

# **IMPACT ASSESSMENT OF PRICE FORECAST: A STUDY OF CARDAMOM PRICE FORECAST BY AMIC, KAU**

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## Executive Summary

The Agricultural Market Intelligence Centre under the NAIP Component I, attached to Kerala Agricultural University, Trichur made the first price forecast on cardamom on 17-12-2009, which highlighted the possibility of cardamom price crossing Rs.1000/ Kg range after Christmas 2009, when the prices were ruling at Rs.650/ Kg. The forecast had therefore, urged the cardamom farmers to retain the crop beyond December for better price realizations. The cardamom markets in Kerala and the neighboring Tamil Nadu witnessed unprecedented price volatility thereafter. The speculators and the traders started spreading the news that such record breaking prices would not last, and urged producers not to retain their stock. In its second forecast released by the Centre on 12-04-2010, it was made explicit that the firming up price was not a temporary phenomenon as apprehended, but cardamom prices would continue to remain volatile till the fag end of the 2009-10 season due to limited supply of cardamom and robust demand. The present impact assessment is an attempt to capture the impact of these price forecasts made by the Centre. Personal interview was held using a pre-tested, structured schedule of enquiry among 30 cardamom growers selected at random from *Pampadumpara* and *Kattappana* villages in Udumbanchola taluk of Idukki district, the major cardamom growing tract in Kerala. The farmers were asked to specify the actual quantity of dried cardamom that was retained and carried over from December to January or subsequent months in anticipation of better prices after coming to know about the possible increase in price after Christmas of 2009. The incremental value of this quantity was worked out at the pre December and post December price realizations. This is taken as the impact value of the information provided. It is estimated to be Rs.13.19 Lakhs, which on per ha basis works out to Rs.13,814/-. Assuming a modest coverage of 10 per cent of the total cropped area under cardamom in Idukki alone, the benefit of the information under consideration is found to be in the range from Rs.3.29 – Rs.4.54 crores at a per unit incremental benefit of Rs.10,000 – Rs.13,814 per ha.

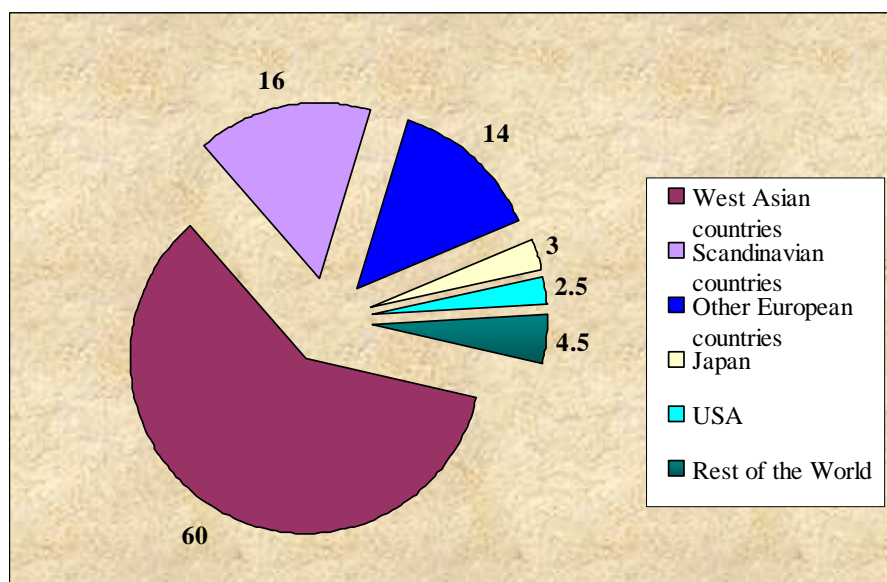
## Introduction

Small Cardamom (*Elettaria cardamomum*) occupies a unique position in the global spice trade. It is no exaggeration that the trade of pepper (the “King of spices”) and the aroma of cardamom (the “Queen of spices”) had a decisive role in the search for a short “spice route” to India, and thereby far reaching consequences not only in the commercial relations with the Arabs, Portuguese, Dutch, French and the English but also in redefining the socio- political destiny of the country for many years to come.

