CHAPTER IV

IMPACT OF WTO REFORMS ON INDIAN CARDAMOM

AOA (AGREEMENT ON AGRICULTURE)

TRIPS (TRADE RELATED INTELLECTUAL PROPERTY RIGHTS)

GIS (GEOGRAPHICAL INDICATIONS) & ITS IMPACT ON CARDAMOM

CBD (CONVENTION ON BIOLOGICAL DIVERSITY) & CARDAMOM

TRIMS (TRADE RELATED INVESTMENT MEASURES) AND ITS IMPACT ON CARDAMOM INDUSTRY

TRADE AGREEMENTS & ITS IMPACT ON CARDAMOM TRADE

COMPARATIVE STUDY OF CARDAMOM ECONOMY IN INDI AND GUATEMALA
IMPACT OF WTO REFORMS ON INDIAN CARDAMOM

Cardamom economy was one of the major foreign exchange earner and served as the main livelihood for the farmers of Western Ghat. However, by the end of 1980’s and especially after 1990’s this sector faces may set backs especially in the field of export and export earnings. This in turn severely affect all the players in the field notably farmers and traders. Mass and media alleged the liberal trade policy of the Government of India as the main culprit. Therefore, this chapter focused its attention on the impact of various provisions of WTO agreements with special reference to cardamom economy and examined the impact of various regulations related to cardamom economy.

India, as the signing member of the W.T.O, is mandated to abide by the framework and rules of the WTO. The Agreement on Agriculture (AOA) and the other Regional Trade Agreements forced India to move rapidly in the direction of Free trade. The consequence of such a policy is that now Indian agriculture is placed in the vortex of global competition. This chapter attempts to evaluate the impact of W.T.O. reforms on spices trade with special reference to cardamom in Kerala. Natural habitat of Kerala is most suitable for cultivation cardamom especially in the Western Ghats. The superior quality small cardamom comes from here.

Till 1986, India was the world leader in the production and export of cardamom. Afterwards Guatemala, a Latin American country snatched that position. In spite of the good work of Spices Board of India, what happens to the commodity today is of great concern to all stakeholders in this field. A number of studies are available in this area and majority of them attribute the liberalized policy of the government for the present predicament of cardamom sector. Here we try to relook
the whole thing vis-à-vis the WTO Agreements that directly or indirectly related to Cardamom trade. These are examined under the following headings:

AOA (Agreement on Agriculture)

TRIPS (Trade Related Intellectual Property Rights)

GIs (Geographical Indications) & its impact on Cardamom

CBD (Convention on Biological Diversity) & Cardamom

TRIMs (Trade Related Investment Measures) and its impact on cardamom industry

Trade Agreements & Its Impact on cardamom Trade

(I) AOA: (AGREEMENT ON AGRICULTURE):

The aim of AOA is “to establish a fair and market-oriented agriculture trading system”. In order to achieve this objective the member countries should abolish all types subsidies and tariff progressively within an agreed period of time. But by recognizing the peculiar condition of the poor and less developed countries, special provisions are made in the decision on measures concerning the possible negative effects of the reform programme on Least-Developed and Net – Food importing Developing countries.

The important provisions of AOA affecting spices trade are included under the following clauses. They are;

Market access

Domestic support

Export competition

Sanitary and Phytosanitary Measures (SPS)

1) Market Access: - Based on these, members agreed to convert all their existing non-tariff measures into tariff measures. They also agreed not to maintain any
measures, which can be converted into ordinary customs duties. Again, they are not allowed for a further increase in the tariff resulting from fortification on agricultural goods. So market access for agricultural goods is now governed entirely by tariffs. The move to replace Non-Tariff barriers like quotas with price based tariff barriers is a welcome measure. The advantage with price based mechanisms is that they are more easily predictable and can be overcome by making price based adjustments.

2) Domestic Support: It imposes a ceiling on the domestic support to agricultural producers by the respective country. It is otherwise known as total aggregate Measurement of support (AMS). It is calculated as the sum of all AMS for basic agricultural products and all other equivalent measures of support. A major positive impact of WTO is that countries have now started moving from Market Price support to less distorting Direct Income Payments known as "Green Box Measures". Though not completely trade neutral, they have a much lesser distorting impact on world trade and there Indian plantation producers can hope to have a level playing field.

3). Export Competition: Members of W.T.O are required to reduce their export subsidies within a stipulated time period. Subsidies are categorized into different coloured boxes according to their influence on trade; the amber box (contains highly trade-distorting subsidies that need to be removed), the blue box (holds mildly trade-distorting subsidies that need to be controlled) and the green box (has allowable non-trade distorting subsidies). However, due to the apparent lack of clarity countries shift their subsidies from one box to the other to make them allowable, though in practice they may remain trade distorting. The export subsidies coming under this clause are, direct subsidies to the export by government, subsidies on cost and freight charges, subsidies on agricultural products for their incorporation in exported categories. The clause of export subsidies do not apply to most developing and underdeveloped
countries, as they were never rich enough to subsidize their exports. A major impact has been that of export subsidies. Export subsidies have been considerably capped in terms of both volume and value. Those countries that were earlier not giving subsidies were barred from giving subsidies of a trade distorting nature. This aspect has been significant in the case of plantation crops such as cardamom. Another major impact of WTO is that countries have now started moving from Market Price support to less distorting Direct Income Payments known as "Green Box Measures". Though not completely trade neutral, they have a much lesser distorting impact on world trade and there Indian plantation producers can hope to have a level playing field.

