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RESEARCH ARTICLE

THE CHALLENGES IN RE-ORIENTING KERALA CARDAMOM FARMING EXPERTISE TO AUGMENT CARDAMOM MERCHANDISING POTENTIALS THROUGH GLOBAL MARKET RE-POSITIONING AND PATENT-BRANDING

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Abstract

The Challenges in Re-Orienting Kerala Cardamom Farming Expertise to Augment Cardamom Merchandising Potentials Through Global Market Re-Positioning and Patent-Branding Abstract: The aromatic Queen of Spices, Cardamom (*Elleteria cardmomum*) has had historical significance as a priceless merchandise for which the once famous "Spices Route" to then Indian peninsula was discovered. The geographical, physiographic and climatic peculiarities of the South Deccan of the Western Ghats region of present South India are the major gifts of nature still providing us an upper hand in production of cardamom with superlative aromatic and medicinal properties. The fundamental aim of this study is to probe into facts and factors connected with the untapped scope of present system of cardamom agriculture conducted as traditionally or in a more planned way nowadays along with its unpredictable fluctuations in demand-supply equations and realised market price to be oriented and geared towards the export markets so that earnings per each farmer are substantially increased. This also brings up the immense scope and relevance of modern marketing imperatives of unique export market positioning, branding and more creative packing in smaller units branding as Indian Cardamom or even the famous "Alleppy Green". As marketing is succinctly defined as "creation and delivering a new standard of living", there must necessarily be a series of concerted awareness creation campaigns in at least the top 10 cardamom importing nations like the affluent Western nations, Australian continental belt including the transit station of Singapore and those rich Middle East nations. There also exist the scope of re-interpreting and, in a way, redefining the market positioning of Cardamom different from the present status as an agricultural commodity, rather than as the Queen of Spices, based on its superior qualities of aroma and taste, particularly the flavour which is determined by the spice oil content and the hitherto unexploited nutritional properties and of mouth freshening, as vitamins supplement and curative values which had been proven over the centuries. Also it needs extensive help and advice from the Spices Board in promoting and protecting the interests of the Cardamom industry and the growers for Market Re-Positioning and Patent-Branding.

Introduction:-

The Historical Perspective:-

The history and destiny of our country and perhaps of the whole world would have been different, if the then ancient Indian peninsula was not the land of spices. It was the taste of the King of Spices, the 'Black gold'(pepper) and the flavour of the 'Queen of spices' Cardamom, along with other spices like Cinnamon, Clove etc. , some 4 to 5 millennia ago,(even during the Vedic ages)that had attracted the kingdoms in Mesopotamia , Arabia etc. and later the Europeans like Vasco de Gama to this country and ultimately led to our foreign domain. There were Jewish and Arab trade settlements even as back as the third century BC in the western coast up to the now Konkan coast but the settlements were mostly concentrated around the then sea port of Muzuris (Thrissur District), Thendis(Quilon dt), in what can now be called Kerala , then probably under the Chera dynasty. The significance of the spices in the history of the world is evident from the erstwhile existed famous "Spices Route" to the Indian peninsula. The geographical physiographic and climatic peculiarities of the South Deccan part in the Western Ghats region of present Southern India are the major gifts of nature still providing us an upper hand in the world of spices..

Contemporary Scenario:-

(a) India had monopoly in spices production and export for a very long period . But the situation is fast changing and we are facing extreme competition from many spices producing countries. Guatemala is the major opponent of India in the international cardamom market. They are able to supply cardamom at a price, which is far below the price of Indian cardamom. Tanzania, Sri Lanka, Costa Rica, Honduras and Papa New Guinea are cardamom producing countries, though in smaller quantities.