The world production of cardamom is estimated to be around 35,000 MT. India was a leading producer of cardamom until Guatemala overtakes India in 2000-01. Nearly two-third of the total 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 the 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 (32850 ha) and 90 per cent of total production (9080 MT).

The major cardamom consuming countries are Saudi Arabia, India, Pakistan, United Arab Emirates, Norway, Sweden, Denmark, Finland, Germany, Russia, England, United States and Japan. A broad consumption pattern is depicted in Fig. 1.

**Fig. 1. Percentage share of cardamom consumption**



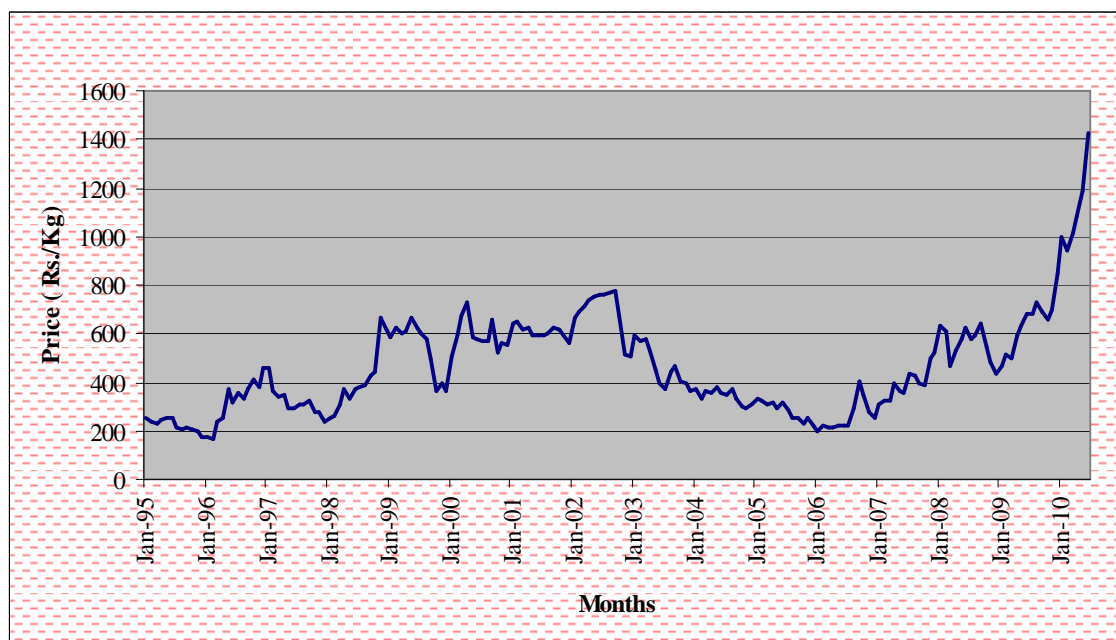
West Asian countries: include Saudi Arabia, Kuwait, UAE, India, China etc.  
Scandinavian countries include: Denmark, Finland, Sweden, Norway and Ireland  
Other European countries include: Germany, England, France, Italy and Russia.

Cardamom's reputation as a spice is unmatched, and it has a variety of uses as a flavouring agent in tea and dishes, processed food, tonics and perfumes and as a therapeutic agent. It is a low volume, high value commodity in domestic as well as international trade. It is one of the highly priced and expensive spices and rightly called as the "green gold".

### 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 produce only through a licensed auctioneer/dealer and the auction system came into existence since then. The cardamom auction centers are organized by the Spices Board (the erstwhile Cardamom Board), who issues License to the cardamom traders. The auctions followed an "open-out cry" system before it was converted into an electronic auction system in August 2007 at Bodinayakkanur in Tamil Nadu, followed by Vandamedu in Idukki District of Kerala in December 2007. The major cardamom trading centers in Kerala are Vandamedu, Puttady, Puliyanmala, Kumily, Thodupuzha and Cochin.

**Fig. 2. Trends in Cardamom Prices at Vandamedu**



Cardamom as an internationally traded commodity is subjected to considerable price fluctuations (Fig. 2) based on crop prospects in India, Guatemala; domestic as well as global demand; carry over stocks with the consuming countries; as well as seasonal elements like Diwali and Dusserah festival season in Northern India, the onset and severity of winter, and Ramadan period in the gulf countries, especially in Saudi Arabia, Kuwait and UAE. For instance, the coefficient of variation of prices from January 1995 to July 2010 showed that the price of cardamom was subjected to an instability of more than 46 per cent.

