SPICES INDUSTRY - AN OVERVIEW

S. Krishnan Nair “The problems of production and marketing in the cardamom industry with particular reference to Kerala” Thesis. Department of Commerce and Management Studies, University of Calicut, 2006
CHAPTER II
SPICES INDUSTRY – AN OVERVIEW

Agricultural crops that form the input of agro-based industries may be broadly classified into Food Crops and Commercial Crops. However, this classification is not specific as many crops are both commercial and food crops, for example - Sugarcane, Tea, Coffee, Cardamom and other spices. But it is common practice to include these among commercial/cash crops, as they are primarily cultivated for earning money income and not for direct consumption by the producers.

Spices and Condiments need no introduction. Spices constitute an important group of agricultural commodities, which are virtually indispensable in the culinary art. They also play a significant role in our national economy and in the national economies of several spice producing, exporting and importing countries.

Spice is defined as "a strongly flavoured or aromatic substance of vegetable origin, obtained from tropical plants, commonly used as a condiment".¹

According to International Organisation for Standardization (ISO) the term Spices and Condiments applies to such natural plant or vegetable  

¹ World of Spice of Kerala, web site: Indiatravelite
products or mixtures thereof, in whole or ground form, as are used for imparting flavor, aroma and piquancy to and for seasoning of foods.\textsuperscript{2} Spices are pungent, aromatic plant substances used to flavor foods or beverages. Spices are the common dietary adjuncts that contribute to the taste and flavor of foods. Besides, spices are also known to exert several beneficial effects. In traditional medical systems, the ability of spices to heal various physical, mental and emotional problems has widely been reported. A growing body of research has demonstrated that the commonly used herbs and spices such as garlic, black cumin, cloves, cinnamon, ginger, thyme, allspices, bay leaves, mustard, and rosemary, possess antimicrobial properties that, in some cases, can be used therapeutically. Other spices, such as saffron, a food colorant; turmeric, a yellow colored spice; tea, either green or black, ginger, and flaxseed do contain potent phytochemicals, including carotenoids, curcuminoids, catechins, lignan respectively, which provide significant protection against cancer.

There are above 70 spices grown in different parts of the world. Many of them are grown in India. Important Spices are given in Appendix 2.

Spices and condiments can be broadly classified into 6 groups, based upon the parts of the plants from which they are obtained, namely (i) rhizomes and root spices, (ii) bark spices, (iii) leaf spices, (iv) flower spices,

(v) fruit spices and (vi) seed spices. Thus spices can come from almost any part of a plant including seeds, leaves, barks, rhizomes, latex, stigmas, floral buds and modified stems.

In other words, spices may comprise different plant components or parts such as Floral parts (Cloves, Saffron etc), or Fruits (Cardamom, Chillies etc), or Berries (all Spices, Black Pepper, Juniper), or Seeds (Aniseed, caraway, Celery, Coriander), or Rhizomes (Ginger, Turmeric), or Roots (Angelica, Horse-Radish and Lovage), or Leaves (Bay Leaves, Mints, Marjoram and Tejpat), or Kernel (Nut Megs), or Aril (Mace), or Bark (Cinnamon and Cassia), or Bulbs (Garlic, Onion etc), or other parts of Spice plants.

Individually, Spices could also be classified or grouped according to different basis such as (a) Botanical Analogies or families; (b). Economic Importance viz, Major and Minor Spices ;( c) Similarity in methods of cultivation; and (d) Similarity in plant parts or components such as Seedy Spices, Leafy Spices, Bulbous Spices, Rhizomes and Root etc.

Varied are the uses to which spices have been put from time immemorial. Spices are well known as appetizers and are considered essential in the culinary art all over the world. They add a tang and flavor to otherwise insipid foods. Some of them also possess anti-oxidant properties, while others are used as preservatives in some foods like pickles and chutneys etc. Some
Spices also possess strong anti microbial and antibiotic properties. Many of them possess medicinal properties and have a profound effect on human health, since they assist many functional processes. For instance, Spices intensify salivary flow and secretion of Amylase, Meuraminic acid and Hexosamines. They facilitate the cleansing of the oral cavity from food adhesion and bacteria. They may help to check infection and carries, and to protect the mucous membrane against thermal, mechanical and chemical irritation. Spices increase the secretion of Saliva rich in Ptyalin which facilitates starch digestion in the stomach, rendering the meals which are rich in Carbohydrates, more digestible Spices possibly activate the Adreno-Cortical function and fortify resistance and physical capacity. Blood Pressure and Stroke can be markedly diminished or augmented by means of spices and condiments. They deserve our serious consideration and further thorough probe. They are used as additives and for the propitiation of the gods. They also stimulate digestion on account of their carminative properties. Most of the spices find place in various medicines.

**Spices for Diabetes or blood sugar control**

Among the spices, fenugreek seeds (Trigonella foenumgraecum), garlic (Allium sativum), onion (Allium cepa), and turmeric (Curcuma longa) have been experimentally documented to possess antidiabetic potential. In a limited number of studies, cumin seeds (Cuminum cyminum), ginger
(Zingiber officinale), mustard (Brassica nigra), curry leaves (Murraya koenigii) and coriander (Coriandrum sativum) have been reported to be hypoglycaemic.

**Phenolics in Spices**

Spices are known to significantly contribute to the flavor, taste, and medicinal properties of food because of phenolics. Most spices contain phenolic acids such as tannic, gallic, caffeic, cinnamic, chlorogenic, ferulic and vanillic acids. A high amount of tannic and gallic acids are found in black mustard and clove. Caffeic, chlorogenic and ferulic acids are found in a good amount in cumin. Vanillic and cinnamic acids are found in onion seeds.

**Spices and Cancer**

Ginger spice can kill ovarian cancer cells while the compound that makes peppers hot can shrink pancreatic tumors. The study on ginger was done using cells in a lab dish, which is a long way from finding that it works in actual cancer patients. Researchers tested ginger powder dissolved in solution by putting it on ovarian cancer cell cultures. Ginger killed the ovarian cancer cells in two different ways—through a self-destruction process called apoptosis and through autophagy in which cells digest themselves. Ginger spice has been shown to help control inflammation, which can contribute to the development of ovarian cancer cells. In multiple ovarian cancer cell lines, ginger induced cell death at a similar or better rate than the platinum-based
chemotherapy drugs typically used to treat ovarian cancer.\textsuperscript{3} Latest research shows that garlic possess certain properties which can kill cancer cells. Researchers at Rajiv Gandhi Centre for Bio-technology, Thiruvananthapuram and IIT Madras, here have developed a compound from garlic that acts in synergy with known anti-cancer agents to kill cancer cells.\textsuperscript{4}

India, as already mentioned, is the land of Spices. There are a number of Spices grown in India. The major Spices grown are Pepper, Cardamom, Ginger, Turmeric and Chillies. The important minor Spices grown in India are Ajowan, Aniseed, Caraway, Celery, Coriander, Cumin, Dill Seed, Fennel, Fenugreek, Garlic, Onion, Saffron and Vanilla.

Pepper is the most important spice of India rightly termed the ‘King of Spices’ and is also known as ‘Black Gold of India’. Cardamom comes next, and is called the ‘Queen of Spices’. Though Spice crops are cultivated in comparatively small units as compared to food crops, they contribute a sizeable share in the international trade.

The history of Spices in India was not started in a day, month or year. It was, perhaps, with the beginning of civilization of this great country. The oldest literary record in India is found in Rig Veda dating around 6000 BC and three other Vedas, namely, Yajur, Sama and Atharva. During the Veda period, there was no writing available but with the help of human memory

\textsuperscript{3} www.raysahelian.com - Spices: Information by Ray Sahelian, M.D.

\textsuperscript{4} The New Indian Express, 17 Nov 2006, p6.
information was transferred in the form of hymns from generation to
generation. The first reference of Spices found in Rig Veda is about
Horseradish, which is a near relative of Mustard and Turnip. The Yajur Veda,
mentions the use of Black Pepper and the Atharva Veda of Turmeric.

Manu, the first Law Exponent, who lived around 4000 B.C, was aware
of the origin, growth and use of Garlic as well as Onion. According to him,
Saffron was the best offering to a Brahmin guest.

There are some references, about Spices in Ramayana. Valmiki, the
great Rishi, who wrote this epic, mentioned a dish called Meat Pilaf, in which
meat, rice, vegetables and spices were boiled and cooked together. King
Dasaratha’s body was preserved with Spices oils and balms, similar to
Egyptian mummies. Babylonians and Assyrians knew the use of Spices
around 3000 BC. The Bible, particularly the Old Testament gives many
instances of the use of Spices. The Queen of Sheba came to Solomon of Israel
(1015-977 BC) renowned for his wisdom, with camels that carried Spices.