(b) Very little and coherent research studies have been undertaken since the late 1980's concerning the various problems involved in the farming and the export marketing of cardamom from Kerala and the decline in market share since the mid-1980s ,especially when we had the infamous Guatemala supply threat , question-marking Indian cardamom demands .The increasing domestic demand began to get more attention of farmers and marketing intermediaries than lucrative export markets

Whatever may be the competition, India is still the leader in spices production and export On an average, we produce approximately 30,00,000 tomes of spices every year. But the fact is that more than 90 percent of our own spices production is consumed in India itself. It is amazing to see that the remaining 10 percent spices exported from India gives us more than 40 percent share of world spices market and the fund inflow in foreign exchange earnings are also of comparable higher corpus , in the export market

The emerging inference,therefore, is that there is more of untapped scope for export market trade , if more attention is bestowed on the marketability factors which are decidedly relevant to such and such export markets . This is because the earning capacity in foreign exchange can be conspicuously increased manifold, which in turn can result in promotion of cardamom farming and trade as a star cash crop.

The fact that our cardamom agricultural efforts need to be fine-tuned to orient towards the export market where superlative quality of cardamom competes successfully against the more inferior Guatemala cardamom which are made available there at cheaper rate that we can hardly afford to, by smart market positioning by branding , creation of a selective approach highlighting its untapped medicinal properties , culinary utilitarian angle and deliveries in their markets free-from pesticides , insecticides and other chemical residues on the cardamom pods . Competitions in the cardamom export markets of Tanzania, Sri Lanka, Costa Rica, Honduras and Papa New Guinea are cardamom producing countries, though in smaller quantities are less pronounced for India, though such an inherent threat cannot be easily ruled out

As the very output of cardamom is determined exclusively by the physiographic and the specific climatic parameters of the region , which alone had earned it one of the most sought after spice in the ancient Spice Route of oceanographic explorations , the present Kerala context of depletion of natural forests, constant encroachments, weather change, water shortage, drought, flood, soil e devastating landslides in August- September 2018 etc. have had enough and more potential to threaten the cultivation of cardamom as the key export orientable cash spice crop.

There are about 70,000 hectares of land under cardamom cultivation producing on an average 6,500 tonnes of cardamom annually. Of this, 45,000 hectares belong to the state of Kerala from which we produce on an average

5,000 tonnes annually. The production percentage has improved thanks to new hybrid and otherwise more production oriented plant species like the Njallani, "Wonder" cardamom and also the increasing trend of organic cardamom farmers in Kerala, particularly the high range district of Idukki where cardamom cultivation has become a way of life. More concerted efforts both on the part of the extensively spread cardamom cultivators on the one hand and government level well planned promotional and result oriented efforts beginning with advisory guidance to the farmers right through an integrated approach in production financing, if needed, acting as facilitators for grading of the fruits, drying and final detoxification processes which can be done on a collective bases before marketing through the auction centres of the Spices Board of India.

Objectives Of The Study:-

1. To assess, through field visits in most of the seasons, the insitu complex socio- economic conditions of all types of cardamom farmers and analyse first-hand, various production and post-harvesting problems of farmers vis-a-vis existing marketing practices resorted to / adopted.
2. To assess the awareness, reason for non-utilization of cardamom promotional schemes of Spices Board of India and other agencies, including the Farmers collectives or organizations, if any.
3. To study the interactions of the farmers, with all the cardamom promotion and research institutes in tangibly reaching out the benefits of their activities and suggestions, if any, to the farmers.
Cardamom Research Station at Pambadupara, Idukki, Kerala.
I.C.R.I (Indian Cardamom Research Institute), Myladuthurai, Tamil Nadu.
I.I.S.R. (Indian Institute of Spices Research), Kozhikkode, Kerala.
4. To explore and enunciate suitable measures to improve the cardamom marketing system
5. To evaluate the performance and levels of trade related interactions with and the practical significance of the market intermediaries, including the Export traders and Organic farmers
6. To study the possibilities of a state sponsored awareness creation campaigns in the cardamom importing countries, where cardamom oleo-resins / essential extracted oil are trendy demands
7. To contemplate seriously in terms of securing a commercial patent for the superior grade of Kerala cardamom, to strategically re-position its status in the export market to boost exports progressively in those countries with identifiably assured or anticipated market potential

Aim Of The Study

The fundamental aim of this study is to probe into facts and factors connected with the untapped scope of present system of cardamom agriculture conducted as traditionally or in a more planned way nowadays along with its unpredictable fluctuations in demand -supply equations and realised market price to be oriented and geared towards the export markets so that earnings per each farmer are substantially increased.

