



CHALLENGES BEFORE BETELVINE CULTIVATION

Bharat V. Patil, Ph. D.

*Matoshri Bayabai Shripatrao Kadam, Kanya Mahavidyalaya, Kadegaon, Dist-Sangli,
Maharashtra (India)*

Abstract

Agricultural marketing committees helped all farmers for the immediate sale of all agricultural products. In the same way it helped for the immediate sale of betelvine leaves. Agricultural produce marketing committee not only facilitated farmers for immediate sale of betel leaves but also encouraged farmers to grow more of betel leaves. Betelvine leaves were known as perishable and so required immediate sales. Cultivators did not know the knack of quick marketing and so they were dependent on commission agents. As soon as cultivators plucked the leaves, they sent the leaves to the market for sales. Cultivators packed them into an appropriate package, known as a dag. In the evening all the dags were collected by agents who carried all dags by their own or hired tempos or trucks to the determined markets. Price was recognized as an expression in terms of money. Generally, price covered cost of production plus profit to disclose the efficiency of production. Price was measured as an important element to collect revenue as the price was a charge on sales. Price was the primary element of marketing mix. Price induced the cultivation of betelvine for the favorable decision making. Cultivators selected the suitable marketing area which yielded sufficient surplus income. Cultivators preferred their options in the selection of intermediaries for the immediate sale of betel leaves. Cultivators dispatched the matured betel leaves for sale at highest prices to intermediaries to fulfill the basic aspiration. Price was determined on the basis of supply of leaves, quantity, maturity, color, size of leaves etc. In Sangli, there was no an organized market for the scientific sale of betel leaves. Intermediaries played a solid role to influence price that produced expected profit. Cultivators relied to tally on agents who were well converts and with the market tactics and cultivators were much busy with their routine work of cultivation. Betelvine leaves were sold on auction and on bargains by intermediaries. Better price was offered to better quality of betel leaves. During social and cultural celebration demand of betel leaves was increased and price automatically hiked. Mumbai, Kolhapur, Sangli, Chiplun, Fonda and many parts of Kokan region were the main market for the sale of Sangli betel leaves. Betelvine cultivators in Sangli district not only earned income but also claimed good reputation in the various markets. Cultivators collected dues after one week for their sale from Sangli, Kolhapur, Chiplun, and Fonda and after a month from Mumbai agents. Local commission agents also paid the dues to the concerned cultivators after one week.

Key Words: *Betel leaves, challenges, commission agents, auction method of sale*



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1. Introduction

Betelvine crop is a challenging crop, which requires devotion and skill. Cultivation of Betelvine required skilled and trained farm laborers, proper water and disease management, maintenance of humidity and shade, adequate knowledge of marketing practices, etc. Betelvine cultivation also required short-term and long-term planning; proper guidance to farm labourers in regard to day to day functions such as types of leaves plucked, training and tying the vine, etc. Major problems were classified on the basis of Betelvine cultivation, distribution and marketing.

3. Research Methodology

3.1 Objectives

- i) To find out the challenges before betelvine cultivators in the sample area.
- ii) To suggest remedial measures to overcome the betelvine cultivation problems.

3.2 Hypotheses of the Study

- i) The major problems in betelvine cultivation were uniformly distributed.
- ii) Challenges in betelvine cultivation restrict the area under betelvine cultivation.

3.3 Research Design

3.3.1 Selection of Area

The area under betel vine cultivation was increasing day by day in Sangli district therefore the researcher selected two tahsils for the intensive study.

3.3.2 Selection of Villages

Five villages from two tahsils were selected purposely based on maximum area under the betel vine cultivation. 10 villages were selected with specific purpose.

3.3.3 Selection of Samples

Six betel vine cultivators were selected from each of the selected villages out of which two from small size of group, two from medium size of group and two from large size of group. Thus, total sample in two tahsils accounted to 60 betel vine cultivators.

3.3.4 Significance of the Study

The present research study will enlighten to manage betel vine cultivation on scientific basis. It is also valuable to the concerned betel vine cultivators and agricultural institutions. This study will also be useful to the central and state Governments to formulate policy for the betel vine crop.

3.3.5 Scope of the Study

The present research study was applicable to only Sangli district. Sixty farmers were selected and personal contacts, questionnaires were solicited. The study was mainly concentrated on problems of betel vine cultivation in Sangli district.

