

SJIF 2014 = 3.189

ISSN: 2348-3083

An International Peer Reviewed & Referred

**SCHOLARLY RESEARCH JOURNAL FOR  
HUMANITY SCIENCE & ENGLISH LANGUAGE**



## **BETELVINE -A TRADITIONAL CASH CROP OF MAHARASHTRA**

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### **Abstract**

*Production of betelvine leaves depended on soil quality, variety of plants, disease management, water management, control of humidity in the betelvine garden and age of the vine etc. The economic life of the gardens was considered for eight years. In the first year of plantation, yield of leaves was less. Harvesting of betel leaves in the first year started after 3-4 months of plantation. Plucking of betel leaves was done according to type of leaves. Fapada, kalli and hakkal leaves were harvested separately. The genetic name of the betelvine leaf was derived from Sanskrit word Pippalli. The betelvine leaves were absolutely indispensable for celebrating marriages, many religious and social functions. All holy days used betelvine leaves for creating and preserving reciprocity among friends and relatives. Betelvine leaves sweeten the mouth and remove bad smell of the mouth. It serve as the best medicine to remove acidity, cough, indigestion and septic etc. Betel leaves were useful for curing Asthma, Bronchitis etc. People were habituated to chew betelvine leaves to wipeout uneasiness and exhaustiveness. Mostly betelvine leaves were used by many in regular intervals to obtain enthusiasm for all functions to do emotionally. The incomes from the sale of betelvine leaves were sound and attractive to the cultivators throughout the year. Betelvine cultivators obtained financial support in the whole year to do many other farming functions. Farmers collected seasonal income from other crops, while betelvine cultivation produced income throughout the year to the pleasant survival. Majority of the members of the family were engaged in the plantation, training of vine, provision of manures, fertilizers, water and plucking of betelvine leaves.*

**Key words:** Gross Income, Net Income, Fapada leaves, Kalli leaves, Hakkal leaves, Dag, Dappa and Karandi



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## **2. Introduction**

In India, betelvine leaves is known in different words in different languages. In Sanskrit, it was named as Nagavali, Tamulum, etc. In Hindi, Bengali, Marathi and Gujarathi, it was called as Pan, in Telagu as Tamalapaka, Kill, Nagarati, etc. in Kannada as Viledyali, in Malayalum as Verillal. The betelvine plant was considered as a perennial, creeping climber. Betelvine leaves were known as broad with pointed tips. It was identified as ever-green element to maintain freshness to all chewing people Betelvine leaves were born alternatively on the stem and branches of the betel vines. For the proper growth and production of betelvine, it required the conditions of shade. The shaded conditions were supplied for fast growing plants. Supports were also given to betelvine for climbing. Betelvine crop was a peculiar type of cash crop which provided socio economic states in the society. Betelvine crop is a peculiar type of cash crop which provides socio economic states in the society. The earnings from the sale of betel leaves were sound and attractive to the cultivators throughout the year, at regular intervals. Betel vine cultivators are obtaining financial support in the whole year to do many other farming functions. Majority of the members of the family are engaged in the plantation, training of vine, provision of manures, fertilizers, water and plucking of betel vine leaves. Sangli district is evaluated as one of the district in the cultivation of betel vine leaves. Sangli is also holding favorable elements like environment, transportation, market facilities, and willingness of farmers in betel vine cultivation. Under the study, efforts were made to study the cost of cultivation.

## **3. Research Methodology**

### **3.1 Objectives**

- i) To find out the financial position of farmers in the sample area.
- ii) To find out the returned structure from sale of betelvine leaves.

### **3.2 Hypotheses of the Study**

- i) Internal and external environmental factors played a major role in betelvine cultivation.
- ii) The betelvine cultivation provided a sound livelihood to many farmers.
- iii) Cultivators were highly attracted to grow betelvine due to cash crop, high employment generation capacity and regular income.

### **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.

### **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 managerial aspects of betel vine cultivation in Sangli district.

## **4. Results and Discussion**

All betelvine cultivators aimed at the maximum utilization of input resources to balance with maximum income. Betel leaves were perishable and therefore cultivators planned to dispose off all harvested leaves as early as possible. Income was assured due to the assured demand of the people. Price of betel leaves determined on demand, supply, cost of cultivation, cost of marketing, quality of betel leaves which yielded expected income on the sale of betel leaves.