From the 15th century, European countries, especially Portugal, Spain
and UK showed keen interest to trade in Spices. It was on May 17th 1498
Vasco-da-Gama anchored his ship at Kappad, a few kilometers north of
Calicut in search of Spices. He was welcomed by Zamorin of Calicut and
established Spices trade between Portugal and Malabar.
There are innumerable instances of the development of Spices trade between India and Great Britain. In the history of Indian Spices, thus there are a number of references about Pepper, Ginger, Turmeric, Saffron, Cumin, Fenugreek and Garlic, which glorified as well as tarnished the image of India.\(^5\)

The fame of Indian Spices is older than recorded history. Centuries before Greece and Rome had their birth; sailing ships were carrying to Mesopotamia, Arabia and Egypt, the Indian spices, perfumes and textiles. It was the lure of these that brought many seafarers to the shores of India.

Long before the Christian era, the Greek merchants thronged the markets of South India, buying Spices among other precious things. Epicurean was spending a fortune on Indian Spices, Silks, Brocades and Cloth of Gold etc. The Parthian wars are believed to have been fought by Rome largely to keep open the trade route to India. It is also said that there might have been no crusades and no expeditions to the East without the lure of Indian Spices and her other famed products.

Today, when spices cost so little, it seems unbelievable that they were once a royal luxury and those men were willing to risk their lives in quest of them. Like Columbus, Vas Co Da Gama too was searching for a new route to

the spice lands of Asia. While Columbus failed to achieve that goal, Da Gama succeeded. In a two year, 24000 miles round trip, he took his ships around the continent of Africa to India and back to Lisbon. Only two of the four ships survived to reach their home port. These two ships brought back a cargo of spices and other products worth 60 times the cost of the said voyage.

The spices of the east were valuable in Da Gama’s time, as they had been for centuries, because they could be used to compensate for Europe’s inadequate supply of food. During these middle ages, a pound of Ginger was worth three Sheep or half a Cow. Pepper, the most valuable Spice of all, was counted out in individual Peppercorns, and a Sack of Pepper was said to be worth a man’s life. Da Gama’s successful voyage intensified an international power struggle for control over the Spice Trade. For three centuries the nations of Western Europe—Portugal, Spain, France, Holland and Great Britain—fought bloody sea war over the Spice producing colonies.

In a nutshell, the fascinating history of Spices is a story of adventure, exploration, conquest and fierce naval rivalry. The people of those times used spices, as we do today, to enhance or vary the flavor of their foods.

Though India has attained adequate progress in a number of sectors on the industrial front, the objective of decentralized industrial structure remains unattained. The five-year plan documents and industrial policy resolutions have laid stress on decentralization of industries by promotion of agro based
small-scale industrial units. But rapid strides could not be made on this front. Economists on more than one ground advocate the setting up of agro-based industrial units. The existing unemployed and under employed rural population can be profitably employed. The migration of rural population to urban centers can be prevented. The locally available resources – human and natural - can be utilized for improvement of the income levels of the village economy. These are the virtues that merit the location of agro-based industries in rural area, which, in course of time, make it self – sustaining with improved position of savings and investment.⁶

In spite of the importance of spices in dietary, medicinal and other uses, and their commercial importance, the research inputs on these crops have not been adequate. The important spices and condiments under commercial or large-scale cultivation are cardamom, pepper, chillies, turmeric and ginger. The total area under these spices and condiments in India is over one million hectares, and they account for an annual export earning of over 40 crores of rupees.

The economy of Kerala has historically been tied to trade and export. The region’s unique coastal geography shaped this aspect of its economy, while its topography and climate encouraged agriculture that came to be characterised by a diverse mix of crops. The spice trade from the west coast

originated as early as the 3rd millennium B.C., and continued to dominate the region’s trade until fairly recent times. By the late 1930s, in addition to spices, the State was exporting coffee, rubber, tea, coir, coconut oil and other coconut products. The combined acreage of cash crops, by this time, equaled that of paddy, the major crop of the State.

The spice cultivation in Kerala is concentrated on the high range areas of the erstwhile princely state of Travancore forming the southern part of the present day Kerala. The Travancore part comprises an area of 7,662 square miles and is endowed with favorable agro-climatic conditions most suited for the growth of a variety of crops. On the basis of physical feature, Travancore may be classified into three divisions, via, the low land division bordering the Arabian Sea in the West, the Mid Land division and the High Land division touching the Western Ghats in the East. The Low Land division has roughly an area of 1371 square miles consisting of flat alluvial and sandy tracts along the seacoast. A line of backwaters runs through this region from North to South. The Midland Land Division lies east of the Low Land Division and has an area of about 2700-square miles Low hill and hillocks of varying sizes and heights from the topography of the Mid Land Region. The High Land
Division comprises the Eastern tracts, mainly of dense forest with a total area of about 3500-square miles.\(^7\)

The favorable topographical and climatic conditions were the incentives that paved the way to the concentration of Spice Crops on the Midland and High Range areas of the State. The availability of cheap labour, both skilled and unskilled, especially belonging to lower income groups was yet another compelling force for local people to start Spice Plantations. The Travancore Government has also adopted certain measures for creating conditions favorable to their development. The Governmental measures were:

- Land policy of the 1865 granting full ownership rights to the holder of Government Pattom land,
- Land proclamation of 1867 giving security of tenure of Janmom lands;
- Encouragements and tax concessions given for starting Plantation Crops
- Construction of roads to connect hilly tracts with trading centers;
- Encouragement for reclamation activities; and
- Expansion of irrigation facilities.

In Kerala three kinds of crops are cultivated, namely, Seasonal Crops maturing within six months, Annual Crops giving yield within twelve months

and Perennial Crops extending for more than three years. The Perennial Crops may be further sub divided into two types namely, Garden Land Crops (Coconut, Areca nut, Pepper, Cashew etc) and Plantation and Spice Crops (Rubber, Cardamom, Coffee, Tea etc.). Now-a-days most of the industries in India require large quantities of agricultural products from the plantation sector as raw material and this leads to the importance of plantations in the industrial sphere.

Kerala exports a variety of spices. For Kerala, therefore, the implications of India’s entry into the World Trade Organisation (WTO) in 1995 as a signatory to the World Trade Agreement (WTA), is of particular significance. The implementation of the provisions of the Agreement on Agriculture (AoA) coincided with a price crash of serious proportions in Kerala’s cash crop economy. The brunt of this was borne by the small and marginal farmers who constitute the major segment of the State’s agricultural producers. To help them manage the crisis and respond to the pressures on the State’s agricultural trade arising from the new global trade regime, the government of Kerala set up a Commission on WTO Concerns. The Commission carried out a wide-ranging consultative process involving agricultural experts, representatives from many commodity boards,

8 The A.K. Antony government in Kerala set up the Commission on WTO Concerns in Agriculture in July 2001 under eminent agricultural scientist M.S. Swaminathan. K.N. Shyamsundaran Nair, former Vice-Chancellor of the Kerala Agricultural University was its Vice-Chairman.
representatives of the State government departments and agencies concerned, 
kisan organisations, representatives of political parties and the media, and 
others. Task forces were set up under the Commission to look into the 
economy of specific crops.

The Commission, in its five formal sittings, made several interim 
recommendations. They are given in Appendix 3. The Commission has made 
19 Kerala-specific recommendations. As they are wide-ranging and multi-
sectoral in their sweep, the implementation of these recommendations would 
require a high-level, yet fully representative, coordination body that must 
function, in the words of the Report, "like a symphony orchestra". The 
Commission has therefore recommended the constitution of a Standing 
Committee on Agricultural Trade, which is to be chaired by the Chief 
Minister, with the Minister for Agriculture as the co-chair. The Committee 
must represent the principal stakeholders within agricultural trade. It must 
coordinate programmes, provide policy direction, monitor trade, initiate pro-
active action, promote trade and Intellectual Property Rights (IPR) literacy; 
and generate ideas and action to promote agricultural trade.

As a response to the extreme distress faced by plantation labour owing 
to the crisis in the plantation economy, the Commission, in one of its first 
interim recommendations, asked the Government of India to initiate a "Food 
for Wage and Employment Stabilisation in Plantation Crops Programme"
under the Sampoorn Gramin Rozgar Yojana. The Kerala government acted on this recommendation. The Commission has proposed that a range of domestic support measures be created to offer income support to small and marginal farmers. They are given in Appendix 4.