To evaluate the significance of cardamom in improving the lives and the general economy in the state of Kerala as a whole, eventhough cardamom plantations are concentrated in the Idukki and also in the Nelliampathy hills of Palakkad and mainly many parts of Wayanad and Kasargode districts in Kerala in the perspective of being adapted to the various demands of the export markets

To chart out suggestively some clear-cut techniques or practically feasible methods as to how both to significantly improve the presently popular traditional agricultural and post-harvest curing and grading activities can be made more adaptable and intrinsically attractive for acceptance in the more discerning markets abroad, than the domestic markets

To study the present predicaments and challenges of the unorganised sector of the small and medium cardamom farmers with less than 5 acres of agricultural land in proximity to their dwelling places in their viewpoints

Since the late 1980s, many countries are also resorting to a novel system of "transit exporting" such as importing and subsequently re-exporting cardamom with or without their own style and methods of value addition, and making benefit out of such transactions. This study throws much light into the diverse and interplaying market forces in the global spices trade and hints the areas where India can concentrate more for better marketing practices.

Scope Of This Study

The geographic scope of this study is limited to the different existing cardamom plantations in the state of Kerala particularly Idukki District with nearly an estimated 10,000 small, medium and professionally run or established

cardamom estates, including the newly rising breed of Organic cardamom cultivators in Idukki district who are relatively more affluent, younger, educated and are relatively more exposed to modern norms and practices of farming, in totality. Since cardamom is a way of life with more than an estimated 65% of the native population of Idukki, directly or indirectly (or even as ancillary to cardamom farming and trading activities), related to cardamom as a traditional farming method and also as trade or post harvesting work intermediaries at various levels. The scope also extends naturally to the other cardamom growing areas in the Nelliampathy Hills of Palakkad and also Wayanad, Kannur and Kasargode districts in Kerala.

The scope of the in-depth studies of growing cardamom from a traditional point of view to that of structurally modified or improved agricultural methods and practices which are at once result oriented towards increased cardamom fruit production as well as rationalising post harvesting works such as grading, colour retention, in drying processes, etc. to render this cash crop acceptable particularly in the export markets. At the same time the scope of this study also vests in concentrating on sustaining its superlative qualities, as was known from the ancient Spice Route era, including ingenious techniques of value addition, in any manner so that the levels of acceptance in the foreign markets are enhanced. The ability to compete with the Guatemala cardamom is to be based on that intrinsic qualities and properties like texture and greenish colour of the cardamom fruit pods, unique taste, the flavour determined by the spice oil content upwards of 6 from the present 4.5 to around 5, as generally obtained now.

This also brings up the immense scope and relevance of modern marketing imperatives of unique export market positioning, branding and more creative packing in smaller units branding as Indian Cardamom or even the famous "Alleppy Green." (Though it has nothing to do with Alleppy, but because this Kerala District had the port from which cardamom was being exported from the early 20th century till the Cochin port was developed). As marketing is succinctly defined as "creation and delivering a new standard of living", there must necessarily be a series of concerted awareness creation campaigns in at least the top 10 cardamom importing nations like the affluent Western nations, Australian continental belt including the transit station of Singapore and those rich Middle East nations.

There also exist the scope of re-interpreting and, in a way, redefining the market positioning of Cardamom different from the present status as an agricultural commodity, rather than as the Queen of Spices, based on its superior qualities of aroma and taste, particularly the flavour which is determined by the spice oil content and the hitherto unexploited nutritional properties and of mouth freshening, as vitamins supplement and curative values which had been proven over the centuries -

It has to be projected far more than a food seasoning agent in the developed Western markets, highlighting also its medicinal properties because recently the interest of natural remedies are increasing in Europe and the USA. The scope of understanding and reorienting our approach towards cardamom export markets to Indian advantage has also to be studied.