4. Results and Discussion

4.1 Major Problems in Betelvine Cultivation

Betelvine cultivation held many problems faced by cultivators like, non-availability of skilled farm laborers for plucking of betelvines, training, tying the vines, lowering of betelvines etc. They also faced problems of non-availability of water, electricity, natural calamities, soil quality, quality of betelvines, disease and financial problems etc. The various problems were grouped in Table 1 which was given as follows.

Table No. 1 Major Problems Faced in Betelvine Cultivation

Sr. No.	Major Problems	No. of Respondents	% of Total
1	Requirement of water	32	53.33
2	Electricity	60	100.00
3	Non-availability skilled Labourers	60	100.00
4	Natural Calamities	60	100.00
5	Quality of Soils	13	21.67
6	Quality of Betelvines	17	28.33
7	Diseases	60	100.00
8	Financial Problems	19	31.67
9	Guidance	05	8.33

Source: Primary data

Table 1 revealed that cultivators faced number of problems. Out of the total respondents 53.33 per cent faced the problem of shortage of water during the end of summer season. All respondents faced the problems of electricity failures, non-availability of skilled labourers for various activities of betelvine cultivation, natural calamities such as excess rainfall, frost and heat waves, attack of various diseases, etc. 21.67 per cent of total respondents suffered from the inferior quality of fertility 8.33 per cent respondents faced low productivity of the betelvines. Only 8.33 per cent respondents received normal guidance at once or twice in an agricultural year from Agricultural Research Station at Kasbe Digraj where all India Co-ordinated Research project on Betelvine was established 31.67 per cent of respondents faced financial problem after lowering of vines when plucking and sale of betel leaves were stopped for one and one-and half months.

4.2 Testing of hypothesis

Chi-Square test used as a test of goodness of fit and as a test of independence. Chi-Square test helped to know how well the assumed theoretical distribution, fit to the observed data. It helped to test the significance of association between two attributes or more than two attributes.

Test of Hypothesis-1: The major problems in betelvine cultivation were uniformly distributed.

Chi-Square analysis was used to test this hypothesis.

Table No. 2: Chi-Square Analysis

Major Problems	Observed Frequency O_i	Expected Frequency E_i	$(O_i - E_i)$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
Requirement of water	32	60	-28	784	13.06
Electricity	60	60	0	0	0
Non-availability of skilled Labourers	60	60	0	0	0
Natural Calamities	60	60	0	0	0
Quality of Soils	13	60	-47	2209	36.81
Quality of Betelvines	17	60	-43	1849	30.81
Diseases	60	60	0	0	0
Financial Problems	19	60	-41	1681	28.01
Guidance	05	60	-55	3025	50.41
Total	326		-214	9548	159.13

$$\therefore X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$



$$X^2 = 159.13$$

$$X^2_{8,0.05} = 15.507$$

\therefore Calculated $X^2 = 159.13 >$ table $X^2 = 15.507$

\therefore The major problems were not uniformly distributed.

New HO: The major problems such as electricity, non-availability skilled labourers, natural calamities and diseases were uniformly distributed.

Table No. 3: Chi-Square Analysis

Major Problems	Observed Frequency O_i	Expected Frequency E_i	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
Electricity	60	60	0	0
Non-availability skilled Labourers	60	60	0	0
Natural Calamities	60	60	0	0
Diseases	60	60	0	0
Total				

$$\therefore X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$$\left[\quad \right]$$

$$= 0$$

$$X^2_{3, 0.05} = 7.815$$

\therefore Calculated $X^2 = 0 < \text{table } X^2 = 7.815$

\therefore The major problems faced in betelvine cultivation such as electricity, non-availability skilled labourers, natural calamities and diseases were uniformly distributed.