Writing 60 years ago, E.M.S. Namboodiripad – former Chief Minister of Kerala - had this to say in an essay entitled “From Militarist to Colonial Economy”: “It is thus clear that agriculture in Kerala is directed towards the production of cash crops to be sold in the world market and that only the barest minimum of goods are produced for the purpose of local consumption. Every peasant is today dependent on the condition of the world market in a two-fold way: he has to buy commodities produced abroad; he has to sell his own produce abroad.”

Although the economy and society of Kerala have seen radical transformation since then, EMS’ observations on the predicament of the peasantry appears almost prescient. If the peasant’s dependence on the world market during colonial times was dictated by the requirements of British colonialism, the Kerala peasantry is today caught in a modern-day global trade regime that is unfavourably weighed against it. The impact of this has been particularly hard on producers in Kerala and it will perhaps require a
nationalist movement of a different kind to set right the iniquities of the new global trade regime.\(^9\)

Spices industry is an agro-based industry. But rapid strides could not be made on this industrial front of Kerala. Almost all economic experts and economic planners have emphasized the inter-relationship between agriculture and industry. Among the various states in India, Kerala is fortunate in growing a variety of spices and a review of their development and progress and their contribution to the state and national economy seems not out of place.

**ROLE OF THE SPICES BOARD AND THE ERSTWHILE CARDAMOM BOARD IN THE DEVELOPMENT OF THE CARDAMOM INDUSTRY**

Cardamom, the second important Spice Crop in Kerala was under the Cardamom Act, 1965 and Rules 1966 and now it is included under Spices, which comes under the Spices Board Act, 1986, and Rules 1987. So it needs clarification on the constitution, working, powers and functions and the schemes extended to Cardamom growers in the past and the present and the developmental activities of both Cardamom Board and the Spices Board.

The Cardamom Act, 1965 which extents to the whole of India came into force in that year. It is an Act to provide for the development (under the

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control of the Union Government) of the Cardamom industry. A Board called Cardamom Board was established under section 4 of the said Act.

As per this Act, Cardamom means the fruit of Cardamom Plant and includes Green Cardamom, Bleached Cardamom, Bleachable White Cardamom, Sun-dried Cardamom, Cardamom Seeds, Powdered Cardamom and Oil extracted from Cardamom and the Cardamom Plant - Elettaria Cardamomum Maton.

CONSTITUTION OF THE CARDAMOM BOARD

The cardamom Board was constituted by the Central Government and consisted of:

A Chairman

The Director of Cardamom Development (Ex-Officio)

Three Members of Parliament of whom Two shall be elected by the House of People and One by the Council of States.

Three members to represent respectively the Ministries of the Central Government dealing with:

Commerce

Agriculture; and

Finance
Such members of other members not exceeding 15 as the central Government may think expedient, to be appointed by that Government by notification in the Official Gazette from among persons who are in its opinion capable of representing –

The Government of the Principal Cardamom growing States
The Cardamom growing interests
The Cardamom trade Interest
The Interest of labour
The Consumer; and

Such other persons or class of persons, in the opinion of the Central Government, ought to be represented on the Board.

1. The Board shall consist of a Chairman, the members specified in clauses (b), (c) and (d) of sub section 3 of Section 4 and 15 other Members representing other members specified in sub rule (2)

2. Of the aforesaid fifteen members:

Three Members shall represent the principal Cardamom growing States, One representing each of the States of Kerala, Tamil Nadu and Karnataka to be appointed in consultation with the respective State Government
Six Members shall represent the Cardamom growing interests in the Principal Cardamom growing States of Kerala, Tamil Nadu and Karnataka; Of these Six, 1 not less than Three shall represent the Registered Owners owning land planted with Cardamom plants the area of which is less than 20 acres whether such land is comprised in one State or more.

Two Members shall represent the Cardamom Trade Interest of which one at least shall be from the State of Maharashtra

Two Members shall represent the Interest of Labour

One Members shall represent the Consumers; and

One Member shall represent such other persons or class of persons in the opinion of the Central Government, ought to be represented on the Board.

The Board has the power to elect a Vice- Chairman.

FUNCTIONS OF THE BOARD

The Cardamom Board came into existence in April 1966, by an enactment of the Parliament via the Cardamom Act, 1965. It shall be the duty of the Board to promote, by such measures as it thinks fit the development under the control of the Central government of the Cardamom Industry. The following are the functions of the Board:

• Promoting co-operative efforts among growers of Cardamom
• Ensuring remunerative returns to growers of Cardamom

• Financial or Other assistance for improved methods of cultivation and processing of Cardamom, for Replanting Cardamom and for extension of Cardamom growing areas

• Regulating the Sale and Export of Cardamom and stabilization of prices of Cardamom

• Training in Cardamom testing and fixing grade standards of Cardamom

• Increasing the consumption in India and elsewhere of Cardamom and carrying propaganda for that purposes

• Registering and Licensing of Brokers (including Auctioneers) of Cardamom and persons engaged in the business of Cardamom

• Improving the Marketing of Cardamom in India and elsewhere

• Collecting Statistics from Growers, Dealers and such other as may be prescribed on any matter relating to the Cardamom industry the publishing of statistics so collected or portions there of or extracts there from;

• Securing better working conditions and the provisions and improvement of amenities and incentives for workers;

• Undertaking, assessing or encouraging scientific, technological and economic research; and

• Such other matter as may be prescribed.
Registration of estates:

Every Owner of land planted with Cardamom Plants, whether such land is comprised in one Estate or more than one Estate shall before the expiration of one month from the date on which he first became owner of such estate or estates or before the expiration of three months from the date of coming into force of this Section, whichever is later, apply to the Registering Officer appointed in this behalf by the State Government to be registered as an owner in respect of each Estate owned by him.

Taking into consideration the importance of Cardamom and other spices in the domestic as well as overseas markets, the Government of India decided to constitute a comprehensive organisation encompassing all the spices. Moreover the government wanted direct control over the development of spices sector. The SEPC (Spices Export Promotion Council) was functioning in the lines of an autonomous council working on grants from the government and it had many limitations inherent to a council form of organisation. Export promotion is not simply trade promotion in overseas markets. It starts from the farm gate itself. The SEPC had no control over farming and processing activities. So the situation called for a single organisation which could promote scientific farming and trade promotion activities. So the Spices Board was constituted.
The Cardamom Act 1965 and Rules 1966 were replaced by another Act called the Spices Board Act, 1986. It is an Act to provide for the constitution of a Board for the development of Export of Spices and for the control of Cardamom industry including the control of cultivation of Cardamom and matters connected there with. This Act came into force from 26th February 1984. All the properties, assets, debts and other obligations of the Cardamom Board and the Spices Export Promotion Council shall vest with the Spices Board.

The Head Office of the Board is located at Cochin. Board has Regional Offices Zonal Offices and Field Offices. A central Quality Evaluation Laboratory (QEL) is located at the Head Office. A Biotechnology Lab also functions at the Head Office. Indian Cardamom Research Institute the research wing of the Spices Board has its main station at Myladumpara (Idukki, Kerala) with Regional Stations located at Thadiankudissai (Tamil Nadu) Saklespur (Karnataka) and Gangtok (Sikkim).

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According to the provisions of the Act, Spices means Spices specified in the Schedule [Section 2 (n)]. The fifty two spices covered by the schedule are given in Appendix 5.

Provided that the Central Government may, if satisfied that it is necessary or expedient in the public interest so to do, by notification in the Official Gazette, add any other spices to the schedule of omit any Spice there from.
CONSTITUTION OF THE BOARD

1. The Central Government shall, by notification in the Official gazette constitute, for purpose of this Act, a Board to be called the Spices Board.

2. The Board shall be a body corporate having perpetual succession and a common seal with power to contract and sue and be sued.

3. The Board shall consist of such number of members, not exceeding thirty two, and it shall consist of the following members, namely:

   A Chairman;

   Three Members of Parliament, of whom two shall be elected by the House of the People and one by the Council of States;

   Three Members to represent respectively the Ministries of the Central Government dealing with:

   Commerce; Agriculture; and Finance

   Six Members to represent the growers of Spices;

   Eleven Members to represent the exporters of Spices;

   Three Members to represent major Spice producing States;

   Five Members, one each to represent;

   i. The Director of Cocoa, Areca nut and Spices Development, Calicut;

   ii. The Indian Institute of Packaging, Bombay;

   iii. The Central Food Technological Research Institute, Mysore
iv. The Regional Research Laboratory, Thiruvanthapuram; and

v. The Central Plantation Crops Research Institute, Kasaragode.

