

Problems and Prospects of Cardamom Cultivation in Idukki District

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Abstract:

High ranges of Kerala is famous for its variety of spices. Cardamom is one of the main spices produced there. Cardamom is the “Queen of Spices”. It is one of the most exotic and highly priced spices; Indian cardamom has a history as old as human civilisation. Southern India and Sri Lanka are regarded as origin of this spice. Cardamom is often named as the third most expensive spice in the world after saffron and vanilla. India provides all the favourable conditions of cardamom. Differential cultivation patterns make Indian cardamom highly unique in the international market. There are different varieties and grades of Cardamom. Malabar Type, Mysore Type, Vazhukka Type are Three major types of small cardamom. Large cardamom also known as “Black Cardamom”. Cardamom uses for different purposes. Cardamom is one of the few agricultural commodities produced in India which has significant export orientation. This study aims to learn the problems faced by farmers in the cardamom market.

Key words: Cardamom, cardamom plantations in Idukki district, auction, problems in cardamom cultivation.

I. INTRODUCTION

Cardamom is the “Queen of Spices”. It is one of the most exotic and highly priced spices; Indian cardamom has a history as old as human civilisation. Southern India and Sri Lanka are regarded as origin of this spice. Till recently India was the main producer and exporter of this commodity; but of late Guatemala has emerged as a keen competitor to Indian cardamom in the international spice market. As a whole, cardamom is cultivated commercially in India, Sri Lanka, Guatemala and Tanzania. Cardamom is often named as the third most expensive spice in the world after saffron and vanilla, and the high price reflects the high reputation of this most pleasantly scented spice. Cardamom is grown commercially in plantations under the shade of tall forest trees. It is a very labour intensive crop to produce. The fruits are picked individually by hand before they are fully ripe, over a period of several months.

A. Cultivation

India provides all the favourable conditions of cardamom. Differential cultivation patterns make

Indian cardamom highly unique in the international market. It requires humid and cool climate followed by good amount of sunshine and appropriate rainfall. There are two types of cardamom grown in India, viz. small (*Elettaria Cardamomum Maton*) and large cardamom (*Amomum Sabulatum*). Large cardamom is cultivated in North Eastern parts of the country in Nepal, Bhutan, Sikkim, Darjeeling etc. It has no much significance and is not traded in the futures market. Small cardamom is produced in the western ghats mainly in Kerala, Tamil Nadu and Karnataka.

B. Varieties and Grades of Cardamom

1) Bold: It is popular export grade; 90% and above capsules will be having 6.5 mm and above diameter; matured and greenish in colour; Lt. wt. will be 415 gms.

2) Super Bold: It is a very special variety. All capsules will be matured greenish and having above 8mm diameter size. Lt. wt. will be more than 450 gms.

3) Extra Bold: Best in export market. All capsules will be matured, greenish and having 7 mm and above diameter. Lt. wt. will be 435 gms.

4) Bulk: This grade will contain all size, matured and immature capsules; black yellow and splitted cardamom. This is to be graded.

5) Small: Small size cardamom having size between 5.5 mm and 6.5 mm. Cleaned and removed dust, husk and black capsules. Lt. wt. will be around 385 gms.

6) Open/Splits: More than 60% capsules will be in open condition and the colour may partly greenish/pale yellow. All capsules will be matured and the size are 6.5 mm and above.

7) Seeds: Black/Brown colour seeds are the original content in every cardamom capsule. The husks were fully removed. Lt. wt. may be around 550 gm to 600 gm.

8) Fruit: Fruits are generally over matured capsules with slight yellowish in colour and Lt. wt. over 425 gm.

C. Three major types of small cardamom

Malabar Type: It is medium in size and attains 2-3 meters height at maturity. The panicles are

prostrate and the capsules are globose oblong shaped. This type is better suited to 600-900 meter elevation and is mostly cultivated in Karnataka and Tamil Nadu.