4.3 Major Problems Faced by Respondents while Marketing Betelvine Leaves

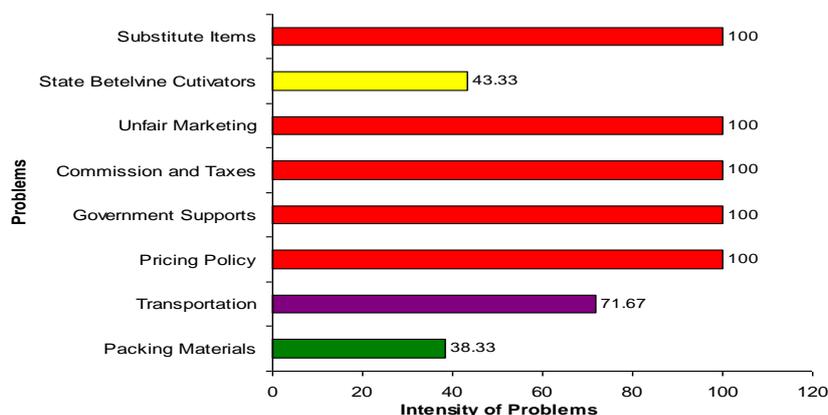
Betelvine leaves were identified as perishable. After plucking of betelvine leaves, it required immediate marketing. All plucked leaves were packed soon and sent to the market at night for the auction of the next-day morning auction. Betelvine cultivators faced the problem of packing, transportation, price-policy, commission and taxes imposed by the mediators, unfair marketing etc. various problems of distribution and marketing faced by betelvine cultivators were grouped in Table 5.26.

Table No.4 Major Problems Faced by Respondents While Marketing of Betel-leaves

Sr. No.	Major Problems Faced	No. of Respondents	% to Total
1	Packing Materials	23	38.33
2	Transportation	43	71.67
3	Pricing Policy	60	100.00
4	Government Supports	60	100.00
5	Commission and Taxes	60	100.00
6	Unfair Marketing	60	100.00
7	Competition from other State Betelvine Cultivators	26	43.33
8	Competition from Substitute Items	60	100.00

Source: Primary data

In the table 4, various problems of betelvine cultivators were grouped while marketing and distribution of betel leaves. Out of the total respondents, 38.33 per cent faced the problem of packing and packing materials. Due to diseases, banana trees, planted in the betelvine gardens were severely affected. There was scarcity of banana fibers during the last 3 to 4 years. Banana fibers and leaves were used for packing of betel leaves. 71.67 per cent of the total respondents were to face the problem of transportation. All the commission agents and mediators collected all days and they transported by using their own vehicles or hired vehicles directly from betelvine gardens. All the respondents faced the problem of defective price policy in the market, heavy commission collected by mediators, unfair marketing practices and computation from substitute items. The Government support to betelvine cultivators was not sufficient. The Government of Maharashtra banned on substitutes items like Gutkha, Pan Masala, Pan Parag etc. which were injurious to chew.



Graph 5.3 : Major problems in marketing and Distribution of Betel-leaves.

4.4 Farm Yard Manures

All the respondents applied for farm yard manures to grow better crop of betelvine leaves. Always, live stock produced better quality of farm yard manures which was identified as a healthy tonic to the crop of betelvine. The branches of live supports such as *Shevari (Sesbania aegyptica poir)*, *Pangara (Erythrina indica lam)*, *Drumstick (moringa oleifera lam)* and *mulberry (morus alba linn)* were used as feeding material to the live stock in the hands of the respondents. Following Table 5 enlightened the live stock.

Table No. 5 Classification of Respondents According to Availability of Live Stock

Sr. No	Type of Live Stock	No. of Live Stock	No. of Respondents	% to Total
1	Bullock	14	07	11.67
2	Cows	07	05	8.33
3	Calf's	04	05	8.33
4	Buffaloes	152	36	60.00
5	He buffaloes	NA	NA	NA

6	Goat	01	01	1.67
7	Sheep's	15	06	10.00
8	Poultry Birds	NA	NA	NA

Source: Primary data

Table 5 stated the number of live stock with the betelvine cultivators. There were 193 live stocks with respondents. 7 per cent respondents held 14 bullocks which were used for agricultural activities and carrying betelvine dags which were assembled in one central place of the village. All such dags of various betelvine cultivators were assembled together and then they were loaded into trucks or into tempos to send to urban-markets. All such dags were assembled at evening every-day and on the same day at night they carried to urban market. All the betelvine cultivators were expert in very proper time management 5 respondents held 7 cows for milk with 4 calves 36 respondents, 60 per cent had 152 buffalos. One respondent had one goat and 6 respondents had 15 sheep's.

4.5 Availability of Irrigation

Irrigation played an important role in enhancing betel leaves production. During summer season, there was always paucity of water and that created real problem to protect betelvine crop. Betelvine required the supply of water frequent water. During the summer season, cultivators supplied water to the betelvine crop twice in a week to control humidity in the betelvine garden. Betelvine cultivators arranged permanent irrigation facilities to protect, to increase the quality of betel leaves. Adequate water supply was supplied by respondents to the betelvine crop.