The Board may appoint the Secretary and such other Officers and Employees, as it considers necessary for the efficient discharge of its function under this Act.

FUNCTIONS OF THE BOARD

1. The Board may:

- Develop, Promote and Regulate Export of Spices;
- Grant Certificate for Export of Spices and Register Brokers therefore;
- Undertake programmes and Projects for Promotion of Export of Spices;
- Assist and encourage Studies and Research for improvement of processing, quality, techniques of grading and packaging of spices;
- Strive towards stabilization of prices of Spices for Export;
- Evolve suitable quality standards and introduce certification of quality through “Quality Marking” of Spices for Export;
- Control quality of Spices for Export
- Give Licenses, subject to such terms and conditions as may be prescribed, to the manufacturers of Spices for Export;
• Market any Spice, if it considers necessary, in the interest of promotion of Export;
• Provide Warehousing facilities abroad for Spices;
• Collect Statistics with regard to Spices for compilation and publication;
• Import, with the previous approval of the Central Government, any Spices for Sale; and
• Advise the Central Government on matters relating to Import and Export of Spices.

2. The Board may also:

i. Promote Co-operative efforts among growers of Cardamom;
ii. Ensure remunerative returns to growers of Cardamom
iii. Provide financial or other assistance for improved methods of cultivation and processing of Cardamom, for replanting cardamom and for extension of Cardamom growing areas
iv. Regulate the Sale of Cardamom and Stabilisation of prices of Cardamom;
v. Provide Training in Cardamom testing and fixing grade standards of Cardamom
vi. Increase the consumption of Cardamom and carry on propaganda for that purpose
vii. Register and License Brokers (including Auctioneers) of Cardamom and persons engaged in the business of Cardamom;

viii. Improve the Marketing of Cardamom;

ix. Collect Statistics from Growers, Dealers and such other persons as may be prescribed on any matter relating to the Cardamom Industry publish Statistics so collected or portions thereof or extracts there from.

Secure better working conditions and the provision and improvement of amenities and incentives for workers; and undertake, assist or encourage scientific, technological and economic Research.

PRODUCTIVITY IMPROVEMENT

Scheme for Production and Supply of Planting Materials:

The scheme aims at production and distribution of quality planting materials of cardamom through departmental nurseries and certified nurseries in farmers' field to enable the growers to use them for replanting and gap filling. The different components of the scheme are:

i) Departmental Nurseries:

There are 2 departmental nurseries in Kerala and 5 in Karnataka. Cardamom, planting materials of pepper, vanilla and shade trees are produced here. Planting materials are sold at no profit a loss basis.
Registered growers can collect planting materials on payment of the price fixed every year.

ii) Certified nurseries in growers’ field:

Farmers are encouraged to produce planting materials in their own certified field nurseries.

Planting materials produced here are for their own use/distribution for nearby farmers.

Grant-in-aid

@ Rs. 5, 000/- per bed nursery producing 10,000 seedlings.

@ Rs. 7, 500/- for poly bag nursery producing 10,000 seedlings

@ Rs. 10, 000 for sucker nursery producing 10,000 suckers towards 14 per cent, 21 per cent and 10 per cent of the cost of production, respectively, will be paid to eligible growers.

Grant-in-aid released will be proportional to the surviving seedlings/suckers at each stage when payment is made.

Approval from the Board is necessary for cardamom growers interested in setting up certified nurseries.

Agreement should be executed after approval.

The applicants must be trained in nursery operations
Should source seed materials from approved sources and supply 50 Per cent of the seedlings/suckers to other needy growers at rates fixed by the Board.

Field Officers of the Board, based on applications received and eligibility will make selection of growers.

**Cardamom Replanting Scheme:**

The objective of this scheme is to promote re plantation of old, senile and uneconomic plantations using quality-planting materials.

Eligibility- Small and marginal registered growers owning up to four hectares can apply.

Subsidy- Rs. 9,000/- per hectare, payable in two annual installments of Rs. 6,000/- and Rs. 3,000/-.  

Application in the prescribed format should be submitted before planting season.

Applicants should provide copy of survey plan and proof of ownership.

Field Officer will issue re-plantation permit after inspection.

Technical feasibility certificate will be provided to those who wish to avail institutional finance.

Eligible subsidy will be released on completion of replanting, after field inspection.
Minimum area to be replanted is 0.10 hectares.

Subsidy will be paid only in case of where minimum survival rate of 85 per cent in the first year and 95 per cent in the second year.

**Irrigation and Land Development Programme:**

Under this scheme the Board provides assistance in construction of water storage devices, installation of irrigation equipments, soil conservation and forestation.

Eligibility- Small and marginal registered growers owning up to 8 hectares are eligible.

Subsidy varies from 25-50 per cent depending on type of growers and the component of the programme subject to ceiling of NABARD (National Bank for Agriculture and Rural Development) norms.

Scheme is implemented by the Board with financial support from Govt. of Kerala, Karnataka and Tamil Nadu under Western Ghat Development Programme.

Applications should be submitted to the Field Officer.

Applicants should also submit plans and estimates certified by a qualified engineer not below the rank of Asst. Engineer of PWD/Minor irrigation
Beneficiaries can begin construction/purchase of equipment on obtaining permission.

After completion of the aforesaid work applicants should inform the matter to Field Officer and eligible subsidy will be granted based on field inspection.

**CARDAMOM (Large)**

Planting material production through nursery:

This scheme is intended to produce quality suckers in the growers’ field for taking up re plantation /gap filling in their plantations.

Eligibility: Farmers with land up to 4 hectares are eligible.

Subsidy: Rs. 10, 000/- will be provided to the nursery producing 10, 000 suckers, payable in two annual installments of Rs. 5, 000/- each.

Requirements: Growers should seek approval of the Board. Execute an agreement and be trained in nursery operations and supply 50 per cent of the suckers to needy growers at rates fixed by the Board.

**Replanting Scheme:**

Objective of this scheme is to motivate growers to take up re plantation of old, senile and uneconomic plantations.
Eligibility: Same as above

Subsidy: Rs.6, 000/- per hectare, payable in 2 annual installments of Rs. 3,500/- and Rs. 2,500/- during first and second year of planning, respectively.

Applicants should conform to the stipulations of the Board.

Minimum area to be replanted is 0.10 hectare in a contiguous block.

Subsidy will be paid in cases where minimum survival rate of 85 per cent in the first year and 95 per cent in the second year is observed.

**Supply of Sprinkler Irrigation Units:**

This programme is implemented for growers owning up to 4 hectares.

Subsidy of 50 per cent of the cost of the sprinkler unit will be provided, subject to a maximum of Rs. 2,000/- per set.

Interested growers should apply in the prescribed pro forma with necessary invoice obtained from authorized dealers of sprinkler set.

Permission will be issued after feasibility assessment.

**Low Cost Driers:**

Envisages - popularizing the curing system devised by the Board.

Board provides a subsidy of Rs. 10,000/- per drier.

Small growers owning up to 4 hectares are eligible to avail this scheme.
Construction can be begun after the approval of the Board and the grant-in-aid will be disbursed after inspection.

**Processing/ Powdering Units:**

This is meant to modernize processing methods

The Board provides assistance to growers to set up their own processing/powdering/packaging units.

Assistance to the tune of 50 per cent of the cost subject to a maximum of Rs.50,000/- per unit having combined units of processing, powdering and packaging

Construction can be begun after the approval of the Board and the grant-in-aid will be disbursed after inspection.

**DEVELOPMENT OF EXOTIC AND HIGH VALUE SPICES**

**Vanilla Development:**

Farmers owning land up to 4 hectares will be provided with planting material in subsidized rates.

Vanilla rooted cuttings/ tissue culture plantlets can be got from Board offices/departmental nurseries and also through NGO’s.

Subsidy @ Rs. 5/- is given per planting material. The Board will decide the rates every year.
Applications are to be submitted at the concerned offices when called for.

**Vanilla Curing Units:**

Subsidy @ 25 per cent subject to a maximum of Rs. 2, 500/- per unit will be given to small and marginal farmers to set up on farm curing unit.

Permission will be issued after the scrutiny of the application and subsidy will be released on satisfactory completion of the unit.

**Development of Herbal Spices:**

Development of herbal spices like Rosemary, Thyme, Parsley and Oregano are mooted through this scheme.

Certain areas in Tamil Nadu and the North East along with some hilly areas are identified to be suitable for its cultivation.

Subsidy @ Rs. 20, 000/- per hectare will be given towards 40 per cent of the cost of planting materials to small and marginal growers owning up to 4 hectares of land.