Mysore Type: It is robust and attains 3-4 meters height at maturity. The panicles are erect and the capsules are ovoid bold and dark green in colour. It is better adapted to altitudes ranging from 900-1,200 meters. This type is mostly cultivated in Kerala and Karnataka.

Vazhukka Type: It is considered to be the natural hybrid of Malabar and Mysore types. The plants are robust and the capsules are bold globose or ovoid in shape. It is extensively cultivated in Kerala and Tamil Nadu.

D. Large Cardamom

Large cardamom also known as “Black Cardamom” is the dried fruit of a perennial herbaceous plant cultivated in the sub-Himalayan tract of Sikkim and Darjeeling districts of West Bengal. Its quality characteristics are different from that of small cardamom. It is mostly valued for its acceptable taste, flavour and aroma. It is used in rice preparations and meat dishes, besides wide range of beverages and sweets. India is the main producer and exporter of large cardamom. There is preference for scientifically cured quality large cardamom with purple colour.

E. Harvesting Period

Cardamom plants normally start bearing two years after planting. Throughout the cropping season of cardamom, i.e., from August to March, approximately 6 pickings are done in each 45 days interval. In most of the areas the peak period of harvest is during October-November. Ripe capsules are harvested in order to get maximum green colour during curing.

The output of cardamom is greatly influenced by climatic conditions. The cardamom plant requires a continuous spell of rain interspersed with periods of good sunshine. The plant is very susceptible to attack by pests and diseases. Besides, the cardamom growing tracts in the country are facing severe ecological degradation over the past two decades due to diminishing forest cover, leaving the region open to devastation by floods and droughts. Cardamom requires tropical forest conditions for growth and a lack of such areas makes very few states in the country suitable for its plantation.

F. Pricing of Cardamom

Though cardamom is a major foreign exchange earner for India, it is not a free traded commodity. As per the Cardamom (Licensing & Marketing) Rules, 1987, all the producers of cardamom should sell their product only through a licensed auctioneer or dealer and the auction system

came into existence since then. The cardamom auction centres are organised by the Spices Board, who issues license to the cardamom traders. The auctions followed an “open-outcry” system before it was converted into an electronic auction system in August 2007 at Bodinayakanur in Tamil Nadu, followed by Vandemmedu in Idukki District of Kerala in December 2007. The major cardamom trading centres in Kerala are Vandemmedu, Puttady, Puliyanmala, Kumily, Thodupuzha and Cochin.

G. Relevance of the Topic

Cardamom is one of the few agricultural commodities produced in India which has significant export orientation. In recent days, cardamom market attracts the attention of not only the people in the business but also the general public because of the absence of an open market. This study aims to learn the problems faced by farmers in the cardamom market.

II. REVIEW OF LITERATURE

Ghosh analyses the role of spices in economy and gave different methods of plantation crops.

Leena analyses the boom in spices export and its impact on the world.

Gigimol lays down the problems faced by the Indian agricultural sector and trade policy reforms.

Viswanathan argues that the price reducing tendency in the Indian agricultural sector is mainly due to the integration with the world economy.

M. S. Swaminathan suggests that “if educated youth choose to live in villages and launch a new agricultural movement based on the integrated application of science and social wisdom, our untapped demographic dividend will become our greatest strength.

Dr. H. D. Dwarakanath points out that “the effectiveness of Indian agriculture is the effectiveness of Indian Economy.

Sandip gives details of spices export especially, cardamom, pepper, ginger, chilli and cumin seeds.

Prof. R. S. Dhillon analyses Sikkim has the largest area and highest production of Cardamom in India.

III. OBJECTIVES OF THE STUDY

To study the problems faced by the cardamom cultivation in Idukki district and to suggest measures to solve them.

To recommend the steps that can be taken to increase the production, productivity and profitability of cardamom plantations in Idukki district.

To review the production oriented development schemes adopted by Spices Board in the development of cardamom cultivation in Idukki district.