Need Of The Study

More than structurally revamping the prevalent traditional cultivating methods of cardamom, it is the need of the hour to re-examine the rather traditionally practised marketing approach of cardamom now targeted only domestic market demands, especially when the spice was sold in the affluent North Indian Mandis (local market places) especially in the festival season like Diwali, Dussera etc. The export market was earmarked generally for the leftover quantities, mainly because of the delays in realising the finances from the exports. Added to this, the lack of access of farmers to understand and satisfy the standards of import market acceptance criteria and finally the loss of idea articulation that even one third of their products if accepted abroad, can give export earnings to cover more than two thirds of their cost of production, even in a conservative estimate.

Another need is to draw attention to the general lacuna in realisation or awareness among the farmers of the latest farming and post harvesting technology such as the modalities of drying, grading, processing technologies recently improved or improvised and marketing strategies especially the Organic type for which immense marketing potential is on the increase in the West. General ignorance on the crucial aspects of drying of the cardamom, within the accepted range of 8 to 12 % range to avoid moisture related microbial contamination - drying on non-hygienic surfaces or sheets or eliminating residues from pesticides and pungent chemical fertilisers were other hazards that need to be seriously addressed.

The need to converge attention to the socio-economic factor that as the very output and also the requisite cardamom quality parameters are determined exclusively by the available physiographic and the specific climatic environment of the region rendered suitable for the growth of superlative grade of cardamom since many millennia, the new incidences of human interventions result in destabilising the overall sensitivity for cardamom growth. Thus, the highlighting of the wanton depletion of natural forests, constant encroachments, weather change, water shortage, drought, flood, soil erosion, unseasonal rains resulting into water clogging, flood and landslides etc eventually has enough and more potential to threaten the cultivation of cardamom.

This study should also bring back to focus the sad state of predicament for cardamom farmer that increased nutrient supply or positively nourishing inputs to the plant lead to similarly increased vulnerability to pests and diseases, provoking the farmers for increased applications of fungicides and pesticides resulting in application of fungicides and pesticides up to 15 rounds in a year though only 8 rounds are recommended. It not only increased the production cost, but also deteriorates the ecology of the region.

The need to study the unfortunate travesty of the cardamom farming without an open market facility cannot be understated, though they have started demanding for it from a long ago, but everything went vain. Therefore, the cultivators have to depend entirely on the agents and traders for marketing which force them to sell their product at low price. The Spices Board initiative of auction centres unfortunately could not, so far, significantly alleviate the situation whereby cultivators could get better prices in real time and in time coupled with this fluctuations in climate, humidity etc. The more unpredictable and erratic fluctuations even within a single day creates havoc for farmers even to the point of making their livelihood distressful with mounting debt.

Statement Of The Problem

The statement of the problem has to be viewed three-dimensional; at least in three prongs, in the sense that it involves the problems faced by the cardamom farmers both in situ and externally as socio economic issues, the need to redefine the existing approach towards the more lucrative export markets and finally relevance of the government machineries to act as catalysts for improving the situation

The farmers in general including those very small and medium cultivators who depend on the cardamom production and revenue from any markets for day to day existence on the one hand and the organised or the established farmers including the more progressive organic cardamom cultivators are following the age old traditional methods which had been their mainstay for centuries as time tested system. However, the following are their problems, generally speaking:--

1. Climate changes of an unseasonal nature and not prognosticated with any reasonable accuracy
2. Incidence of pests like worms, white flies, tiny yellow frogs and the infestation by bacteria and virus including Anthrax
3. Geographically distributed natural calamities induced by nature like incessant rain or lack of rain, mist in the flowering and pollinating time, humidity, variations, and atmospheric pollution, in general
4. Soil-related problems like the changing "ph-values" ie, whether it is acidic or alkaline, composition of soil with reference to essential minerals, water stagnation at the plant-beds and also natural phenomena like soil-erosion, top soil conditions, floods and land-slides
5. To induce better harvests the farmers tend to increase the nourishment of the plants which, in turn, results in higher and faster incidence of pestilence and infestations of viruses and disease-borne bacteria.
6. Again, to cure these plant ailments they tend to apply much more pesticides and other chemicals so much so that sometimes it reaches almost double the prescribed limits. This not only deteriorates the environment and also leads to lesser disease resistance and natural immunity.
7. They are not basically made aware that the cardamom plant is highly sensitive and inducing better root growth and basic health of the plants by using a judicious mixture of organic manure and the least possible quantities of chemical fertilizers and nutrient minerals at the right time or growth stages can substantially reduce the need to apply pesticides. "Prevention is always better than cure" is the key word
8. The vagaries of nature like unseasonal or incessant rainfall, variations in humidity levels beyond the tolerance levels of the cardamom plants, exposure to longer periods of harsh sunshine in the absence of proper tree shading system and the calamities like soil erosion, floods, land-slides etc have become more and more unpredictable owing to global greenhouse effects and unusual climate change-induced warming