### **Statement of the problem**

It was against this background that the NAIP on “Establishing and Networking of Agricultural Market Intelligence Centres in India” under Component 1 attached to the Department of Agricultural Economics, College of Horticulture, Kerala Agricultural University, Trichur made two price forecasts for cardamom during the production year 2009-10 (both the forecasts are reproduced as Appendix I and II). The first price forecast released on 17-12-2009 highlighted the possibility of cardamom price crossing Rs.1000/ Kg range after Christmas 2009, when the prices were ruling at Rs.650/ Kg, and urged farmers to retain the crop beyond December for better prices. The price of AGEB grade of cardamom was Rs, 999/kg on 24-12-2009. There was no market transaction on 25-12-2009, being the Christmas day. The price of AGEB grade was Rs. 1000/ Kg on 26-12-2009. The price of non graded (bulk) cardamom also crossed Rs.1000 on 03-01-2010.

The cardamom markets in Kerala and the neighboring Tamil Nadu witnessed unprecedented price volatility thereafter. The speculators and the traders started spreading the news that such record breaking prices would not last, and urged producers not to retain their stock. The second forecast released by the Centre on 12-04-2010 clearly indicated that the firming up price is not a temporary phenomenon as apprehended, but cardamom prices would continue to remain volatile till the fag end of the 2009-10 season due to limited supply of cardamom and robust demand. The present impact assessment, being carried out by the Agricultural Market Intelligence Centre, Kerala Agricultural University is an attempt to capture the impact of price forecasts released.

## Methodology and sampling design

*Udumbanchola* taluk, the major cardamom growing tract in Idukki district was purposively selected. A total of 30 cardamom growers were selected at random from *Pampadumpara* and *Kattappana* villages in the taluk (the name and address of the farmers are furnished in Appendix III). The information required for the study was collected from the sample farmers through personal interview, using a pre-tested, structured schedule of enquiry (Appendix-IV). The primary data under investigation pertains to the agricultural year 2009-2010. Simple tabular analysis was carried out to arrive at the estimates. The farmers were asked to specify the actual quantity of dried cardamom that was retained and carried over from December to January or subsequent months in anticipation of better prices after coming to know about the possible increase in price after Christmas of 2009. Only this retained quantity is taken into consideration to quantify the impact of the price forecast. The incremental value of this quantity was worked out from the pre December and post December price realizations.

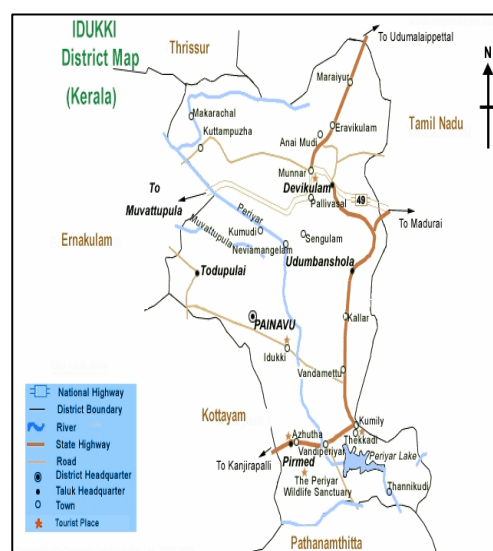
## Background of the study area

Idukki lies between 9 degree 15' and 10 degree 21' of north latitude and 76 degree 37' and 77 degree 25' of east longitudes. It is bound on the East by Theni district of Tamil Nadu, Ernakulam and Kottayam districts in the West, Pathanamthitta district in the south, and Trichur and Coimbatore districts in the North( Fig.3 a and b).