A. Methodology

Data are obtained from both primary and secondary sources. Primary data has been collected from Chakkuppallampanchayath of Udumbancholataluk, the major cardamom growing tract in Idukki district. A total of 50 cardamom growers were selected at random from Chakkuppallampanchayat and the data were also collected from major cardamom trading centres in Vandanmedu, Puttady, Kumily and Puliyanmala, related with the problem of cardamom auction. Secondary data are collected from Spices Board, Kattappana, Idukki District. Field officers at the Udumbanchola, Vandanmedu and Anakkara and also some magazines, weeklies, bulletins and journals. Sample survey is also used. A major part of cardamom cultivation is done in Idukki district. It alone produces around 7800 MT cardamom annually, which is 91.40 per cent of the total production in the state. Hence, Idukki district is selected for detailed study. The district is divided into four taluks namely Udumbanchola, Thodupuzha, Peermedu and Devikulam.

B. Tools for Analysis

All the data collected have been classified, sorted and tabulated for giving more apprehension. Statistical tools like percentage and average have been used for analysing the data.

C. Limitations of the Study

The current study has many limitations. Non-availability of certain data has made it

impossible to attain a cent percent accuracy in the study. The time available for the study is limited.

IV. PROBLEMS AND PROSPECTS OF CARDAMOM CULTIVATION IN IDUKKI DISTRICT

High ranges of Kerala is famous for its variety of spices. Cardamom is one of the main spices produced there. It contributes a major portion of the foreign revenue of the country. But the farmers faces many problems, both in the production and marketing of cardamom. If we can put forward proper solutions to these problems, it will revive the sector.

In the light of the study conducted among the cardamom farmers, the following problems are noted out.

A. The main problem is there is no open market for cardamom.

1) Land Holding Pattern

The total area of cardamom cultivation is covered under the study comes to about 300 hectares of land, only 50 growers are selected for this study. It constitutes twenty six marginals, fifteen small and nine large growers of cardamom in selected cardamom growing areas of Puttady, Udumbanchola, Anakkara, Vandanmedu and Chakkuppallam. On the average they possess 4.27 hectares of land with an annual average productivity of 400 kg per hectare and their annual average income is Rs. 280,00.00 Income per head is Rs. 5600. The table indicates the discrimination land holding pattern among marginal, small and large growers of cardamom cultivation.

Table 1: Land Holding Pattern

Type of Growers	Hectare	Number of Growers	Percentage
Marginal	0-2	26	52
Small	2-5	15	30
Large	5 and above	9	18
Total	0-5 & above	50	100

Source: Sample Survey

2) Financing Pattern

Finance is the pre-requisite for efficient production and operations. Finance is the most important factor for the cultivation of cardamom. The following table indicates the financing pattern of marginal, small and large growers of cardamom cultivation.

Table 2: Source of Financing

Type of Funds	Number of Growers	Percentage
Marginals	Small Large	Total

Own Fund	8	3	1	12	24
Borrowed	10	5	3	18	36
Own & Borrowed Funds	8	7	5	20	40
Total	26	15	9	50	100

Source: Sample Survey

The table shows that marginal growers depend more on borrowed funds while small and large growers use more, their own fund and borrowed funds.

3) *Financial Assistance*

The most important problem in cardamom cultivation is the lack of sufficient finance. Eighty five per cent of the farmers depend on agricultural income for their livelihood. So, the majority of their income went for their own livelihood. This resulted in reducing the level of inputs for proper cultivation of cardamom. Likewise, the cost of fertilizers doubled recently. The growers have to spend about Rs. 225,00.00 per hectare for replanting and nursing of the new plants which will start bearing only after a lapse of 18 months or 2 years. Though a subsidy of 20 per cent per hectare is provided by the Spices

Board, only 30 per cent of growers get the benefit of it and there is no financial assistance from other agencies.

4) *Fertilizers*

Fertilizers are applied in the month of June/July. Generally used chemicals are Phosphorous, Potash and Factomphose 20-20-0-15. Fertilizers are applied twice in a year. The second part is given in the month of December/January. Most of the growers use both fertilizers and organic manure simultaneously.