9. The lack of proper water management system , rainwater harvesting and ground water recharging couples with ensuring that the plant beds are not water clogged or starving for water , particularly in the right time of plant growth and flowering -pollinating stages
10. The unfortunate but frequent incidences of crop loss due to the infestation of pests and diseases multiply the farmers' burden by reducing the yield of cardamom. Thus, not only the farmers, but the livelihood and future of thousands of people who are engaged in cardamom related activities including the traders, exporters, labourers etc. depend on the success and prosperity of its cultivation. It was this socio economic factor which inspired the researcher to address the causes of farm distress properly.
11. The problems and challenges in carrying out the post-harvesting cardamom preparation meant for domestic and export markets , such as drying of pods , grading , removing impurities like remnants of flowers , fruit stalk ,preservative packing , selling efforts whether locally or through the Spice Board auction centres etc
12. The economics of cost calculation, including "family or own labour" cost of wages and cost of the landed cost of organic manure,fertilizers,pesticides,fungicides etc. As the wage structure in Kerala since the mid-1990s have risen sharply to more than double the rates for even unskilled labour of neighbouring states. This is a profound constraint for farmers .They are prone to think twice whether to engage an unskilled labourer for as high a daily wage between Rs.750 upwards (2019) , which is more or less equal to the market price of 1 KG of average cardamom

Secondly are the external influences with a socio-commercial angle. The farmers are prone to be very conservative and extra-cautious as it is their livelihood at stake, at least in the case of farmers. Many are the problems and challenges they confront on an everyday basis:--

1. More than the fluctuations in the environment, farmers are more worried in the uncontrolled fluctuations of the market price at least as evolving locally. The rates of cardamom purchases fluctuates not only seasonally, but also every week or even in a single day. This prompts them to hoard their produce temporarily in the hope that a better price will come in the near future, which in most cases happens to be a mirage, at best. This complicates their financial situation and loans are something most farmers are chary of availing, as has been convinced to this researcher.
2. The role played by the Auction Centres of the Spices Board of India has by and large not effectively reached the small scale farmers who opt for the local purchaser, who in turn may or can use the auction centres. This is because the time of actual receipt of moneys to the farmers are delayed more often than the stipulated 45 days , whereas the local purchaser can give out cash on the spot or immediately farmers Besides the digital type functioning or online trading tend to repel many such farmers for reasons best known only to them.
3. The sheer absence of a functional open market system , though very strongly demanded by many farmers over the years is also a predicament for most farmers (as detailed in 4.5 above)

Finally, the litmus test of the market- price realisations shall depend on the then prevalent

Demand-supply equation especially the export markets, where the size of the graded,uniform sized

Cardamom pods is preferably above 8 mm , greenish colour of them , lack of impurities such a dried flowers , fruit stalks other collection-related ones etc. are matters that determine the foreign market acceptability, the packing formats , description of the origin , state , details of packing dates etc. are also factors that the discerning foreign buyers insist upon on regular bases.

Apart from these physical qualities of the exported commodity of Indian cardamom (preferably the superlative grade popularly known as the "Alleppey Green"), there are also other factors that influence the trade directly or indirectly.