Fig. 3 a Location of Idukki District

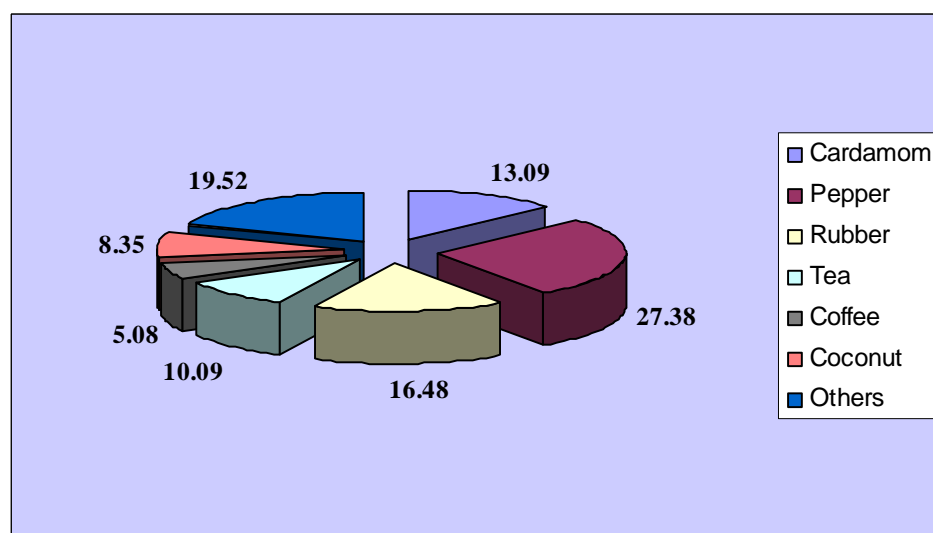


Fig. 3 b Map of the study area



Idukki is the biggest district in Kerala with an area of 5,087 sq.km. The district consists of Devikulam, Udumbanchola and Peermedu taluks. About 97 percent of the geographic area of the district is covered by rugged mountains and forests. There is only a strip of Middle land (3%) in the western part of the district, with virtually no low land. More than 50% of the area of the district is covered by forest. The district receives plenty of rains from both the South- West monsoon during June-August and the North- East monsoon during October - November. The normal rainfall is 3265 mm.

Agriculture is the main occupation of the people in the District. The agro-climatic conditions are ideally suitable for the cultivation of cash crops like cardamom, pepper, tea, coffee, rubber, coconut, etc. The Tea Gardens are concentrated in the north while major hilly areas have Cardamom plantations. The cropping pattern of the district is depicted in Fig.4.



**Fig. 4. Cropping Pattern of Idukki District**

Pepper is the major crop, occupying 27 per cent of the total cultivated area. Cardamom accounts for 13 per cent of the cropped area (32850 ha). The rest of the cropped area is occupied by Rubber (17 per cent), Tea (10 per cent), Coconut (8 per cent), Coffee (5 per cent) and the remaining crops accounts for 20 per cent. Pepper and Cardamom together accounts for 40.47 per cent of the total cropped area. Idukki District alone produces around 7800 MT cardamom annually, which is 91.40 per cent of the total production in the state. Hence, the district is aptly known as the `Spices District` of Kerala.

### **Impact of the Price Forecasts**

The sample consisted of 8 marginal farmers (<1ha), 11 small farmers (1-2ha) and 11 large farmers (>2ha). The average operated holding size of the sample farmers was 3.18ha. Though 9 farmers only (30 per cent) had irrigation facilities, 50.05 per cent of the cardamom areas were under irrigation. The production and price related information pertaining to the respondent farmers are presented in Table 1.