Table 3 :Fertilizer Users

Type of Growers	Using	Not Using	Total
Marginal	25	1	26
Small	15	0	15
Large	9	0	9
Total	49	1	50
Percentage	98	2	100

Source: Sample Survey

From the table it is seen that 98 per cent of cardamom growers apply various types of fertilizers and the rest does not use any fertilizers. Fertilizer is essential for the cardamom cultivation. Without the use of fertilizers proper production cannot be possible. Most of the growers reported that the prices of chemical fertilizers are very high which is beyond their reach.

5) *Organic Manure*

Organic manure is also used for cultivation cardamom. The usually used organic manures are Neem cake, waste leaf and such other natural wastes, i.e., earth worm compost.

6) *Organic Manure Users*

The study reveals that 100 per cent of growers are using the organic manure for their cultivation of cardamom. Most of the growers

reported that if manure alone is used next year's production will show a decreasing trend and may also cause loss of their plantation due to several diseases.

At the same time growers are aware about the side effect of fertilizers which may cause for different types of diseases for men and decreases the fertility of land etc. They argue that cardamom cultivation must be transformed into organic manure.

7) *Readers of Spices Board Publication*

Most of cardamom holders are reading several Spices Board publications to know about various cultivation methods and scientific methods of production and new methods of plantation. Major part of marginal farmers are not aware and not reading any publications. Hence, small and large farmers are continuously reading publications and magazines such as Spice India, Indian Spices,

SugandhaKeralam, Agmark Grade Specifications for Spices and Karshakan.About 48 per cent of growers are reading the Spice Board publications to know about various modern methods of cultivation. Most of the growers reported that suggestions that are recommended in the publications are difficult to be practiced because it is costly. And the rest are not reading the publications due to non-awareness of publications and most of marginal farmers are uneducated.

8) **Mode of Acquisition of Property**

Growers acquire the property mainly by purchase and inheritance.

Usually financially strong and big growers possess the property by purchase. Inherited property comes from ancestor that is from grandfather, to father and son.The study reveals that 56 per cent of growers possessed the property by way of purchase and the remaining 44 per cent of holders come to the possession of land by inheritance.

9) **Mode of Communication**

The Spices Board has put forward various development schemes to assist the growers of cardamom. Hence, most of marginal farmers are not aware about it. Mainly farmers are communicated through field officers, while other growers are communicated through journals and the officers.

Table 4 : Mode of Communications

Types of Growers	through Field Officers		Through Others		Through Journals From the Office
Total					
Marginals	2	16	2	6	26
Small	6	1	4	4	15
Large	6	0	2	1	9
Total	14	17	8	11	50
Percentage	28	34	16	22	100

Source: Sample Survey

The table indicates that 28 per cent of growers came to know about various programmes of the board through the Board’s field staff. 34 per cent of farmers get knowledge from others. 16 per cent of farmers depend on journals and 22 per cent of growers reach directly at the office to know about schemes provided by the Board. Few of them say that they do their cultivation by past experience and not taking any media communication into consideration. The study also reveals that the Board has no effective and direct system for communicating its schemes to the ultimate growers.

10) **Beneficiary of any Scheme of the Spices Board**

The Spices Board provides mainly four schemes for the farmers. They are Extension advisory scheme, scheme of providing infrastructure for producing cardamom, scheme for subsidised supply of Bamboo mats and constructing drying yard for

drying cardamom, scheme for subsidised supply of cardamom threshers.

11) **Irrigation Source**

There is no particular irrigation scheme for the cultivation of cardamom. No financial aids are provided from the Spices Board to up-bring water requirement and to upgrade cardamom cultivation and so they have to depend on the natural facilities in the form of ponds, check dams etc.

From the table it is understood that 100 per cent of growers are using the irrigation facility by different source. The table also reveals that marginal growers are using rain, while small growers depend mainly on rain and wells. Similarly, large growers are using facility of check dams.

12) **Other Problems faced by Growers**

There are certain problems faced by the growers for the cultivation of cardamom. They are mainly financial, marketing, production and others.