1. Whenever there occurs tangible impacts created by adverse market price, increased cost of production, competition from international markets, piling up of agricultural debts etc. hit the farmers intensely. It would further shatter the economic backbone of the farmers especially of farmers with small and medium sized holdings, simply because their very livelihood and farming sustenance depend so critically on income from cardamom. The unpredictable and violent market price fluctuations offers threats that undermine the already sagged confidence of common farmers .An essay to study the extent and nature of correlation (conducted by this researcher)primarily to analyse whether there exist any relationship between annual production and market-obtained prices of cardamom does not suggest any clear relationship between them. Therefore, it can be concluded that the price is also influenced by many other extraneous elements like import, export, domestic use, festive demand, weather, capsule size, colour of the ready -to-market cardamom seedpods etc.

2. The extraneous factors influencing international trade and business relationships as well as market conditions like seasonal supply of other countries, WTO (World Trade Organisation) and GATT (General Agreement on Tariffs and Trade) agreements India has been a participant in (till India withdrew the in October 2019) and the very stringent import or even port based quarantine conditions imposed by the nations like major importers like USA European Union countries, Kingdom of Saudi Arabia etc., like Aflatoxin levels, permitted percentage of residue of insecticides pesticides etc.
3. The absence of functionally free and open market system in operation at the cardamom growing or trading locations, the cultivators have to depend entirely on the local agents and traders for marketing which force them to sell their product at comparatively low prices. The farmers generally have opined that shifting into the open market system would help them to acquire a more competitive and reasonable price for their commodity.
4. It is no more a secret that some Guatemalan producers, in order to gain a foothold in the market, had resorted to counterfeit labelling of their product as being produced in India. This "counterfeit cardamom" and adulteration thereby have not been properly addressed or attempts at intervention by the Indian government at a national level have hitherto proved insufficient to protect the interests of Indian exporters not only from counterfeit exports, but a loss of market share generally
5. Lack of marketing know-how regarding 'Auction system' Cardamom marketing conducted under APMC Act is through a process of auction at designated locations. Farmers and traders participating in auction have to be registered under this Act by the Spices Board of India. This created unfriendly practices such as exclusion of several small farmers from the market, compelling them to sell their produce to middlemen, and formation of trade lobby to deny fair price to farmers. While the recent introduction of Cardamom growers ID card and e-auction are the steps in forward direction, but some farmers are still unfamiliar with the new system of auction.
6. There is the dire need of acquiring a commercial patent for Idukki cardamom to effectively market re-positioning of Kerala cardamom, The small cardamom produced in India is very unique and the time tested superlative properties and oil content. Therefore, its global market interest is high and has got highest price in the international market. Presently, the brand 'Alleppey Green' cardamom has set a widely recognized high benchmark for cardamom quality. Because, nowadays, the traders found misusing the brand by mixing it with the cardamom imported from abroad. Only the patent of Idukki cardamom would provide economic advantage to the Kerala farmers

Research Questions

In the absence of any published research precedent in the selected perspective of the topic of the need to orient our cardamom farming and post-harvesting cure and preparation of this highly preferred spice product, the in-depth study of the prevalent traditional farming methods needs to be smartly extrapolated to the untapped potential in re-positioning the market position of Indian branded cardamom and the financial benefits it results positively. This is because even though the quantities available to be exported are only roughly 10% of the annual cardamom production in India, a huge 40% is the contribution in income. This is how the dependant variable of farming orientation is to be examined

1. What are the individual, social, and economic and environment factors that directly, indirectly or even vicariously affect all categories of cardamom farmers in Kerala?
2. What are the physical environmental conditions beginning with the topographical and demographical ground realities that are being confronted by such farmers?
3. How are the adverse effects of the recent phenomena of global warming and climate changes literally affecting the growth and farming style of Idukki where most of the CHR (Cardamom Hill Reserve) areas are situated?
4. What are the non-dependent variables as relevant to the common farmers that collectively influence the cardamom market-places?
5. How is the functioning of the Auction Centres of the Spices Board of India likely to affect the lives of ordinary farmers who are generally not patronizing such centres?
6. What are the sources available and easily accessible for financial assistance for carrying out cardamom cultivation and also post harvesting preparations to render it market ready?
7. In which all ways the Spices Board of India reach out to the farmers for agricultural problem-solving and technical or marketing assistance or guidance at the appropriate time?
8. What are the expectations from the Spices Board of India and the rate of actual and practical relevance of the Spices Board of India in the agricultural or marketing aspirations of ordinary cardamom farmers?
9. Whether the challenges of other competitors like Guatemala properly addressed particularly with reference to the period in which their cardamom is dumped into the spices markets of relatively neighbouring countries like the USA, Canada etc and also the Western European markets owing to closer proximity than India .?