Table1. Production and details of retention of the sample farmers

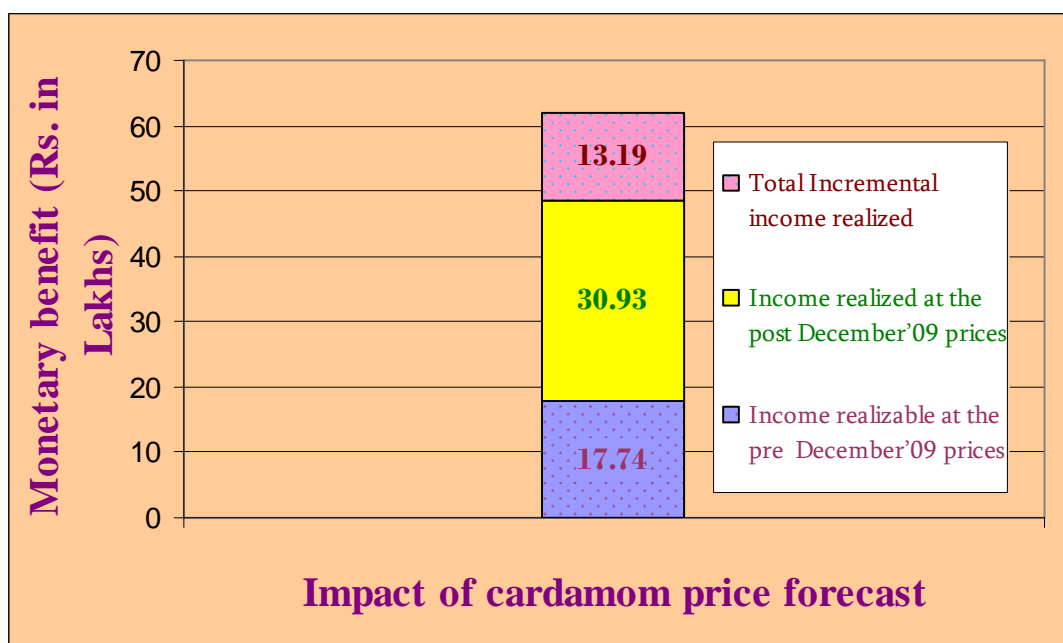
Sl.No	Particulars	Value
1	Average Land Holding Size	3.61 ha
2	Average operated holding under Cardamom	3.18 ha
3	Total Production during 2008-09	85450 Kg
4	Average Price received during 2008-09	
4a.	Prior to December	Rs. 443.33
4b.	After December	Rs.473.33
5	Total Production during 2009-10	81065 Kg
6	Average Price received during 2009-10	
6a.	Prior to December	Rs.671
6b.	After December	1093.53
7	Quantity retained beyond December'09	2543 Kg
8	Income realizable at the pre December'09 prices	Rs.1774350
9	Income realized at the post December'09 prices	Rs.3092920
10	Total Incremental income realized (9-8)	Rs.13.19 Lakhs
11	Incremental income realized on per ha basis	Rs.13814.25



The average price during the agricultural year 2008-09 was fairly stable. It varied within Rs.443-Rs.473 per kg. The situation during the agricultural year 2009-10 changed drastically due to the supply constraints. As a result, the prices reacted sharply. The average price realized during the harvest season 2009-10 in the period prior to December was Rs.671 per kg. The average price realized increased to Rs.1093.53 per kg in the post December period, registering an increase by 62.97 per cent.

Once the price forecast by the Agricultural Market Intelligence Centre of Kerala Agricultural University indicated a possible hike in prices due to mismatch in the demand-supply position, farmers started retaining the harvested crop in December'09 to subsequent months. It may be noted from table 1 that 2543 kg was retained in such manner by the sample farmers alone, anticipating higher prices in January'10. The incremental income realized was estimated at the pre December and post December price realizations on this retained quantity. It amounts to Rs.13.19 Lakhs, which on per ha basis works out to Rs.13,814/-.

**Fig. 5. Impact of Cardamom Price Forecast**



Assuming that a modest 10 per cent of the cropped area in Idukki were benefited due to the information under consideration at a level ranging from Rs.10,000 – Rs.13,814 per ha, the incremental benefit is reckoned at Rs.3.29 – Rs.4.54 crores.

The source of accessing price forecast by the sample respondents during the crop season 2009-10 is depicted in Table. 2.

Table.2. Source of accessing price intelligence by the sample farmers

Sl. No	Source of Information	No. of farmers
1	News paper	18 (33.96)
2	Radio	0 (0)
3	TV	19 (35.85)
4	Traders	12 (22.64)
5	Others*	4 (7.55)

Note: - Figures shown in parentheses indicate percentage to respective totals

\* Others include the Cardamom Growers Association, friends, neighbours and relatives.

It may be noted that most of the farmers depended on mass media like regional Television channels and news papers for accessing the price forecast. Once this information was available, the farmers shared and discussed among, friends, neighbours and relatives. The Cardamom Growers Association also disseminated this information to their members.