Scheme will be implemented with the assistance of the State governments and NGO’s.
Development of Saffron:

Scheme intended to give financial support to State Agricultural Universities/Institutions to continue research (including biotechnology) and to generate quality-planting material (corns).

Implemented in Jammu & Kashmir and Himachal Pradesh:

Planting materials will be used for area expansion by providing assistance to the tune of 25 per cent of the cost subject to a maximum of Rs. 1.5 Lakhs per hectare.

Promoting Cultivation of Paprika for Export:

Aims to promote paprika cultivation in Andhra Pradesh, Karnataka and Tamil Nadu:

50 per cent of the cost of the hybrid seed materials imported from Spain, South Africa, Zimbabwe and Hungary will be subsidized, subject to a maximum of Rs. 7,500/- per hectare.

Chilli exporters with buy back arrangement will import the paprika seeds from the aforementioned countries and supply it to growers taking up contract farming.

Clearance after technical feasibility test and subsidy will be released on satisfactory completion of the project.
EXTENSION ADVISORY SERVICE

This scheme envisages technical/extension support to growers on the scientific aspects of cultivation through personal contact, field visits and group meetings and spreading awareness among farmers of Kerala, Karnataka and Tamil Nadu through literature in vernacular for increasing cardamom productivity. The scheme is also meant for spreading awareness among farmers of Sikkim and West Bengal through literature in vernacular for increasing cardamom productivity.

Spreading awareness among farmers of Kerala, Karnataka, Andhra Pradesh and Tamil Nadu through literature in vernacular for development of vanilla is also intended.

Also development of selected spices in the North East is mooted.

Post harvest improvement of spices like pepper, chilly, ginger, turmeric, cumin, coriander, fenugreek and fennel, which have export potential.

Promoting organic farming in spices of major growing areas including North Eastern states are also components of this scheme.

Production related programmes like replanting, irrigation, planting material production are provided.
Post harvest programmes like supply of polythene sheets/bamboo mats, construction of dying yards, supply of pepper threshers are done.

Post harvest-training programmes, development of high value spice crops like vanilla, saffron and paprika, promotion of organic farming and IPM in spices is undertaken.

Development of spices in NE region is also implemented through the extension network of Spices Board.

EXPORT ORIENTED PRODUCTION AND POST HARVEST IMPROVEMENT OF SPICES

The 10th Plan (2002-03 to 2006-07) programmes are aimed at:

Improving productivity in cardamom (small & large)

Area expansion of vanilla.

Post harvest improvement of spices with export potential.

Development of organic spices and programmes aimed at creating replicable models of development of exotic and some high value spices.

Development of production models based on IPM is also implemented.

Development programmes for spices with high export are implemented in the North Eastern States.
However, the main mandate of Spices Board is to develop measures to improve the cultivation of Cardamom and trade promotion of all the fifty two spices under its purview.

The Indian Cardamom Research Institute (ICRI), Myladumpara, Idukki District, Kerala, is the research wing of the Spices Board. It has regional offices in Tamilnadu, Karnataka and Sikkim. ICRI under the Spices Board is mainly engaged in Research and Development with regard to Cardamom cultivation activities.

The ICRI is disseminating valuable information through its publications and official broadcasts. Information regarding healthy cultivation practices and preparation of bio-fertilisers were relayed frequently. A demonstrative programme was relayed recently.\(^{10}\)

Agriculture is one of the main economic activities of Kerala State. It accounts for about 45 per cent of the State’s income and 46 per cent of the total employment. Kerala is the leader in the production of various Spices Crops in India. Cardamom, Pepper, Ginger, Turmeric, Clove, Nutmeg, and Cinnamon are the major Spice Crops grown in the State. Other Spices like Kokum, Curry Leaf, Mint, Vanilla; Chillies etc are also grown on a small scale.

\(^{10}\) Relay on 10\textsuperscript{th} October 2006 in ‘Krishi Darsan’ programme of Doordarsan Malayalam channel.
The physical configuration of the State is diversified for the successful cultivation of various crops including Spices. From the Western Ghats, the land undulates to the west presenting a series of hills and valleys intersected by numerous rivers and streams. The western portion of the state lying near the Arabian Sea is more or less level or plain. A number of Lakes and Back Waters adorn this narrow coastal belt. These diverse characteristics of the land and consequent changes in plant growth demarcate the state into three distinct regions via, the Highland, Midland and Lowland (Coastal region).

The Highland is best suited for the cultivation of crops like Cardamom. The Highland covers an area of 18563 Sq. km. The Midland is famous for its diverse Crops. While Rice is grown in valleys, Coconut, Areca nut, Rubber, Pepper, Cloves, Nut Meg, Cinnamon, Tapioca etc are grown in the slopes of the Hills. The Midland comprises an area of 16231 sq.km. The Coconut and Paddy monopolize the Lowland, which covers an area of 3979 sq.km.

The State is blessed with a salubrious climatic condition which is of tropical forests with abundant rainfall, warm, humid atmosphere and fairly uniform temperature throughout the year, which is ideal for the cultivation of spices. A short description of important Spices cultivated in Kerala is given here.
PEPPER

It is the dried matured berry of “Piper Nigrum” a perennial climbing vine. In addition to India, other major Pepper producing countries are Malaysia, Indonesia and Brazil. India has the highest area under cultivation with about 1.23 lakh hectares, which is nearly 50 per cent of the total area in the world. About 190 percent of the total area under Pepper in India is confined to Kerala. The native home of Pepper is Western Ghats and the cultivation of the same has started in the state from time immemorial. But it is paradoxical to note that the average yield of pepper in Kerala stands as the lowest when compared with other Pepper producing countries, which started the cultivation only few centuries back. The Indian Black Pepper is considered to be superior in quality when compared to those produced in other countries and consequently it fetches a higher price in the internal market. The most important varieties cultivated in the State are the following:

Panniyur I, Karimunda, Kalluvally, Kottanadan and Narayakkody and other popular varieties are Balankotta, uthirankotta, Kaniyakdan, Kuthiravalley, Arakulam, Munda etc

Pepper is grown from sea level to an altitude of 1200 Metres. It requires a warm and humid climate. The plan tolerates a minimum temperature of 10° C and maximum of 40 °C, the optimum being 20-30° C.
It requires plant protection and shade regulation. It is affected by Quick Wilt (Foot rot), Slow Wilt and Pollu (inflammation) are the common diseases. The Pepper Vines begin to bear after three years of planting. Pepper berries become mature and ready for harvest in about 180 to 200 days depending upon the variety. In the plains the harvesting season is from November to January and at high altitudes from January to March. Spikes are ready for harvest when a few berries turn bright orange or red. The spikes are plucked from the vines and the berries are separated. The berries are sun dried on clean a cement floor or bamboo mats for 3 to 5 days. The dried berries are ready for marketing.

The cost of cultivation of pepper has been worked out from the details such as leveling, clearing the plot, cost of dad ups cuttings as standard, planting dad ups, cost of pepper rooted cuttings, pits, planting the cutting, cost of coconut fronds for covering the cuttings, weeding, mulching Bordeaux mixture spraying, cost of cattle manure, compost and cost of other inputs.

The growers are selling their produce directly to the local traders after proper drying on cash payment. Local dealers are procuring ungarbled Pepper on 10 to 15 per cent profit from the growers on the prices prevailing in the Cochin market or other major pepper market. They get the prices as per newspaper or radio.
The middlemen traders are charging sales commission, packing loading charges and transportation charges. Exporters are procuring pepper from the dealers through their agencies on daily clearance basis. USA, Canada, UK, East European countries, Africa, Middle East and Far east are the countries to which pepper is exported. The exportable varieties for grading are Tellicherry Garbled Special Extra bold (TGSEB), Tellicherry Garbled (TGEB), Tellicherry Garbled (TG), Malabar Garbled (MG), Malabar ungrabled (MUG), Garbled Light (GL) and Pin heads (PH).

**GINGER**

Ginger is cultivated in almost all the States in India, but Kerala stands foremost accounting for about 50 per cent of the country’s total production. The major Ginger producing Districts in Kerala are Wynad, Kottayam, Ernakulam, Kozhikode and Idukki.

The varieties of Ginger cultivated in Kerala are Maran, Nadia, Wayanad local, Wayanad, Mananthody, Ernad, Thodupuzha, Kuruppanpady and an improved variety of Ginger is also introduced by NRCS, Calicut.