10. When the Guatemala cardamom hits the above markets by December every year, what actions have been contemplated by Indian exporters to effectively counter that supply situation?

Hypotheses

a) Exploratory Phase

Significant differences exist even amongst the marginal small and medium Idukki cardamom farmers, and the more organised farmers in their progressively adapted traditional agricultural concepts, dependency for livelihood and attitude of informal selling endeavours.

Significantly discernible similarities exist between the levels of interaction practised and attitude towards the Spices Board of India like adapting drip or sprinkler irrigation methods, rainwater harvesting, dependency levels of advises and guidance offered by the Board and actually done

Differences in socio-economic status, familial involvements that affect overall cardamom cultivation and post-harvesting processes such as drying, annual income earned per multi-terrain area unit of land earmarked for the cultivation, including for Organic cardamom farming.

Significant differences exist between farmers of various categories on area or organisational bases, in the frequency and quantum of application of pesticides fungicides and fertilizers.

Inherently significant differences between small and medium scale farmers and the plantation -level established agriculturists in conceptual framework, farming style, post harvesting operations Inter-crop cultivation differences, etc.

b) Experiential phase

Significant differences between the above two categories with the increasing breed of strictly organic cardamom farmers, using bio-fertilizer and manure instead of chemical fertilizers to make their products easily accepted at export markets within prescribed MRL parameters.

Less significant difference exists among the age group of the planters with regards to (a) Years of growing cardamom (b) area of cultivation (c) ownership (d) Interaction with Spice Board.

Significant differences in cultivation concept for livelihood, post harvesting works carried out, levels of mechanisation in irrigation, spraying of crop disease-preventive chemicals, replanting style, irrigation facilities devised, interactions with various market intermediaries locally.

Significant differences exist in the levels of the recalcitrant attitude of farmers in general towards exports, when demand already exist domestically and setting a part of their products for the export market, either in graded or otherwise selective methods.

Variables Chosen In The Present Study

1. Independent variable--Traditional farming style, including the nascent Organic farmers, the convergent centralized e-Auction system of Spices Board at Puttadi, Idukki dt., market fluctuations of both prices and demand scenarios, marketing endeavours of farmers, unpredictable climatic and drought or flood situations, uncontrollable local market prices variations, MRL limit.
2. Dependent variables-- Dependent variables-- More adaptively rationalised farming methods, interactions with the Govt. Agriculture departments, Soil health awareness and non-standardisation of overhead shadowing coverage over crops, methods of irrigation, applying of fungicides, pesticides, fertilizers other than bio-organic, organic farming measures, post harvesting proceedings, various market intermediaries and promptness in receiving moneys from sales.

Research Methodology:-

Research Design

A research design is the basic frame work which provides guide lines for the rest of the research process. The importance of scientific research in the research design that has been adopted, offers a base for drawing conclusion from the data collected. The research design used in this study is descriptive research design, since it describes

clearly the characteristics of the sample as expressed by the respondents. The research design constitutes the blue print for the collection, measurement and analysis of data. The research design used for the study is descriptive, which is concerned about the characteristics of a particular individual or a group.

Research Period

The total duration of the research is from 2014 to 2019, divided into four parts. In the first part, the researcher collected reviews of literature, whereas in the second part defining research problem, drafting of the data collection for research and its pretesting with limited samples. In the third part the main survey was conducted to collect the primary data, coding, editing, processing and analysis of data has been carried out. In the final part, the preparation of the thesis was completed.