4) Agreement on Sanitary and Phyto-sanitary measures (SPS): This clause deals with the application of food safety and animal and plant health regulation. Government of the respective country has the right to adopt relevant measures, but it obliges governments not to adopt the measures merely to cut the foreign import. SPS is any measure (a) to protect animal or plant life or health from risk from the entry of disease carrying or causing organism (b) to protect human or animal life from risk arising from, additives, contaminants, toxicant or any other disease causing organism in food, beverages or food shifts. (c) to protect human life or health from risk of diseases carried by animals, plants, or products or from their entry. The measures set by the member country should be in accordance with the Annex A of the AOA. But the members can introduce new measures, if it is scientifically justified.

The impact of AOA on cardamom

(Most Favoured Nations (MFN) and Generalized System of Preferences (GSP) tariff schedules of DCs showed higher tariff for ground and processed spices. Therefore, a reduction in these will bring competitive advantage for spice producing countries. Generally, it is believed that developing countries, labor’s cost is cheap and
they can reap the benefit by taking advantage of low cost. But in the case of plantation crops in Kerala, especially cardamom, labour cost is very high (more than 60% in the total production cost). The peculiarity of the product is that it is a highly labour intensive commodity and mechanization is not an easy task as far as the cultivation pattern is concerned. Most spice producing countries have been exporting spices under GSP, which allows preferential treatment to LDCs, and so the impact of agreement on market access for spices may not be significant. Again, another clause is to reduce the value of direct export subsidies. LDCs are exempt from this obligation.

With regard to SPS, the strict limits on pesticide residues could have create an increased demand for the product and so there is no harm in introducing SPS in spice sector. The application of strict SPS measures not only makes our product competitive in the international market, but also protects our environment and human life and health. The hazardous use and effect of pesticides in one plantation sector especially spice growing areas is a major threat to the very existence of human life.

II. TRADE RELATED INTELLECTUAL PROPERTY RIGHTS (TRIPS):

It is mainly related to patents and sui–generis protection. There are three ways for protection. They are (a) registered designation of origin (b) registered geographical indication (c) issue and registration of certificates of specific character. There are diverse genetic material contained in the traditional varieties & modern cultivars grown by farmers in cardamom cultivation in Kerala. However, proper documentation for protection is absent. Since medicinal and other properties of cardamom is high, it is the need of the time to take initiative for applying for the patent right.
Article 27.3(b) of the TRIPS: It stands for protection of plant varieties by patents or an effective sui-generic system. The Agreement leaves Members free to devise protection for plant varieties either by means of patents or by an "effective" *sui generis* system or a combination of both. The main concerns regarding the establishment of an IPR system merely based on patents correspond to what was previously stated in relation to concerns regarding the introduction of IP regimes in general. The patent rights are deemed too restrictive and discriminating as to the needs of non-industrial breeders, farmers and indigenous communities (mostly located in developing countries) relying on the unrestricted use and exploitation of plant materials.

The "effective *sui generis* system" referred to in Article 27.3(b) of the TRIPS Agreement is clearly intended to be an alternative to the patent system. In this connection, it is useful to recall that the UPOV system was also established, in 1961, as a special form of protection, in lieu of the patent system, covering only plant varieties and specifically adapted to plant varieties. In this sense, the UPOV system was already conceived in 1961 as a *sui generis* form of protection, alternative to the patent system.

Advantages of a sui generis system: The patenting of living materials or products thereto related is inevitably linked with substantial ambiguities, which warrant a *sui generis* system. A substantial improvement to the patent system is the extreme flexibility, which the *sui generis* approach would offer in designing a legal means of protection. Such a system could incorporate elements aimed at strengthening the conservation of biodiversity, recognizing the contribution made by farmers and
indigenous communities to the improvement of non-commercial plant varieties, and would facilitate the introduction of a sharing of benefits mechanism.

The FAO Commission on Genetic Resources for Food and Agriculture (CGRFA) is the only permanent United Nations inter-governmental forum dealing specifically with matters related to the conservation and utilization of genetic resources for food and agriculture, and related technologies. FAO Conference Resolution 5/89, unanimously adopted, recognized Farmers' Rights as the "rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly those in the canters of diversity/origin".

**Impact of TRIPS on cardamom**

As far as the Cardamom cultivation is concerned, the innovation, technological advancement, development of new variety, everything happened in India only. We have organized cardamom farmers group, exporter’s group and above all the Spices Board to monitor and helping the farming community. The chief competitor Guatemala, have no such background. Therefore, Indian Cardamom community can use the opportunity for its benefit.

**III. GEOGRAPHICAL INDICATIONS (GIS) & ITS IMPACT ON CARDAMOM**

A product’s quality, reputation or other characteristics can be determined by where it comes from. Geographical indications are place names used to identify products that come from these places and have these characteristics. Protection required under the TRIPS Agreement is defined in two articles. All products are covered by Article 22, which defines a standard level of protection. This says geographical indications have to be protected in order to avoid misleading the public.
and to prevent unfair competition. Article 23 provides a higher or enhanced level of protection for geographical indications for wines and spirits. Geographical indications are generally traditional products, produced by rural communities over generations that have gained a reputation on the markets for their specific qualities. The recognition and protection on the markets of the names of these products allows the community of producers to invest in maintaining the specific qualities of the product on which the reputation is built. It may also allow them to invest together in promoting the reputation of the product.