It grows well in warm and humid climatic condition up to an altitude of 1500 M. Ginger thrives well in a wide range of soil with good drainage like sandy or clay loam, red loam or lateritic loam soils.
The planting season is in April to May and it cultivated as a rain-fed crop in Kerala. Rhizomes are used as planting material. The major pest and diseases reported are Shoot Borer, Rhizome flies, Leaf Roller; Scales, Soft Rot, Bacterial wilt and Leaf Spot.

Depending upon the intensity of weed growth, one to three rounds of weeding are done and proper mulching is also done three times. The crops most commonly rotated with Ginger are Tapioca, Chilli and Paddy.

The components of cost of cultivation are site clearing, digging, bed formation, cost of seed, opening small pits and planting, cost of farmyard, manure, cost of fertilizer, cost of mulch materials, plant protection chemicals, earthling up and weeding, removing outer skin and other miscellaneous expenses.

The main assembling centers are Cochin, Calicut, Tellicherry, Alleppey, Ponkunnam, Palai, Thodupuzha, Adoor, Muvattupuzha, Peramba, Kattapana, Nedumkandam, Adimali, Kothamangalam, and Perumbavoor.

Growers are selling their produce directly to the local traders as against cash payment. Local dealers are procuring the Ginger on 10 to 20 per cent profit from the growers. The price prevailing in the Cochin market is taken into account for fixing the procuring price. The middlemen or local dealers are charging sales commission, packing loading charges and transportation charges while selling Ginger in the market.
The main export marketing center is Cochin land a few exporters are also doing export from Calicut, Alleppey and Kottayam. After procuring the UN graded dry Ginger from the dealers or through their agencies, they are graded and exported to foreign countries such as USA, UK, USSR, Canada, and West Germany.

The price is determined by exporters depending upon the demand in the International market and supply at the production centers.

TURMERIC

Turmeric is an important spice used in culinary preparations. It is also used for dyeing in Silk, Wool, Cotton and Carpet Industry. Cosmetic industry and pharmaceutical industry use it for external application as an ointment. Turmeric contains about 6 to 7 per cent Oleoresin of which 35 per cent is Curcumin. India is the largest producer in the world. More than 35 per cent of the production in India is from Andhra Pradesh. Kerala, Maharashtra, Tamil Nadu and Orissa also grow turmeric.

Turmeric is mainly propagated vegetatively through rhizomes, both finger and mother rhizomes are used as planting materials. The rhizomes are planted during April may on receipt of pre monsoon showers The following varieties are cultivated by the growers viz, Tekkurpatta, Sugantham Alleppeyand Muvattupuzha. Sugantham is the commonly grown variety. Cochin, Calicut, Alleppey, Tellicherry, Muvattupuzha, Kalpetta, Baliapattam,
Thodupuzha, Wayanad, Kunnamkulam, Koduvalli, Kattappana, Kodaancherry, Badagara and Taliparamba are the important assembling centers. The terminal markets include Cochin, Calicut, Alleppey, and Tellicherry. Cochin Port handles maximum quantity for export.

Growers sell their produce directly to the middlemen against cash payment. The growers know the present market prices through daily newspapers and radio broadcasting.

CLOVE

Clove is mainly grown as mixed crop in Coconut, Arecanut and Nut Meg plantations. It is also grown as a pure crop mainly in the districts of Kottayam, Quilon (Kollam) and Thiruvananthapuram. Clove is strictly a tropical plant and hence, it requires a Warm climate. Humid atmospheric conditions and an annual rainfall of 150 to 250 Cm are the ideal requirements of this crop. Deep rich loamy soil with high humus content is best suited for clove cultivation. It grows well in the elevations ranging from sea level up to an altitude of 800 to 900 Meters. Clove is propagated through seed. Usually the seeds are available for sowing from August to October. One to Two years old seedlings are used for planting. The source of seedlings is mainly from the State Government Agricultural Farms. Private nurseries also exist in Trichur, Kuravilangad in Kottayam District and Achan kovil area in Quilon District. It is reported that no regular manuring, is practiced in Kerala for this
crop. The attack of pests such as Termites, Ants, Tree Spiders, Scale insects and Borers is reported. Diseases such as Leaf Spot, Twig Blight, and Flower Bud Shedding are also reported.

Clove tree begins to yield from the 7th or 8th year onwards after planting. The full bearing state is attained after 15 years. After processing the Clove, the growers sell their produce to the local dealers or brokers. It is reported that the brokers come and collect the produce from the growers against cash payment. As the growers are not aware of the market prices, the price is determined on the basis of market reports in some daily newspapers. More than 60 per cent of the produce goes to Nagarcoil Clove market and from there it is dispatched to the various markets like Madras, Bombay, Kanpur, Calcutta and Delhi.

Clove is very aromatic and imparts warming qualities. In Kerala, it is used as a culinary spice as the flavour blends well with both sweet and savoury dishes, it is highly valued in medicine as a carminative, aromatic and stimulant.

**NUTMEG**

Nutmeg tree is a Spice plant that produces two separate and distinct products—the Nutmeg, which is the kernel of the seed and the Mace, which is the dried covering around the seed. It is a spreading evergreen tree with male and female flowers on different trees. The crop is not grown on a large scale
and its cultivation is confined to homesteads only. This crop is not grown on a large scale and its cultivation is confined to homesteads. This crop is usually propagated through seeds. Large sized and fully matured seeds are used for sowing purposes. Seedlings are transplanted into the field when they attain an age of 18 months. Young plants are provided with shade and irrigation is done periodically. As this is grown as mixed crop along with other midland crops, no systematic cultivation operations are carried out. Hence, the maintenance expenditure is practically nil or negligible except the amount spent on harvesting and processing.

Nutmeg is used for flavoring sweet dishes, puddings, vegetable dishes and beverages. It is an ingredient of many readily prepared and ground spice-mixtures. It has many uses in the Indian medicines. The mace is used to flavour Cakes, Biscuits, Sauces, Pickles, Meat and Fish dishes. The growers sell the Nutmeg seed and Mace to the nearest dealers against cash payment. Kottayam, Kalady, Angamaly, Trichur and Calicut are the main assembling centers and terminal market is Cochin. A major quantity goes to Nagarcoil and from there it is dispatched to the upcountry markets.

CINNAMON

Cinnamon is one of the oldest known Spices. It is a hardy plant, which is grown in all types of soils under wide range of climatic conditions. The tree attains a height of about 10 to 15 ‘Meters, but in cultivation it is coppiced
regularly maintaining a height of about 6ft. It is also grown along with other crops. The only plantation where it is grown as a pure crop is Ancharakandy in Cannanore (Kannoor) District of Kerala, where around 250 acres are planted with Cinnamon. Though the plant yields barks as well as oil from leaves, the growers are mainly interested in the extraction of oil from leaves on account of better prices obtained from Cinnamon oil.

Cinnamon is a plant, which can tolerate a wide range of soil and climatic conditions. The quality of the bark is also highly influenced by the soil and ecological factors. It grows well from sea level up to an elevation of about 1000 M. Annual rainfall of 200 to 250 cm are considered to be good for the crop.

Cinnamon is propagated through seed, which is the most widely adopted method, it is also be propagated by painting cuttings and layers .Normally planting is done by the growers in October-November and irrigation is also provided during the first year. One and two years old seedlings are used for planting. The plants will be ready for harvest in about 3 years after transplanting depending upon the availability of peeler shoots.

When the plants are two years old they are coppiced or cut back during June-July to a height of about 12 cm from ground level. The operation encourages the development of side shoots from the stump. Regular peeling
operations are commenced in the case of seedling bushes from the fourth or fifth year, depending upon; the extent of development of peeler shoots.

Harvesting is conducted during two seasons; the first season begins in May and the second starting in November. The appropriate time for cutting the shoots for peeling is determined with reference to the circulation of sap between the wood and the corky layer. The peelers judge the sap flow and the time for peeling by making a test cut on the stem with a sharp knife. If the bark separates readily the cutting commenced immediately, otherwise such shoots, which do not satisfy the test, are left for a future occasion. The peeling is a specialized operation peculiar to this industry which requires skill and considerable experience. The bark as it dries contracts and assumes the shape of a pipe otherwise known as quill. The quills are rolled by hand when they are soft and fresh. The rolling is dried on mats in shade. The drying takes 2 to 5 days, depending upon the weather conditions and type of bark.

The commercial grades of cinnamon quill are Quilling, Featherings, Special Scrapped Chips, Ordinary scrapped chips and Unscrapped Chips. Cinnamon cultivation in Kerala is in neglected condition, since the growers are not getting remunerative prices for quills as well as oil. In Ancharakandy where the crop is cultivated on an extensive scale, oil from leaves is extracted in a factory attached to this plantation. This is the only factory in the state where oil is extracted on a commercial scale. The oil extracted is sold mainly
to Kottackkal Arya Vaidya Sala and the manufactures of Chandrika Soap. Since the quantity of Cinnamom bark produced is very much limited and its cultivation is scattered in a few districts there is no established marketing system. At present brokers or middlemen are collecting the barks from the growers directly on cash payment. The major assembling centers are Cochin, Calicut, Palghat and Kottayam.