### **4.1) Sale of Betelvine Leaves**

Dag (containing 12000 leaves) was considered as a unit of sale. If sales were made karandi-bamboo basket containing 3000 leaves and dappa containing 6000 leaves were converted into dag unit.

**Table No. 1: Gross Sales According to size Group wise Dags produced**

Sr. No.	Size Groups	Types of Leaves									Total Dags Sold	Grand Total Rs.
		Fapada			Kalli			Hakkal				
		Dags Sold	Ave . Rat	Total Rs.	Dags Sold	Ave . Rat	Total Rs.	Dags Sold	Av e. Ra	Total Rs.		

*SRJIS/BIMONTHLY/ BHARAT V. PATIL (2555-2563)*

			e Rs.		e Rs.		te Rs.		d			
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Small	07 (10.15)	1200	8400 (21.26)	55 (79.70)	550	30250 (76.53)	07 (10.15 )	125	875 (2.21)	69 (100)	39525 (100)
2	Medium	12 (8.39)	1200	14400 (17.98)	116 (81.12)	550	68800 (79.68)	15 (10.49 )	125	1875 (2.34)	143 (100)	80075 (100)
3	Large	16 (7.41)	1200	19200 (16.67)	167 (77.31)	550	91850 (79.75)	33 (15.28 )	125	4125 (3.58)	216 (100)	115175 (100)
Total		35		42000	338		185900	55		6875	428	234775

Source: Primary data

Table number 1 showed that during the agricultural year total gross sales of Rs. 2,34,775 were earned by sale of 428 dags. Out of 428 dags sold, 69 dags of various types of leaves were sold by small size group. Small size group produced and sold 07 (10.15) dags of fapada leaves. Average price was Rs.1200 per dag. Small size group received Rs.8400 by selling fapada leaves. Small size group produced and sold 55 (79.79 per cent) dags of kalli leaves at an average price of Rs.550 per dag and received Rs. 30,250 which was 76.53 per cent of total sale of small size group. Small size group also sold 7 (10.15 per cent) dags of hakkal leaves. Average price was 125 per dag was received. Rs.875 (2.21 per cent) was received to small size group by sale of 7 dags of hakkal leaves. Total sales of small size group of all types leaves were Rs.39,525 which were 16.84 per cent of total sales of all size groups.

Medium size group sold 143 dags of all types of leaves during the year. 12 (8.39 per cent) dags of fapada leaves were sold at an average price of Rs. 1200 per dags and amount received was Rs.14,400 which was 17.98 per cent of total sales of medium size group. Rs.63,800 (79.68 per cent) was received by sale of 116 (81.12per cent) dags of kalli leaves at an average price of Rs. 550 per dag. Medium size group sold 15 (10.49 per cent) dags of hakkal leaves at an average price of Rs.125. Rs.1875 received which was 2.34 per cent of total sales of medium size group. Total size of medium size group of all types of leaves was Rs.80,075 which was 34.11 of total sales of all size groups.

During the year large size group sold 216 dags of all types of leaves. Large size group sold 16 (7.41 percent) dags of fapada leaves at an average price of Rs. 1200 per dag and amount received was Rs.19,200 which was 16.67 per cent of total sales of large size group. Out of the total sales of large size group, kalli leaves portion was Rs.91,850 which was 79.75 per cent. 167 dags of kalli leaves were sold at an average price of Rs.550. Large size group sold 33 (15.28per cent) dags of hakkal leaves at an average price of Rs. 125 per dag and received

Rs. 4125 which was 3.58 per cent of total sales of large size group. Total sale of large size group was Rs.1,15,175 which was 49.05 percent of total sales all size groups.

The gross income structure of fapada leaves revealed that small size group was efficient (21.26 percent) in production of fapada leaves dags. Then rank medium size group (17.98 per cent). Large size group were not efficient (16.67 per cent) in production of fapada leaves which fetch maximum rate in market.

In case of Kalli leaves, large size group was efficient (79.75 per cent) .Then ranks medium size group. Small size group produced fewer amounts of kalli dags as compared to large and medium size groups.

Large size group ranked first (3.58 per cent) in earning of gross income in case of hakkal leaves then ranks medium and small size groups.