The Geographical Indications of Goods (Registration and Protection) Act, 1999 (GI Act) is a *sui generis* Act of the Parliament of India for protection of geographical indications in India. India, as a member of the World Trade Organization (WTO), enacted the Act to comply with the Agreement on Trade-Related Aspects of Intellectual Property Rights. The GI tag ensures that none other than those registered as authorized users are allowed to use the popular product name. Darjeeling tea became the first GI tagged product in India, in 2004–05, since then 193 goods had been added to the list as of March 2013. “Coorg Green Cardamom” has the GIs status in 2008. In Kerala, we have the “Njallani” variety developed by Sebastian Joseph, more than 90 percent of cultivating variety in Idukki district, which contributes more than 80 percent of total cardamom in India. Another variety “Thiruthali” invented by T.P.Joseph, another high yielding variety, also used by many farmers. Even though both won national awards for their contribution, nothing was done making the variety in to the patent category. To protect the interest of the farming community, we need a strong and efficient government and bureaucracy. Then the farmers can gain the benefit from the GIs provision of WTO.
IV. CONVENTION ON BIOLOGICAL DIVERSITY (CBD) & CARDAMOM

Global concern about loss of species and eco-systems found expression in the International Convention on Biological Diversity (CBD). This treaty that aims at acting in complementarities with TRIPs and the Convention on Bio-diversity is a significant step in the direction of sharing benefits from the use of plant genetic material and conserving the same in the plantation sector. The CBD, one of the key agreements adopted during the Earth Summit held in Rio de Janeiro in 1992, is the first comprehensive global agreement, which addresses all aspects relating to biodiversity. The CBD, which has near universal membership 193 countries as its Parties, sets out commitments for maintaining the world's ecological underpinnings, while pursuing economic development. The objectives of the Convention on Biological Diversity are the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of the benefits arising out of the use of genetic resources (Article 1). The sharing of the benefits from the use of genetic resources is defined to include, *inter alia*, the "appropriate transfer of relevant technologies, taking into account all rights ... to technologies" (Article 1). The reference to rights can be understood to include IPR. Thus, technology transfer is highlighted as a method for achieving one of the Convention's three principal objectives, and IPR are identified as a significant aspect of technology transfer. Intellectual property rights are important under both the Convention on Biological Diversity and the TRIPs Agreement, but the two agreements approach them from very different perspectives.

India is a Party to the CBD. The Convention, while reaffirming sovereign rights of nations over their biological resources, establishes three main goals: the
conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. India successfully hosted the eleventh meeting of the Conference of the Parties (COP 11) to the Convention on Biological Diversity (CBD) held from 8-19 October 2012, in Hyderabad, India, following the sixth Meeting of the Parties to the Cartagena Protocol on Bio-safety (COP/MOP 6). The event provided India with an opportunity to consolidate, scale-up and showcase our strengths on biodiversity. The meetings were presided over by the Minister for Environment and Forests, India as the President of CoP-11. The Prime Minister of India inaugurated the High Level Segment. The Prime Minister at COP-11 launched the ‘Hyderabad Pledge’, wherein he announced that the Government of India has decided to earmark a sum of US $ 50 million during India’s Presidency of COP(Conference Of the Parties) to strengthen institutional mechanism, enhance the technical and human capabilities for biodiversity conservation in India, and to promote similar capacity building in other developing countries. By keeping the sustainability criteria and bio-diversity, Indian cardamom farmers could able to utilize the patent right provision of both CBD & TRIPS. ICH(Indian Cardamom Hills), which is most suitable for the cardamom cultivation, and is the natural habitat of cardamom (small), Kerala cardamom growers can exercise the those provisions in international front and will able to reap the so called comparative advantage of trade.

V. TRADE RELATED INVESTMENT MEASURES (TRIMS) AND ITS IMPACT ON CARDAMOM INDUSTRY

TRIMs are defined as a mechanism to curb the tendencies of many countries to overly regulate and stifle Foreign Direct Investments (FDI) in a variety of areas. This can be true of investments even in the plantation sector. The TRIMS was
introduced to solve that problem. The unacceptable TRIMs are generally known as prohibited TRIMs. One of the major prohibited TRIMs is Local Content Requirement. Such requirements force the foreign investor to procure a major portion of this input requirement from local sources. Another restricted TRIM is that of linking imports to the volume-exported. Finally, we may have a situation in which some governments may insist that a certain proportion of employees should be local people. These provisions are of great benefit to the cultivators. The government on November 2015, allowed 100 per cent FDI in five plantation crops, mainly coffee, rubber, cardamom, palm oil tree and olive oil tree via automatic route, a move hailed by the industry. At present, 100 per cent FDI is allowed only in tea plantation through the government approval route. Opening up FDI in plantation sector bring in new technologies and more funds. But precaution should be taken by the Government of India, while allowing FDI, the above provisions of TRIMS should be introduced if the plantations like cardamom has regain its strength