VANILLA

Vanilla is a costly spice grown in the Jungle areas, it requires a warm climate with frequent rains preferring an annual rainfall of 150 –3000 cm. Vanilla requires a support, up to a height of 135 cms. Cuttings of Plumeria Alba (Chembagam) are used as support for creeper to climb. The growth of this support-standard is adjusted as to make them branch at a height of 120-1150 Cm to facilitate training of the vines around the branching shoots. Vanilla is propagated vegetatively. Longer rooted cuttings bear earlier than shorter ones. Vanilla is not at present grown an extensive scale except in a plantation of about 1.5 acres located in Vijaya Group Estate, Kumbalakaud in Waynad District.

Flowering starts from third year onwards. It is reported that self-pollination is impossible due to the peculiar structure of flowers. Hence, artificial pollination is done by the labourers. It is used for flavouring in Milk, Ice Creams, Tea and Coffee.
OTHER MINOR SPICES

Kerala also grows other spices like Chilli, Curry leaves, Kokam, Mint and All Spices on a limited scale. However, Chillies are grown on a large scale in North Kerala bordering Tamil Nadu and Karnataka where the rainfall is less. All the other spices are grown in kitchen garden for household purposes only.

CARDAMOM

Cardamom grows wild in the evergreen monsoon forests of Western Ghats in South India and Sri Lanka. Up to the year 1800 the world’s whole supply came from these forests, where partial clearing of the forest around the wild plants alone was necessary for the plant’s growth. Cardamom of commerce or ‘true cardamom’ is the dried fruits of a perennial herb, Elettaria Cardamomum Maton, which belongs to the Ginger family, Zingiberaceae. The plant is indigenous to South India, especially in the evergreen rain forests along the Western Ghats spread over Kerala, Karnataka and Tamil Nadu, at altitudes between 760 m and 1500 m. It is an expensive spice, the price of which is exceeded only by Saffron and Vanilla among Spices. It is also cultivated on a large scale in Sri Lanka and Guatemala. The inferior grades are known as Amomum or Large Cardamom, which is of secondary importance. Amomum Subulatum or the Large Cardamom is cultivated in
Sikkim, West Bengal and Assam in the Himalayan and sub-Himalayan regions. Thus there are two types of Cardamom available in the market.

By the First Century A.D. Rome was importing substantial quantities of Cardamom from India. It was one of the most popular oriental Spices in the Roman Cuisine. Cardamom was listed among the India Spices liable to Duty in Alexandria in A.D. 176.  

Ridley affirms that there was some spice known to the Greeks and Romans as Cardamom and Amomum, but it appears to be certain that these spice plants were, whatever they were, not the Cardamom of the present day, although the name of this spice as we know it, is evidently taken from these words. Whatever the Greeks and Romans had, Europe has now ceased to ask for any Cardamom other than that of Elettaria, and the word Cardamom has passed into all the languages of Europe.

Cardamom is used for flavouring various food preparations, confectionary, beverages and liquors. It is also used for medicinal purpose, both in Allopathy and Ayurveda systems. In the Middle East countries, cardamom is mainly used for preparation of 'Gahwa' (cardamom flavoured coffee).

At present Guatemala is the highest producer of Cardamom in the World. Other nations are India, Tanzania, and Sri Lanka etc. More than 50 per

11 Cardamom Board, Government of India, Cardamom Statistics 1984-85, p5
cent of the Cardamom comes from Guatemala. India is placed in the second position, producing 41 per cent, and the rest is shared by Tanzania (5 per cent) and Sri Lanka (2 per cent) and others.\(^ {13} \)

Indian and Arabic writers knew this spice from very early times. The Indian writer Susrut (about Eighth Century) mentions it under the Sanskrit name, Ela which, with variants, is the prevailing name over India and Arabia, and it is mentioned in the list of Spices liable to duty at Alexandria in A.D. 176-180. It was mentioned by Edrisi as a product of Ceylon about A.D 1154, and was probably a trade Spice in Europe long before that, though there is no definite record of it. Marco Polo does not mention it in his travelogue. Barbosa, the Portuguese traveller, mentions it as a product of Malabar Coast in 1514. Linschoten refers to both the lesser and greater Cardamom as used in Southern India. Of the former he writes: “It is most grown in Calicut (present day Kozhikode) and Canannoore” (at present Kannoor) - places of the coast of Malabar. The greater Cardamom he refers to is doubtless the Nepal Cardamom.\(^ {14} \) The Indian varieties are found growing at an altitude of between 2500 ft and 5000 ft.

Cardamom plays a vital role in the agricultural and industrial sectors of India. During 1966 the Government of India set up a Cardamom Board to

develop its cultivation. The production and productivity of Cardamom have
gone up considerably during the last few years because of the efforts of the
Cardamom Board. About 70 per cent of the annual output is exported.

In India Cardamom production extends over three States viz., Kerala,
Karnataka and Tamil Nadu. Kerala accounts for 70 per cent of the production
of Cardamom in the country.

The High Range Division of Travancore is believed to have been the
original home of Cardamom, though subsequently the Spice has come to be
grown luxuriantly in many other parts of the tropical world as well.
Cardamom Hills, which constitute a major portion of the High Range
Division, accounts for 85 per cent of the area and 80 per cent of the
production of cardamom in Kerala.

The early commercial policy followed by the Travancore Monarchy
was one of the reasons for the perpetuation of State Monopoly of Trade in
almost all commodities of commercial importance including Cardamom.\footnote{Sivanandan P. et al op cit p5.}

Until the first quarter of the 19th century, Government used to collect
Cardamom for mercantile purposes from wild growth as well as from Ryots’
Plantations. After the first geographical survey conducted by Lieutenants
Ward and Corner (1817-1820), the Government initially appointed a
conservator of forests and then in 1823 created a special Cardamom Department. The product was gathered and transported to Aleppey where it was sorted, graded and eventually auctioned.\textsuperscript{16} Aleppey (now renamed as Alappuzha) was one of the main trading centres for cardamom and other spices. Aleppey was popularly known as the ‘Venice of the East.’ Later it lost its importance to Cochin (now renamed as Kochi). At present most of the cardamom exports are through Kochi port.

As the trade prospects of this crop improved in course of time, the Government began to increase its control by deploying a detachment of its infantry (the Nayar Brigade) and posting large numbers of watchmen at various places in and around the Cardamom growing region to watch the Thavalams (camps in the Cardamom Hills where the harvested Cardamom was brought for drying and transportation purposes under State Monopoly) and the States frontiers, with a view to prevent smuggling of Cardamom and for effective supervision of the collection and the transportation of the produce to the marketing centers.\textsuperscript{17} Even now the practice of appointing paid watchmen continues irrespective of size of the plantation. Small growers who cannot afford to appoint separate watchman individually appoint one or two


\textsuperscript{17} Heath Lowette, A Short History of the Peermedu, Vandiperiyar District (1972 Feb.) p21.
watchmen by forming groups among themselves. For this purpose farmers of adjacent estates combine together informally.

Since land revenue and tax on agricultural produce constituted in those days the most important source of income for the State, the Government Policy emphasized, the need for encouraging commercial cultivation of the most remunerative crops, which naturally included Cardamom. The various land revenue and allotment rules framed during the period between 1860 and 1925 were essentially meant to attract more people into the process of expansion of commercial agriculture.\textsuperscript{18} Land suitable for cardamom cultivation was mostly vested with the Government under the Forest department. The then government followed a liberal policy of allotment of such lands for cardamom plantations. Therefore, Cardamom plantation grew up in the Western Ghat Region with land available at very liberal terms.

In order to sustain the production of Cardamom for the State's monopoly trade in the earlier phase, the Government also offered special grants of land for settlement purpose and financial help to Cardamom Growers.\textsuperscript{19}

The system of cultivation of Cardamom in this region, on a plantation basis, was initiated by persons from Kerala—either the British (usually heirs of

\textsuperscript{18} Govt. of Travancore, Administrative Report of Travancore, ME 1047, p21.
\textsuperscript{19} Heath Lowette and Mrs. Lowette, An Administrative Report of Travancore, p68.
colonial officials or missionaries) or cultivators from the Madurai District of Madras Presidency (mostly from Gudallur, Cumbum, Thevaram, Cambay and other neighbouring Tamil villages and small towns). Among the growers, the European Planters and the Chetties (a special ethnic group of Hindus) of Tamil Nadu owned most of the area under the crop.