During the rainy and summer seasons, there was adequate water supply and therefore the quality of betel leaves was increased and quality was improved. But during summer season, adequate water was not supplied and therefore quality and quantity of betel leaves were affected.

Table no. 6 Classification of Respondents for the Supply of Adequate Water

Sr. No.	Size of Group	No. of Respondents	% to Size of Group
1	Small	19	95.00
2	Medium	19	95.00
3	Large	18	90.00

Source: Primary data

Table 6 indicated the adequacy of water supply to the Betelvine crop. Out of small and medium size of groups, 95 per cent of respondents had adequate water availability during all seasons. But 5 per cent respondents suffered from the inadequacy of water facilities during at the end of summer season.

In case of large-size group, 90 per cent respondents enjoyed full water supply to the betelvine crop in all seasons. But 10 per cent respondents faced the problem of inadequacy in only at the end of summer season.

To overcome from this inadequacy of water during at the end of summer season, cultivators construct farm-ponds which covered best quality plastic paper and to store water during rainy and winter seasons and during the time of inadequacy of water availability, cultivators used farm pond-water for their betelvine crop. Drip-irrigation system was operated by farmers during summer season.

4.5 Methods of Irrigation

Surface irrigation and drip irrigation methods were exercised to supply of water to betelvines. Surface irrigation was applied where much water was available. In the absence of adequacy of water availabilities, drip irrigation system was successful. Some betelvine cultivators used surface as well as drip irrigation to the betelvine crop. Application of irrigation method to betelvine crop was given in Table 7.

Table No. 7 Classification of Respondents According to the Method of Irrigation

Sr. No.	Method of Irrigation	No. Respondents	of % to Total
1	Surface-cannal Irrigation	34	56.67
2	Drip Irrigation	04	6.67
3	1 + 2	22	36.66
Total		60	100

Source: Primary data

Table 7 showed the classification of respondents according to method of irrigation applied to betelvine cultivation. Out of the total respondents, 34 respondents, 56.67 per cent, supplied surface irrigation to betelvine crop. 4 respondents, 6.67 per cent, used drip irrigation system. 22 respondents 36.66 per cent used drip irrigation system during rainy seasons and winter seasons. During these two seasons, water was required in quantity. But during the summer season these respondents supplied water by using drip irrigation and surface irrigation to maintain proper humidity.

5. Conclusions and Suggestions

5.1) Conclusions

The following facts were concluded from the study.

- 1) Betelvine cultivation held many problems faced by cultivators like, non-availability of skilled farm laborers for plucking of betelvines, training, tying the vines, lowering of betelvines etc.
- 2) Demand of Betelvine leaves decreasing year by year.

- 3) In betelvine cultivation internal and external environmental factors played a major role.
- 4) Cultivation of betelvine required proper water and disease management, maintenance of humidity and shade, adequate knowledge of marketing practices, etc.
- 5) Betelvine cultivation required special skills, knowledge and careful attitude. Daily observation and supervision of betelvine garden was felt a most essential element regarding humidity control, harvesting, and pest control etc.
- 6) Betelvine leaves were known as perishable and so required immediate sales.
- 7) Cultivators were highly attracted to grow betelvine due to cash crop, high employment generation capacity and regular income.
- 8) Cultivators did not know the knack of quick marketing and so they were dependent on commission agents.
- 9) Cultivators preferred their options in the selection of intermediaries for the immediate sale of betel leaves.

5.2 Suggestions

- 1) Training to farm labours for plucking of betelvines leaves, tying the vines, lowering of betelvines etc is needed.
- 2) Supply credit facilities with to the cultivators of betelvine.
- 3) Provide irrigation facility to betelvine cultivators.
- 4) Problem relating to electricity supply to be solved.
- 5) Betelvine crop should cover under the National Agricultural Insurance Scheme (NAIS) and Farm Income Insurance Scheme (FIIS).
- 6) Conserve soil quality to obtain quality of betelvines leaves.
- 7) Insure disease management skill to betelvine cultivators.
- 8) Develop new varieties of betelvine which can produce high yield, better quality and disease resistance power.
- 9) To increase demand of betel leaves Government should control the production and consumption of substitute items like *Ghutkha, Pan Masala, Pan Parag, Mawa etc.*
- 10) Latest research discoveries should be immediately communicated to betelvine cultivators.
- 11) The Government should control malpractices in the betel leaves market.

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