Table 5 : Problems faced by Growers

Types of Growers	Production				Total
	Financial	Marketing	Production	Others	
Marginal	14	10	1	1	26

Small	7	6	1	1	15	
Large	1	5	1	2	9	
Total	22	21	3	4	50	
Percentage		44	42	6	8	100

Source: Sample Survey

From the table it is understood that 44 per cent of growers are faced by financial problems; while 42 per cent of growers are faced by marketing problems. The absence of open market for cardamom is the major marketing problem.

Similarly, 6 per cent of farmers are faced by production problem and 8 per cent by other problems.

13) Some Other Problems

It was felt during the study that a larger cross section of the survey cultivators is worried about:

a) **Absence of Open Market:** All most of the farmers are of the opinion that they are not getting reasonable price for their product because of the auction method. The farmers have no voice in deciding the price of their product. They argue that if there is open market it will lead to high price for their product.

b) **Labour Problem:** Lack of labours and high wages demanded by the labourers are other problems faced by the farmers. For marginal farmers, works are done by themselves and for large and small farmers hired labourers are needed. But now-a-days, the number of labours is very less and they demand high salary.

c) **Cost of Fertilizers:** Small and marginal growers are not able to bear the increasing cost of fertilizers and plant protection chemicals so they reduce the consumption of fertilizers and insecticides. All these adversely affect the hectare productivity.

d) **Insufficient irrigation facility:** Majority of growers faces the problem of insufficient irrigation facility. They argue that the govt. must be aware about this insufficiency and given suitable subsidy for this direction.

e) **Unfavourable weather conditions:** The experience of grower's shows that the most important single factor that influences of production and productivity of cardamom is climate. The failure of monsoon is highly detrimental to the plants as well as yield. About 90% of growers of the studied areas reported tht the most important factor that influences production and productivity is climate.

f) **Price fluctuations:** Stable and remunerative price is a pre-requisite for increasing production and productivity of any commodity. So far as cardamom is concerned, farmers are uncertain about the price they can earn from the market. Prices are determined in cardamom auction. There is absolutely no mechanism to regulate the price. So the wide fluctuations in the market price are very much adversely affecting the cultivation of cardamom. When price increase farmers concentrate more on this and invest a lot into the farm. But the following year the price may go down and it will lead to high loss of production.

g) **Non-availability of improved varieties:** Non-availability of high yielding improved varieties of cardamom plants suitable to different areas is another problem. Because of this reason most of the farmers have to use ordinary planting materials with low productivity for replanting.

h) **Inadequate research and organisational support:** The research support to small and marginal growers is inadequate. Plants used are genetically inferior, low yielding and resistant to the varying climatic conditions. Research wings support is weak in this regard. Productivity cannot be increased unless high yielding, high resistant and hybrid varieties are developed by the research wing.

i) **Continuous crop failure:** The study reveals another serious problem faced by small and marginal growers is the continuous crop failure. Frequent and continuous droughts, inadequacy of monsoon, changes in the climate, attack of pests like stem borer, scale insect etc. and diseases results in considerable crop loss.

j) **Lack of Government intervention:** Most of the farmers are marginal farmers and they are not getting any help from Spices Board. Government has to take some steps to provide assistance to them also. If they are getting such assistance from the government it will increase the productivity and thus it will boost the cardamom market. The subsidy availed from the government is comparatively low hence the financial burden of the farmers are high so the government should take initiative to increase the subsidy given to the farmers.

V. FINDINGS, CONCLUSION AND RECOMMENDATIONS

Cardamom is cultivated in the high ranges of Western Ghats. Elevation, cool climate and high rainfall are essential for good growth and economically viable yield of cardamom. However, it grows profusely under shade with irrigation in low ranges also.