The Tamil growers recruited plantation workers from all over the Madurai District to perform the agricultural operations in the Cardamom Estates. Till now most of the workers in the cardamom plantations, who live in 'Padies' (sort of line buildings like military barracks) are of Tamil origin. The European Planters, on the other hand, kept gangs of coolies permanently in their estates to carry out various agricultural operations on a regular basis.

The terms offered by the State for the procurement of Cardamom were, however, not favorable to the growers during the period of the Monopoly Trade. But the growers have to accept the price offered by the government. They were not free to dispose of their cardamom crop at a competitive price, as is done at present. Between 1823 and 1841, the Ryots (lease holders who cultivated cardamom on government lands) were given a Kudivila (Production Price) at the rate of Rs 8, 6 Annas (one Anna is equal to 1/16 of the then prevailing rupee) and 9 Paise per Thulam (one Thulam is worth 20

20 Nagam Iyya, op cit, p3
21 Nagam Iyya, op cit p85
English pounds) of dry Cardamom, and between 1841 and 1869, this rate was further reduced by 11 Annas per Thulam. At that time the price so paid was considered to be reasonable and the farmers were content with what they received. This fact is ascertained by the absence of any agitations reported in this regard in the history of Travancore. Moreover, there was no need to incur indirect selling and marketing expenses like warehousing charges, commission and brokerage, as far as growers were concerned. Cardamom was directly procured by the State and auctions were conducted at Alleppey.

In 1870, a change was made in the system of payment. The Ryot’s claim was calculated as a share of the average rate of auction price at Alleppey. Under the revised system the Ryots were also entitled to receive a loan or advance from the Superintendent of Cardamom Hills at the commencement of each season for weeding and harvesting operations. After the sale of their produce, they were entitled to a share (at the rate of 1/3 between 1870 and 1887 and 2/5 between 1887 and 1896 of the average price of each variety) of the market value of their produce less the loan amount and supervision charges and a further reduction of the total amount in lieu of ground rent.

The uncertainty in production and marketing of cardamom eventually lead to significant shift in the State Policy, namely, abolition of State

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22 op cit p86.
Monopoly of trade in Cardamom in 1896. In the Kannielam tract (Nagarampara and Thodupuzha reserves of the Thodupuzha Taluk, where also Cardamom is grown, are known as Kannielam tract) the Monopoly was lifted only in 1907. Then began the era of active Governmental encouragement and support to private enterprises in cultivation for increasing production.

With the abolition of State Monopoly, trading in Cardamom had passed initially to the control of a group of traders called Nattukkotta Chetties (a sub group of main ethnic group). They purchased all the Makaraelam Cardamom tracts (the area under cardamom in Devikolom, Udumbanchola and Peerumedu Taluk in Idukki District are known as Makaraelam tract) from the Ryots. In the Cardamom Hills the number of traders increased from 183 (118 of them were Chetties) in 1891 to 277 in 1898.24

As in the case of growers, traders also came from the nearby Tamil region. They controlled large estates in the high ranges and handled most of the Cardamom produced in the Palani Hills of the Madras Presidency and in the Travancore region. With overwhelming influx of the Tamil traders, the marketing center shifted from Alleppey in Travancore to Bodinaykanur (in the Madras Presidency). The Small Town of Bodinaykanur, situated in the eastern outskirts of the High Ranges, in Madurai District, assumed

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24 Sivanandan P. et al op cit p 7
subsequently the status of Cardamom City on account of the huge trade in Cardamom in that center.\textsuperscript{25}

Rapid expansion of area under Cardamom plantation was the result of the deliberate policy of the State followed during the early decades of the last (20\textsuperscript{th}) century. A system of tax at a uniform assessment rate of Rs 61/4 per acre was the first step in the direction. Apart from this, the Government also introduced a scheme of assigning Cardamom lands to prospective cultivators on payment of Tharavila (basic Land Value) and issue of Pattas (title deed). At the beginning, 655 Pattas (title deeds) were issued in the Makaraelam division and 9,435 acres were registered for cultivation. Since then both the area under Cardamom and the number of Pattas increased significantly.\textsuperscript{26}

By 1904-05, the total area under assessment was reported to be 13,693 acres, distributed among 1103 Pattadars (title holders), by 1908-09 the area and the number of Pattas increased to 19022 and 1,515 respectively. The scheme was further revised and assignment continued under the revised rules of 1935, 1937, 1939, and 1942. The rate, which was initially Rs 10 per acre, was subsequently raised to Rs 25 and Rs 85\textsuperscript{l} per acre in the case of normal

\textsuperscript{25} Government of Travancore, Travancore Administration Report (ME 1071 – 1084) 1873.

registry, and to Rs 125 per acre for lands entered upon without permission for Cardamom cultivation.\textsuperscript{27}

During the early period of expansion of area under cardamom cultivation, the rules were very liberal and there was no ceiling on the extent of a single holding. However, by an Executive Order in 1940, it was stipulated for the first time that all single applicants might be given land only up to 60 acres. Such order was deemed necessary on account of the increasing demand from a host of immigrant cultivators in the High Ranges for assignment of land for Cardamom cultivation. Immigration of both cultivators and labourers has remained a regular phenomenon in the High Range Division ever since the beginning of the 20\textsuperscript{th} century. During the period 1911 to 1951, the percentage increase in population was the highest in the High Range Division, the highest rate of increase within this period being in the decade 1921 to 31, caused by the expansion of the area under crops like Tea, Coffee, Rubber and Cardamom.\textsuperscript{28}

In 1944, under the Kuthakapattom Lease Rule, the lease period was raised to 20 years and the individual ceiling fixed earlier at 60 acres was reaffirmed. The State Policy of encouraging the cultivation of Cardamom through assignment of forest land resulted in significant expansion in area under the crop. An important aspect of the encroachment of forest land since

\textsuperscript{27} Sivanandan P et al op cit p8.
the early fifties was the occupation of a large proportion of the land not suited for Cardamom cultivation.

For the last several millennia India is known as the Land of Spices the world over. Indian Spices were on par with precious stones even in royal possession outside the country. Spices had a glorious role in Cookery, Preservatives, Perfumes, Medicines and in Cosmetics. The Western Ghats spread over Kerala, Tamil Nadu and Karnataka are believed to be the home of more than 70 varieties of Spices.

India established foreign trade in Spices several centuries back. Our Spices reached Middle East 5000 years ago. Cardamom had an inevitable position in the international trade of Spices from India. It became an important element of Arab culture by becoming part and parcel of their daily food and customs.

The Arabs were the first to establish international trade with India in Spices. Later the Egyptians came in. With the Roman invasion of Egypt; the Rome took over the Spice trade with India.

We have several references on Cardamom in ancient scriptures, documents and Vedas. Cardamom had a very important place in the indigenous system of medicine. It was used to cure several ailments since 3000 B.C when the indigenous system of medicine was perfected and put to practice.
The Cardamom plant had its origin in South India and the Generic name Elettaria is believed to have originated from Elathari - literally meaning the Cardamom Seeds. The specific name is derived from the Latin word Amomum, which had its origin from the Arabic Hamama. Hamama means to warm, or heat. The Cardamom belongs to the natural order Scitaminae and the family Zingiberaceae to which Ginger and Turmeric also belong.

Reliable estimates of production and cultivation of Cardamom were not available till the Cardamom Board was constituted in the year 1966. Considering the economic importance of Cardamom in the domestic as well as external trade of the country and its unsteady prices in the market, the Government of India decided to develop the industry on scientific lines. As a first step, the Cardamom Development and Marketing Advisory Committee was constituted in Feb 1963 to advice the Government on specific steps to be taken for the rapid development of the industry. Later the Central Government brought Cardamom under the Export Trade Control Regulation in May 1963 and fixed the maximum Export prices for various grades. An executive body - The Directorate of Cardamom Development and Marketing - was also set up to implement the recommendations of the Advisory Committee.

Of the various Spices crops cultivated in Kerala cardamom is selected for the present analysis. It is evident from the discussion in the present chapter that cardamom occupies a pride of place among the spices. But this crop did
not get much attention of the authorities. Though India had a virtual monopoly in the world trade of this crop for a long time its place is being taken over by Guatemala in recent years. So a detailed discussion about its production pattern is made in the next chapter which will be followed by the marketing aspects. The problems of production and marketing are delineated in the subsequent chapter.