**Table No 2: Gross Sales According to Acre of Betelvine Cultivation**

Sr. No.	Size Group	Area Under Betelvine (In Acres)	Total (Rs.)
1	Small	15 (16.13)	37,867 (16.13)
2	Medium	29 (31.18)	73,209 (31.18)
3	Large	49 (52.69)	1,23,699 (52.69)
	Total	93 (100)	2,34,775 (100)

Source: Primary data

Table 2 reveals that total gross amount was received from the sale of betel leaves. Total area under betelvine cultivation in the selected respondents was 93 acres. Out of these small size group held 15 acres (16.13 per cent) total area. Medium size group 29 (31.18 per cent) and large size group held 49 acres (52.69 per cent) of total area under betelvine cultivation.

Rs. 2,34,775 were received from the overall sales of betel leaves. Small size group claimed Rs.37,867 which was 16.13 per cent of total sales. Medium size group received Rs.73,209 which was 31.18 percent of total sales. Large size group obtained Rs.1,23,699 which was 52.69 percent of total sales.

**Table No.3 : Gross Sales According to Types of Betelvine Leaves Sold (per acre)**

Sr. No.	Types of Betel Leaves	Average Quantity (Dags) Sold	Average Rate Rs.	Total Rs.
1	Fapada	35 (8.18)	1200	42,000 (17.89)
2	Kalli	338 (78.97)	550	185,900 (79.18)
3	Hakkal	55 (12.85)	125	6,875 (2.93)

Total	428	(100)	234775 (100)
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Source: Primary data

Table 3 showed that during the agricultural years 428 dags betel leaves were sold. Out of 428 dags sold, 35 dags (8.18 per cent) fapada leaves were sold. Average price was Rs. 1200 per dag. The total sales proceeds of fapada levels were Rs. 42,000 which represented 17.89 per cent of total sale proceeds.

Kalli leaves 338 dags (78.97per cent) were sold at Rs. 550 per dag and total amount so received was Rs.1,85,900 which was 79.18per cent of total sale.

Hakkal leaves 55 dags (12.85 per cent) was sold at Rs.125 per dag and received total amount of Rs. 6875 which was 2.93 per cent of total sales. Total gross amount received from the sales proceeds on the sale of 428 dags at Rs. 2,34,775. The average gross sale per dag was Rs. 549.

**Table No.4: Period-wise Quantity (Dags) Sold and Gross Income Received (per acre)**

Sr. No.	Types of leaves	Quantity Sold			Dags Sold	Average Rate Rs.	Total (Rs.)
		March to May (Dags)	June to Sept (Dags)	Oct to Jan (Dags)			
1	2	3	4	5	6	7	8
1	Fapada	NA	19 (9.69)	16 (10.00)	35 (8.18)	1200	42,000 (17.89)
2	Kalli	55 (76.39)	153 (78.06)	130 (81.25)	338 (78.97)	550	185,900
3	Hakkal	17 (23.61)	24 (12.25)	14 (8.75)	55 (12.85)	125	6875 (2.93)
	Total	72 (100)	196 (100)	160 (100)	428 (100)		2,34,775 (100)

Source: Primary data

Table 4 indicated the period wise quantity sold and average price charged. During March to May 72 dags were produced. Out of which 55 dags (76.39per cent) belonged to kalli types of leaves, 17 dags (23.61per cent) belonged to hakkal types of leaves and fapada type of leaves was not ripe for sale. So they were not plucked for sale.