The world production of cardamom is estimated to be around 35,000 MT. India was a leading producer of cardamom until Guatemala over takes India in 2000-01. Nearly two-third of the global production of cardamom is attributed to Guatemala and hence Guatemala's cardamom production sets the trend for the global prices of this commodity. Among Indian states, Kerala has a dominant role as a cardamom producing area. It accounts for 59 per cent cultivated area and 78 per cent of total production in cardamom. Idukki district in Kerala accounts for 79 per cent cardamom area (32580 ha) and 90 per cent of total production (9080 MT).

In Idukki district, Udumbanchola Taluk alone has 28306 hectares of cardamom plantation; constituting 58 per cent holdings are marginal holders, while 30 per cent holdings are small holders and 18 per cent are large holders.

The major findings and conclusions as a result of the study are the following.

Only 50 respondents are selected for this study under the Cardamom growing area – Vandanmedu, Udumbanchola, Chakkuppallam etc.

Though cardamom is a major foreign exchange earner for India, It is not a free traded commodity. Predominance of marginal growers and low productivity are the major problem faced by the farmers. Among the 50 growers, marginal growers are 26 in number with less than 2 hectares of land. The small and marginal growers together constitute the hectare of industry. The productivity per hectare is not satisfactory. It comes below 200 kg/ha annually.

Over dependence on borrowed funds and fertilizer consumption are the another problem faced by the farmers. For financing 18 growers mostly depend on borrowed funds, while 20 growers use own and borrowed funds together. Only 12 growers use fully their own fund for cultivation. Fertilizer consumption is very high. 49 growers are using the fertilizers. However, more than 50 per cent of growers are not satisfied with use of fertilizers due to its high cost.

Organic manure consumptions and possession of the property affects the farmers. The study reveals that cent per cent of growers use

organic manure. But none of the growers use manure alone. The cultivators got possessions of property either by purchase or by inheritance. About 56 per cent of growers purchased the property and 44 per cent of growers inherited the property.

Insufficient institutional assistance and awareness also affects the farmers. None of the growers get assistance from any agency other than Spices Board. The reason for not availing the scheme of Spices Board is non-awareness of such scheme.

Growers opinion about Spices Board schemes with regard to the extensions scheme is that the extensions visits, advise etc. given are insufficient. 50 per cent of growers demanded improvement to the scheme and 20 per cent growers reported that this scheme would be highly beneficial if it is properly implemented with regard to production and quality planting materials, growers, preferred different type of high yielding variety.

Inadequate irrigation facility and unfavourable weather conditions are other problems faced by farmers, which will lead to low productivity. They opine that subsidy for irrigation must be increased by government.

The working of the Spices Board with regard to cardamom development is not at all satisfactory. About 95 per cent of people suggested that the working of the Board is not benefiting to them. All growers suggested that more improvement is needed in the working of the Spices Board.

Suggestions

The growers are of the opinion that Board's functioning is not satisfactory due to the following reasons. The Board does not seem to help them during crisis. They are losing their confidence in cardamom cultivation mainly on account of its non-remunerative nature and of risk involved in it. Naturally, this forces them to switch over to other dependable and remunerative crops so the Board has to make the growers confidence by evolving and implementing new development measure and to realise its present strategies, programmes etc. In the light of the evolving situation in this regard the following suggestions are worth noting.

- 1) Open market must be needed for cardamom products
- 2) Marginal growers should be given crop loan to conduct seasonal operations. Loan should also be provided to growers having no pattaam.
- 3) Price of fertilizers should be controlled.

- 4) Fertilizers and other chemicals used for plant protection should be supplied to the marginal, financially weak and small growers on credit basis and that too at a subsidised rate.
- 5) Soil testing should be conducted effectively by the Board and they must insist on the user of fertilizers accordingly.
- 6) New variety of plants has to be evolved and effective disease control measures have to be implemented.
- 7) Each year a major portion of the plants are lost due to drought and lack of sufficient irrigation facility. So crop insurance facility should be arranged.
- 8) The Board should ensure that the majority of the growers are benefited by various schemes.
- 9) The Board must publish various schemes through local bodies.
- 10) Government must give various types of subsidies to the growers.

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