VI. TRADE AGREEMENTS AND ITS IMPACT ON CARDAMOM TRADE

Trade agreements within WTO are seemed to be contradictory, because they pose a challenge to the principle of the establishment of WTO i.e. Most Favored Nations treatment for all trading countries. But a General Council Committee on regional trade was appointed by WTO which would take in to consideration the matters related to regional trading with a view to enhance the world trade through the promotion of the economic activity in the region. India has signed a number of FTAs with its neighboring countries. Until 2015, India has signed 11 such agreements. They are:
1. India- Sri Lanka FTA on 01/03/2000
2. India – Thailand FTA on 01/09/2004
3. India –Singapore CECA on 01/08/2005
4. Agreement on SAFTA ON 01/01/2006
5. India-Bhutan Agreement on Trade, Commerce & Transit on 29/07/2006
7. India –ASEAN trade in Good agreement signed on 13/08/2009
8. India – South Korea CECA on 01/01/2010
10. India –Malaysia CECA on 1/7/2011
11. India- ASEAN services and investment agreement on 1/7/2015

Similarly, preferential trade agreements entered by India with other countries till 2015 are the following:

1. APTA (Asia Pacific Trade Agreement on July 1975 & revised agreement on 02/11/2005
3. India – Afghanistan PTA ON 06/03/2003
4. India –MERCOSUR PTA on 25/01/2004
5. India- Chile PTA on 08/03/2006

As far as the trade of cardamom is concerned, India is the leader among the above so-called trading partners. The cardamom producing countries among the trading partners are Sri Lanka, Nepal & ASEAN countries like Cambodia, Laos, Indonesia, Vietnam, & Thailand. But these countries can’t compete with Indian small cardamom, which is quality-wise and production wise supreme from its counterparts and the total production of all the above countries constitute only a small amount &
could not pose a challenge to the Indian cardamom on quality wise or production wise. Again, except in SriLanka, all other countries specializing in large cardamom, which is considered to less demand in the international market.

One issue raised by cardamom growers and traders is the import of the Guatemalan cardamom through Nepal & Singapore where there is no tariff for spice trade. However, it contributes only a minor quantity. Another complaint is the mixing of low quality cardamom from abroad with our cardamom and here what we need is an efficient administrative mechanism to curb such tendency. Among the agreements signed, those with Nepal, Sri Lanka, and Singapore may have some effects on cardamom Industry. Singapore is not a spice producing country, but it is tariff free for spice. So countries like Guatemala can enter in to Indian market under the FTA between India and Singapore and those with Nepal and Sri Lanka, but the quantity imported is not big enough to influence the home market. Second in the world in the production of cardamom with its superior quality, Indian cardamom can capture the world market. India can utilize the FTA for promoting her spice trade. For maintaining the high quality, and to have a sustainable and environment friendly output, government should insist and promote the growers to follow an organic, environment friendly method of cultivation.

Spices have been a key ingredient in trade among nations for centuries. As Jack Turner described in his 2004 book, “Spices: The History of a Temptation,” ships were launched, expeditions were financed, empires were built, fortunes were made and lives were lost – all in the desire for spices. Therefore, India can do miracles in spice trade, because she is the world richest source of spices especially in cardamom, which is the “queen of spices.”
In this respect, it is apt to examine the allegations put forwarded by the media and farming community with regard to the threat posed by the Guatemalan cardamom to the cardamom farming community of India. For this purpose, all the major variables affecting the cardamom economy were taken into consideration.

**COMPARATIVE STUDY OF CARDAMOM ECONOMY IN INDIA & GUATEMALA**

In this chapter the researcher tried to make a comparative study of Indian and Guatemalan cardamom economy. As far as the basic idea with regard to Indian cardamom is already explained in previous chapters, here, focus is centered on the features of Guatemalan cardamom and then analyze the potential of Indian cardamom over Guatemalan cardamom.
Guatemala is the most populous country in Central America with a GDP per capita much lower than that of the average for Latin America and the Caribbean. The agricultural sector accounts for 13.5 per cent of GDP and 30 per cent of the labour force. The key agricultural exports include coffee, sugar, bananas, vegetables and spices like Cardamom. More than half of the population is below the national poverty line, and 13 per cent of the population lives in extreme poverty and the private sector accounts for 85 per cent of Guatemala's GDP. Capital of Guatemala's mountainous Alta Verapáz province, Cobán is the source of much of the Arab world's cardamom, an aromatic spice widely used as an additive in coffee, especially in the Arabian Gulf countries. In fact, cardamom coffee is a nearly universal symbol of hospitality on the Arabian Peninsula.

Cardamom isn't indigenous to Guatemala, but to southern India and Sri Lanka. It is still produced in both countries, and India remains a major exporter. Long before cardamom's 20th-century arrival in Guatemala, it was among the spices carried from India to the Middle East by Arabian mariners and caravan traders. The cardamom cultivated in Guatemala is *Elettaria cardamomum*, a native of India's Malabar coast. Growing from large rhizomes resembling ginger, the plant puts out clusters of tall, graceful stems topped with rough, palm-like leaves. From the base of the cluster, grow soft, horizontal, crooked panicles up to a meter (3') long that bear white flowers and, eventually, cardamom pods. The plant thrives in the moisture of a tropical climate.