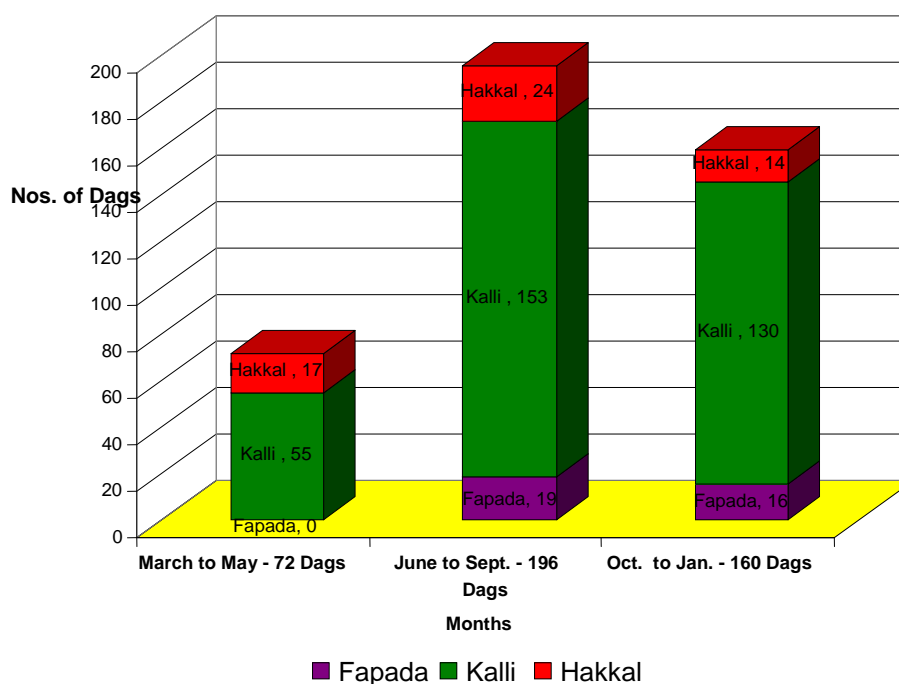
During June to September, 196 dags were produced of which 19 dags (9.69 per cent) were of fapada, 153 dags (78.06 percent) were kalli and 24 dags (12.25 percent) of hakkal type of leaves were produced.

From October to January, 160 dags were produced, out of which 16 dags (10.00 percent) of fapada leaves, 130 dags (81.25 per cent) of kalli leaves and 14 dags (8.75 per cent) were of hakkal leaves.

35 dags of fapada leaves produced and Rs.1200 per dag were received. The total amount received from the sale of fapada leaves was Rs.42,000 which was 17.89 per cent of total sales.

Kalli leaves major production accounted to 338 dags were produced at Rs. 550 per dag. Total amount so received was Rs.1,85,900 which was 79.18 per cent of total sales.

Hakkal leaves accounted 55 dags were produced at Rs. 125 per dag. Total amount so received from the sale of hakkal leaves was Rs.6,875 per cent of total sales.



**Graph No. 1- Month wise Production of Betelvine Dags**

## 5. Conclusion and Suggestions

### 5.1) Conclusions

The following facts were concluded from the study.

- 1) Demand for betelvine leaves was not appreciable year by year.
- 2) In betelvine cultivation internal and external environmental factors played a major role.



- 3) 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.
- 4) Cultivators were highly attracted to grow betelvine due to cash crop, high employment generation capacity and regular income.
- 5) Gross total amount of Rs. 234,775 was received from the sale of 428 *dags* in one acre of betelvine cultivation.
- 6) Gross total income from one acre betelvine was Rs. 127,404 which was calculated by deducting cost of betelvine cultivation from gross sale receipts.
- 7) Net total income from one acre of betelvine cultivation was Rs. 97,717 which was calculated by deducting marketing cost from gross total income.
- 8) The analysis of price spread of betelvine leaves indicated that *fapada* leaves gave maximum share of income to the respondents in consumer's price.

## **5.2 Suggestions**

- 1) Supply credit facilities with low rate of interest for the investment in fixed and working capital to the cultivators of betelvine.
- 2) Develop new varieties of betelvine which can produce high yield, better quality and disease resistance power.
- 3) Application of modern and improved agricultural techniques is essential for betelvine cultivation.
- 4) Betelvine cultivators should require to control humidity and sound fertility of soil management. Size of leaves, quality of leaves and yields can be designed on such factors.
- 5) To increase demand of betel leaves Government should ban the production and consumption of substitute items like *Ghutkha, Pan Masala, Pan Parag, Mawa etc.*
- 6) Latest research discoveries should be immediately communicated to betelvine cultivators.
- 7) *Fapada* leaves fetch high price as compared to *kalli* and *hakkal* leaves. Betelvine cultivators are required to give more attention to produce maximum quantity with improved quality and market oriented *fapada* leaves.
- 8) Betelvine crop should cover under the National Agricultural Insurance Scheme (NAIS) and Farm Income Insurance Scheme (FIIS).
- 9) Financial package should be given to such betelvine cultivators who suffered from various diseases of betelvine and excessive rainfall.



- 10) Proper farm accounting practices should be implemented to understand cost and profit of betelvine crop.
- 11) The Government should frame a policy to control malpractices in the betel leaves market.

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