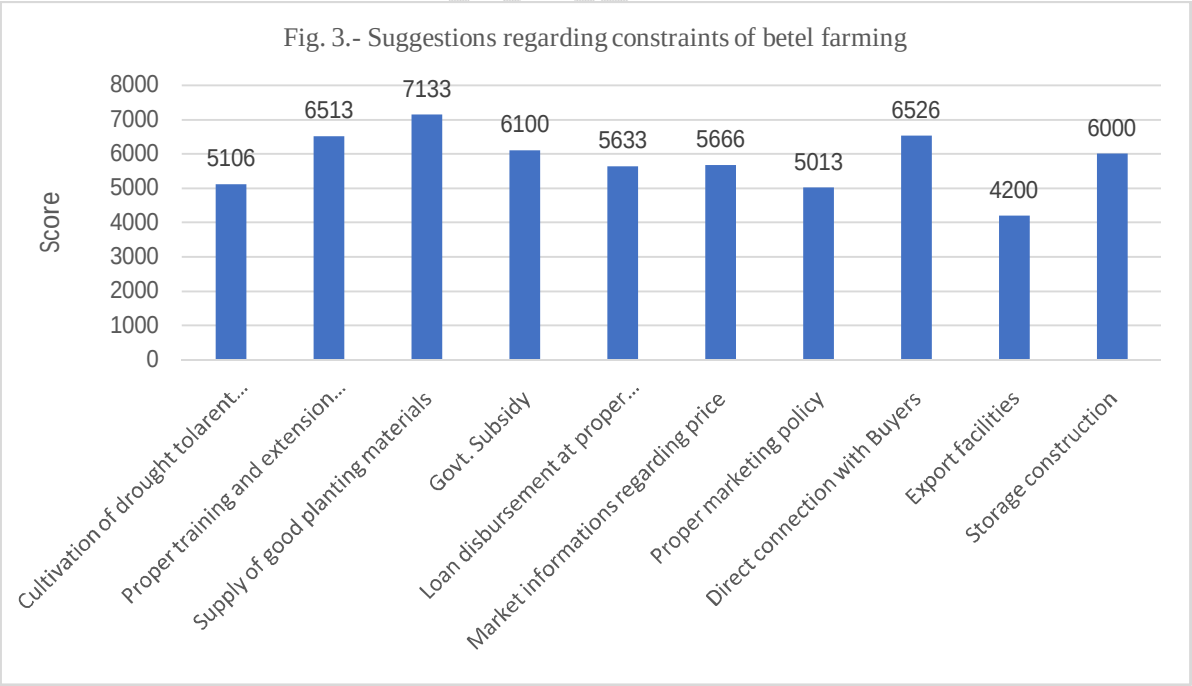
From tab. 7, the suggestions put forward by the betel leaf growers to overcome constraints can be configured. Majority of the farmers suggested for Supply of good planting materials., which can be propagated in govt. initiatives at nurseries and can be supplied by govt. to betel farmers. It was the first and foremost suggestion, followed by Proper training and extension programmes,

Govt. Subsidy, Loan disbursement at proper scheduling and Cultivation of drought tolarent varieties.

Tab. 8: Suggestions by betel farmers regarding marketing				
Serial No.	Constraints	Total Score	Average garret score (n=100)	Rank
1	Market information regarding price	5666	56.66	**III**
2	Proper marketing policy	5013	50.13	**IV**
3	Direct connection with Buyers	6526	65.26	**I**
4	Export facilities	4200	42	**V**
5	Storage construction	6000	60	**II**

From table. 8, the suggestions regarding marketing constraints can be conceptualised. Majority of the farmers suggested for making a platform for Direct connection with buyers, to avoid middlemen.Followed by storage construction, Market information regarding price, Proper marketing policy, Export facilities. A larger betel leaves storage house would help farmers to reduce post harvest losses and storing leaves so that they can sell at later time when the price might go up. Proper marketing policy should be drafted by government to facilitate farmers , also regarding price related queries, marketing news and information.

Fig. 3.- Suggestions regarding constraints of betel farming



CONCLUSION

The study was based on 120 sample respondents. The sample average size of the farm families was 2.8 Ha. Although they are covering their farmwork and allied activities they are facing some problems. Some of them are crucial problems, some can be overcome and some can simply be ignored. Lack of credit and timely unavailability of finance is a major issue. Unavailability of good planting materials, yield loss, high Establishment Cost, lack of proper training are major production related issues. Price Fluctuation and Lack of definite price policy are two major marketing constraints in this regard, followed by storage unavailability, lack of export services, lack of definite price policy and market information, leaves damage during transportation. A Proper marketing policy should be prepared to ensure direct connection chain between farmers and consumers and Loan disbursement at proper scheduling. Govt, should provide proper subsidy to remove financial problems along with conducting required no. of training and extension programmes.

RECOMMENDATION

Two recommendations can be submitted from authors' side. Firstly, a direct channel of connection should be established between farmers and potential buyers so that the interference of middlemen can be minimised to increase farmers' due shares and unnecessary price increase for lengthening of marketing chain. Secondly, to maintain price stability and alleviate the problem of price fluctuation a govt. agency should be employed to have a information database on preexisting price lists. Knowledge on earlier prices and factors regressing the price can be analysed through Time Series Data analysis to get an assessment on absoluteness of the price.

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