Cardamom in Guatemala first became a big crop on the volcanic slopes of the Pacific coast, but then a virus wiped out those plantations. Most production then moved north from the coast to Alta Verapáz, the humid, mountainous region with
higher altitude helped to increase the yields. The people who brought the seed here, mainly Germans, found that the climate in Guatemala, especially in Alta Verapáz, was similar to that of India.

Today, cardamom ranks as Guatemala's fourth-largest agricultural export, right behind coffee, sugar, and bananas. Around sixty per cent of the shipment of cardamom goes to Saudi Arabia, with another 10 percent to the United Arab Emirates. Only a small fraction was sent to non-Arab countries. Saudi Arabia consumes the bulk of the cardamom produced in Guatemala and their demand is high especially one month before Ramadan. This is because, during the holy month, making cardamom coffee is a daily task in every family, in preparation for the breaking of the fast. Small producers that are farmers with less than four hectares of land grow more than 70 percent of the Central American nation’s cardamom crop. In the marketing year of 2012-13 harvest reached a historic 38,453 MT. Sixty-eight percent was the contribution of Alta Verapaz, and next Quiche contributed to another 14 per cent and other departments of the republic adding the remaining.

In Guatemala, cardamom plants take about three years to bear fruit and produce for four to six years before yields decline. The pods, which grow spaced at intervals along the panicle, contain brown or black seeds so tiny that it takes four pods to yield a quarter-teaspoon of them. That is why cardamom ranks as one of the world’s most expensive spices, along with saffron and vanilla. As far as the marketability of cardamom in the country, Guatemala surpassed India by the mid 1980’s and in the production front, Tanzania & Sri Lanka, the two major competitors, whose production is not more than forty percent of Guatemala’s totals. Costa Rica, Colombia, Mexico and Brazil have each tried to cultivate the spice commercially, but inhospitable
growing conditions have kept them from success and not a threat to Guatemalan cardamom.

Now, let us have a look on the salient features of cardamom crop in both countries India and Guatemala under the following headings.

**1. Comparison of agro ecological conditions in Cardamom both in India & Guatemala on an average over the years.**

When we made a comparative study of both countries in their agro ecological status, we could see both of them have almost the same features. It is evident from the following table.

Table : 4.A1  
*Comparison of agro ecological conditions in cardamom both in India & Guatemala on an average over the years.*

<table>
<thead>
<tr>
<th></th>
<th>Indian Cardamom</th>
<th>Guatemalan cardamom</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDEAL/ANNUM</td>
<td>600-1500MTs</td>
<td>250-1600MTs</td>
</tr>
<tr>
<td>ELEVATION</td>
<td>760-1400MTs</td>
<td></td>
</tr>
<tr>
<td>TEMPERATURE</td>
<td>10-35°C</td>
<td>10-38°C</td>
</tr>
<tr>
<td>RAINFALL</td>
<td>1000-3500MM</td>
<td>1500-2500</td>
</tr>
<tr>
<td>SOIL TYPE</td>
<td>pH of 4.2 to 6.8</td>
<td>pH of 4.2 to 6.8</td>
</tr>
<tr>
<td>AREA</td>
<td>71,170 Ha(2008-09)</td>
<td>62,300Ha(2008-09)</td>
</tr>
</tbody>
</table>

Sources ;*www.indianspices. com
*www.banguat.gob.gt
Source of Guatemala: Catholic Relief Service “Rapid Economic Feasibility Study in Guatemala, May 2014

In India, Cardamom grows under natural conditions of the evergreen forests in the Western Ghants. It thrives best in tropical forests at altitude ranging from 600-1500 meters, receiving a well distributed rainfall of over 150cm and a temperature of
The optimum growth of cardamom can be observed in warm and humid places under the canopy of evergreen forest trees. This crop is highly sensitive to wind and draught. Water logging and excessive moisture is equally injurious. So the ideal site is a sloping land with good drainage.

2. Economic feasibility factors

As far as the production is concerned, Guatemala is the largest producer of cardamom contributing 45 percent of world supplies. Since the domestic consumption is negligible, virtually all of which is destined for export. Although production is focused on the Department of Alta Verapaz, the perceived profitability of the crop has resulted in widely dispersed cultivation. But there exists challenges in the form of factors that affect productivity like intercropping patterns and planting density, fertilizer and pest control use, harvesting and processing. Like in India, Guatemala also concentrate on green cardamom and the plant have a productive life of 8 to 10 years. The yield of the plant ranging from 750 to 1500 kg per hectare indicates that the use of advanced variety in the cultivational practices.

Table: 4.A2

<table>
<thead>
<tr>
<th>Economic feasibility factors</th>
<th>Indian Cardamom</th>
<th>Guatemalan cardamom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propagation</td>
<td>Suckers /seedlings</td>
<td>Suckers /seedlings</td>
</tr>
<tr>
<td>Seasonality</td>
<td>August to March</td>
<td>Aug or Sept-May</td>
</tr>
<tr>
<td></td>
<td>Peak period (Oct-Nov)</td>
<td></td>
</tr>
<tr>
<td>Production Delay</td>
<td>2-3 years</td>
<td>2-3 years</td>
</tr>
<tr>
<td>Production life</td>
<td>8-12 years</td>
<td>8-10 yrs</td>
</tr>
<tr>
<td>Yield /Ha</td>
<td>1000-1500kg/Ha</td>
<td>750-1500kg/Ha</td>
</tr>
<tr>
<td>Actual planting density/ha</td>
<td>1000-2000/ha</td>
<td></td>
</tr>
<tr>
<td>Annual yield /ha</td>
<td>140-480 processed capsules</td>
<td></td>
</tr>
</tbody>
</table>

Source of India: Spices Board
When we take the case of India, the plant grows under the natural conditions of the evergreen forest in the Western Ghats. Fruits mature in about 3 to 4 months after harvesting. Under favorable conditions of the environment, a healthy adult plant annually produce about 200 capsules, with a green weight of about 900 grams which on processing yields 200 grams of dry cap. In Kerala, which is the important source of small cardamom in India, where yield of cardamom per hectare sometimes excelled up to 3000 kg for some varieties like Thirumali and Njallani.¹

3. Cost of Production & Price comparison between India & Guatemala in 2014:

The third important variable for making the comparison between India and Guatemala is in the cost aspects. Since cardamom is a labour intensive crop and hence, the major contributor to the cost of production. When we examine the labour cost in both countries, we could observe that it constitutes the lions’ share in total expenses in India ie. around 68 percent and it is very high when we compare it into those in Guatemala. Consequently as written in the below table, the final price will be higher in India, which is the major reason for the competitive inefficiency of Indian cardamom in the world market. As far as the quality is concerned, both now produce equal quality produce. In this globalized world, where everyone prefers bets quality cheap products, less hope for the cardamom farmers if they could not cope up with the present situation.

¹ Source: National Innovation Foundation- India –An autonomous Body of the Department of Science and Technology
Table 4.A3:
Cost of Production & Price comparison between India & Guatemala in 2014

<table>
<thead>
<tr>
<th></th>
<th>India</th>
<th>Guatemala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per cent of labour cost in total cost</td>
<td>67.5 per cent *</td>
<td>40.93 per cent **</td>
</tr>
<tr>
<td>Price /kg</td>
<td>810</td>
<td>401</td>
</tr>
</tbody>
</table>

*Field survey by the researcher

**Catholic Relief Service “Rapid Economic Feasibility Study in Guatemala, May 2014

The below two figures clearly depicts the difference between labour cost and hence the price difference between cardamom in both countries.

Fig. 4.A.1: Labour cost difference between India & Guatemala (2014)

Fig. 4.A.2: Price difference between India & Guatemala (2014)
From the above diagrams and tables it is clear that Guatemala have got a definite advantage over India on cost front significantly on labour cost. Major part of cost accrued to the payment of labour. This is due to the existence of strong labour union and the strength of the bargaining power they used in India.

4. Production & Export Comparison Of India & Guatemala From 1996-97 To 2013-14:

While making a comparison of a commercial crop between countries, it is apt to understand the trend of production and export prevailing. Since Guatemala is a new comer as far as cardamom is concerned, we only need to analyze the trend in recent years.

Table: 4.A4

<table>
<thead>
<tr>
<th>YEAR</th>
<th>India Production(MT)</th>
<th>GUATEMALA Production(MT)</th>
<th>India Export(MT)</th>
<th>GUATEMALA Export (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td>10075</td>
<td>22,912.95</td>
<td>1975</td>
<td>23694.22</td>
</tr>
<tr>
<td>2010-2011</td>
<td>10380</td>
<td>22,764.18</td>
<td>1175</td>
<td>22167.17</td>
</tr>
<tr>
<td>2011-2012</td>
<td>15000</td>
<td>26,360.72</td>
<td>4650</td>
<td>24150</td>
</tr>
<tr>
<td>2012-2013</td>
<td>14000</td>
<td>36,241.40</td>
<td>2250</td>
<td>35989.88</td>
</tr>
<tr>
<td>2013-2014</td>
<td>15000</td>
<td>38,453.42</td>
<td>3600</td>
<td>37,996.87</td>
</tr>
</tbody>
</table>

The above table reveals the superiority of Guatemala in production and export front over India. In these two fronts also Guatemala has got a comparative advantage over India. Although production shows an increasing tendency in both countries, the proportionate increase in Guatemala is higher when compared to India.
But when we take the export figures, one must keep in mind that India’s domestic consumption is almost equal to its total production of cardamom and in Guatemala, they rarely use it for consumption. They mainly concentrate on producing more and export it to the needy countries and earn foreign exchange.

It is clear from the above figure that Guatemala has got a comparative advantage both in production and export.

4. Area And Production Comparison Between India & Guatemala:

When we made an area wise comparison of the crop, we could see India leads but again production wise, Guatemala surpasses India. Another thing to notice here is that, cultivating area increases in the case of Guatemala whereas in India there is a tendency to decline the area. The major reason attributed by the farmers in the case study pinpointed the reason as low profitability. Even though the farmers in India
used high yielding varieties and produces the high quality cardamom, the output is low. Climatic conditions, high labor cost and pest attack are the main threat to the profitability and production of cardamom in India. The trend of area and production are depicted in the following tables and figure

Table: 4. A5

<table>
<thead>
<tr>
<th>YEAR</th>
<th>INDIA AREA (ha)</th>
<th>GUATEMALA AREA (ha)</th>
<th>Pdn (MT)</th>
<th>GUATEMALA Pdn (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-2009</td>
<td>71170</td>
<td>62,300</td>
<td>11000</td>
<td>21,414.23</td>
</tr>
<tr>
<td>2009-2010</td>
<td>71110</td>
<td>62,300</td>
<td>10075</td>
<td>22,912.95</td>
</tr>
<tr>
<td>2010-2011</td>
<td>71012</td>
<td>62,300</td>
<td>10380</td>
<td>22,764.18</td>
</tr>
<tr>
<td>2011-2012</td>
<td>71285</td>
<td>63,910</td>
<td>15000</td>
<td>26,360.72</td>
</tr>
<tr>
<td>2012-2013</td>
<td>69870</td>
<td>69,370</td>
<td>14000</td>
<td>36,241.40</td>
</tr>
<tr>
<td>2013-2014 E</td>
<td>69970</td>
<td>69,510</td>
<td>15000</td>
<td>38,453.42</td>
</tr>
</tbody>
</table>

Source: Secondary data analysis

The line chart given below shows these trends more vividly. Even though these two countries have almost the same area under cultivation, the production of Guatemala is seemed to be more than double than that of India. As far as the development stage is concerned, Guatemala is far behind India. And with regard to the use of advanced technology/variety also, the position of India is far superior. W.T.O framework is applicable to both countries also. Climate change and the so-called pest attack are common in both countries. But as far as the quality of the product is concerned, Indian cardamom is the best. More than that the crop is an indigenous product of India also. The escalating cost of production especially that of labour cost is considered as the main reason, which distress farmers to reduce their intense effort to increase the production effort. Another threat raised by the farmers is import of low quality and
low price cardamom from other countries and its mixing with Indian cardamom reduces the demand for the latter.

Even though Indian govt fixed RS.500/Kg as the minimum support price of cardamom and restrict the import by imposing tariff, the condition is seemed to be the same.

![Graph showing production and area in MT and HA](image)

Source: Secondary data analysis

*Fig.4.A.4:* Area and production of cardamom in India & Guatemala from 2008 to 2014

5. Trade of cardamom in India and Guatemala

Now the next variable for comparison is trade that is both export and import of cardamom in both countries. Before that let us have a look on the total cardamom export of the world.
Table 4. A6

*World Export of Cardamom from 2006 To 2013*

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>40571.50</td>
</tr>
<tr>
<td>2007</td>
<td>40514.80</td>
</tr>
<tr>
<td>2008</td>
<td>33675.20</td>
</tr>
<tr>
<td>2009</td>
<td>45067.30</td>
</tr>
<tr>
<td>2010</td>
<td>40891.30</td>
</tr>
<tr>
<td>2011</td>
<td>41582.90</td>
</tr>
<tr>
<td>2012</td>
<td>53110.50</td>
</tr>
<tr>
<td>2013</td>
<td>51062.70</td>
</tr>
</tbody>
</table>


The table made it clear a fluctuating trend in world export in different years. It was of course the resultant changes in the production fluctuation in the main cardamom producing countries in the world viz. Guatemala and India. It can be more clearly depicted with the help of the following figure.

*Fig. 4.A.5: World Export of Cardamom from 2006 To 2013*

In 2012-13, an overproduction of cardamom was recorded in the major producing country, Guatemala and this is clearly depicted in the above figure by a sharp rise of the line curve from 2012. It resulted the depression of international price. This phenomena reduced the intensive cultivation practices in main countries and so naturally production showed a declining tendency in the next year.

While examining the export trend of cardamom from India and Guatemala, we could observe a steady rise in the export quantity from Guatemala, except for one year. But while considering the case of India, the situation is not so encouraging. As far as export demand is concerned, both quality and price are the main concern for the buyers. Now in this case Guatemala export only good quality cardamom to the developed countries and at a less price when compared to India. While exporting to countries like India, they use low or medium quality. Even though, the consumption demand for cardamom is high in India, the majority of the people of India prefers low price product. The main reason can be attributed to their low-income status and low standard of living. So naturally they demand for low priced product from abroad. Another major factor for declining export is the low domestic production, which occurred mainly because of erratic climatic condition or pest attack. When there is severe rain, draught, or wind, it will negatively affect the cardamom production.

The quantity of export in Guatemala is around ten times more than that of India. There are two implications for this phenomena. One is the negligible domestic demand in their country and the second is high production. Both these factors move in opposite direction in the case of India. The trend of export from both these countries are depicted in the following figure and graph.
Table 4.A7

Comparison of Indian and Guatemalan export from 2009 to 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Indian Export (MT)</th>
<th>Guatemala Export (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td>1975</td>
<td>23694.22</td>
</tr>
<tr>
<td>2010-2011</td>
<td>1175</td>
<td>22167.17</td>
</tr>
<tr>
<td>2011-2012</td>
<td>4650</td>
<td>24150</td>
</tr>
<tr>
<td>2012-2013</td>
<td>2250</td>
<td>35989.88</td>
</tr>
<tr>
<td>2013-2014 E</td>
<td>3600</td>
<td>37,996.87</td>
</tr>
</tbody>
</table>

Source: Secondary data analysis

Fig. 4.A6: Comparison of Indian and Guatemalan export from 2009 to 2014

While examining the import trend of cardamom in both countries, one could observe that only a meager amount is imported to Guatemala when compared to their export.

When we take the case of India, the amount imported is low when compared to our domestic demand. But during the primary data collection, majority of the
respondents hold the view that there occurred large quantity of illegal import through
countries like Nepal. But we don’t have an official estimate of that transaction and so
could not be based for any statement. But spices board officials opined these type of
transaction constitute only a minor portion could not pose a challenge as alleged by
the producers. The trend of import of cardamom in both countries and their
comparison is depicted in the following table and the figure.

Table : 4.A8 :

Comparison of Indian and Guatemalan import from 2008 to 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Indian Import (MT)</th>
<th>Guatemalan Import (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-2009</td>
<td>180</td>
<td>120.05</td>
</tr>
<tr>
<td>2009-2010</td>
<td>100</td>
<td>3.21</td>
</tr>
<tr>
<td>2010-2011</td>
<td>80</td>
<td>35.43</td>
</tr>
<tr>
<td>2011-2012</td>
<td>51</td>
<td>128.91</td>
</tr>
<tr>
<td>2012-2013</td>
<td>495</td>
<td>74.54</td>
</tr>
</tbody>
</table>

Source : Secondary data analysis

Fig 4.A7. Comparison of Indian and Guatemalan import from 2008 to 2013

Source : Secondary data analysis
The comparison between the two countries with respect to import proved that both of them have poor import demand when compared to their production and export. Hike in import demand in some exceptional years has occurred mainly due to the bad supply conditions prevailed in the country.

6. Contribution by both countries to the world supply of cardamom

Next task is to compare the contribution of India and Guatemala to the world supply of Cardamom. When we look into the export data of world to that of both these countries, one could observe that majority portion come from Guatemala. Even though India’s contribution is small, it is the second largest country in the production and export of the cardamom. The share of each country’s supply to world export is depicted with the help of the following table and diagram.

Table 4.A9: Proportion of Cardamom Export of Guatemala and India to the World Supply

<table>
<thead>
<tr>
<th>YEAR</th>
<th>World export (MT)*</th>
<th>Guatemalan export (MT)**</th>
<th>Indian export (MT)***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>33675.2</td>
<td>27948.35</td>
<td>750</td>
</tr>
<tr>
<td>2009</td>
<td>45067.3</td>
<td>23694.22</td>
<td>1975</td>
</tr>
<tr>
<td>2010</td>
<td>40891.3</td>
<td>22167.17</td>
<td>1175</td>
</tr>
<tr>
<td>2011</td>
<td>41582.9</td>
<td>24150</td>
<td>4650</td>
</tr>
<tr>
<td>2012</td>
<td>53110.5</td>
<td>35989.88</td>
<td>2250</td>
</tr>
<tr>
<td>2013</td>
<td>51062.7</td>
<td>37996.87</td>
<td>3600</td>
</tr>
</tbody>
</table>

Source:*United Nations Commodity Trade Statistics  
**DIPLAN-MAGA/BANGUAT  
***Spices Board

From the above table, it is clear that world export of cardamom showed an increasing tendency except for one year. More than double increase in world export of cardamom could be treated as a positive trend in the cardamom industry. It is clearly depicted in the following figure.

Source: *United Nations Commodity Trade Statistics  
**DIPLAN-MAGA/BANGUAT  
***Spices Board

Fig 4.A8. Proportion of Cardamom Export of Guatemala and India to the World Supply

7. Comparison of international prices for cardamom in India and Guatemala

The last but not the least is the comparison of both cardamom at international market. The trend of price for Indian cardamom showed a sharp decline from $30 to $16, i.e., almost half. There are various reasons for this tendency. The emergence of new producers in the field like Tanzania, the global depression which is reflected in
the consumption pattern of the world, revival of quality of Guatemalan cardamom with low price are some major factors contributed in this regard.

But when compared to the price of Guatemalan cardamom, Indian cardamom seemed to be costly. Two major factors can be attributed to the high price of Indian cardamom. One is the superior quality and the second one is the high cost of production. The table given below shows the monthly average international spot price for Indian cardamom.

Table 4.A10.

<table>
<thead>
<tr>
<th>Year</th>
<th>US $/Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India (Extra Bold)</td>
</tr>
<tr>
<td>2010-11</td>
<td>30.96</td>
</tr>
<tr>
<td>2011-12</td>
<td>18.92</td>
</tr>
<tr>
<td>2012-13</td>
<td>19.60</td>
</tr>
<tr>
<td>2013-14</td>
<td>13.92</td>
</tr>
<tr>
<td>2014-15</td>
<td>16.47</td>
</tr>
<tr>
<td>2015-16</td>
<td>12.94</td>
</tr>
</tbody>
</table>

Source: Spices Board

**Conclusion**

The above comparative study of the Indian and Guatemalan cardamom reveals the fact that, Guatemala become a threat to Indian cardamom producers not only because of the liberalised trade policy but also because of the supply condition prevailed in the domestic economy like the labour cost, climatic conditions, pest attack etc. In this era of globalised world, India could not stand alone by applying restrictions on import or giving export subsidies beyond a limit. We have a strong spices board and organized and innovative farming community especially in Kerala.
By giving strong incentives to the research and development activities, we can reduce the cost of production and will be able to produce advanced variety which can withstand climatic challenges and able to produce best quality cheap produce to the world market.