Sources of Data (And Collection Methods Envisaged)

The data for this study were collected from primary sources by visiting the planters at their sites, which was both time consuming and laborious; the data were collected directly from the sample respondents by serving them a structured questionnaire. Additionally, the use of secondary sources of data has also been made in this research from books, journals and web resources. Secondary data was also used to prepare the introduction of the study, research objectives, and the scope of the research.

Questionnaire

The questionnaire has been prepared after a detailed literature review and preliminary studies on the problems and challenges confronting both farming and marketing, of cardamom, with particular references to the merchandising potential in the existing export markets owing to branding, export-market re-positioning. The questionnaire is comprised of six sections each of which provides instructions to guide the participants to complete the questions. The questionnaire is arranged in an order that have logical elements of progression and sequence: Part I: concentrates on Demographic profile.

Part II: deals with cultivation profile.

Part III: Deals with problems faced & opinion to improve spices cultivation

Part IV: Includes Marketing

Part V: Promotional Schemes of Spices Board.

Part VI: Role of Spices Board

Sampling Method:-

Sampling method used is Stratified Random sampling, which involves the division of a population into smaller groups based on the area of cultivation. A random sample from each stratum is taken, in a number proportional to the stratum's size when compared to the population. In the present study, the strata are the three districts of Kerala where cardamom is mostly grown. The respondents were contacted in person by visiting the farms and post harvesting sites.

Strata 1: More than 9 acres of cultivation

Strata 2: 6 to 9 acres of cultivation

Strata 3: Less than 6 acres of cultivation

Sample area covered for the study

Sl.No	Districts	Total cultivators	No. of respondents
1	Palakkad	378	44
2	Wayanad	760	88
3	Idukki	1800	210
Total		2938	342

Method of Data Administration

Data was collected from totally 390 planters of 3 major cardamom growing districts of Kerala, personally contacting them at their farms or houses, to ensure their responses to the questionnaire. Despite the number and variety of the questionnaire, most of the respondents shared their feelings, ideas and opinions objectively and impartially. The researcher has distributed 390 questionnaires, and succeeded in having collected 362 (93%) responded questionnaires from planters. After scrutiny, 20 erroneous filled-in-questionnaires were taken for the study, leaving

342 questionnaires finally. The collected responses from the planters were scored, tabulated and subjected to appropriate statistical treatments. The outcomes of the results obtained were analytically interpreted, discussed and inferences were drawn.

Reliability

Constructs and Factors	Cronbach Alpha
Productivity enhancement	.934
Sustainable development	.772
Cost reduction	.744
Extension through capacity building and subsidies	.731
Crop improvement and plant protection	.889
Post- Harvest operations and marketing	.799
Expectation of Cardamom growers from Spices Board of India	.931

Framework for Analysis

The collected data had been processed with the help of appropriate statistical tools. The selection of statistical tools is based on the nature of data and the objectives of the study. The tools used are Z test, One-Way Anova, Chi Square, Garrett's Ranking Technique and Correlation

Limitations Of Study

The fact that hardly any academic research or serious studies by other related institutions or organisations have been initiated, with the particular perspective or contextual reference to the farming challenges of cardamom in Kerala, in conjunction with the need to re-position its market status of Kerala's superlative quality of cardamom, under the protection of a newly obtained product patent in the export markets abroad, is in itself is the preliminary limitation for conducting this research

It has been felt that there existed conspicuous insufficiency of data or other statistics, which are, at least, reliable or more or less relevant to this topic that are made available with the 3 Cardamom promotion bodies of the government like

- (1) The Spices Board of India, Cochin
 - (2) Cardamom Research Station, Pambadumpara
 - (3) ICRI, Myladuthurai
- etc., that can be of direct utility for this research

Though most of the small farmers are reasonably educated (Kerala having near 100% literacy), the hesitancy or strangely otherwise being somewhat apprehensive to respond to the detailed but elementary items Questionnaire prepared by the researcher cannot be overlooked. Thus gathering information first-hand, travelling in the difficult high range topography of Idukki, Wayanad etc. without easy road access can also be cited as another limiting factor or an inherent constrain, generally overcome in the long run.

The Kerala State Agricultural Department, particularly the Village Agricultural Extension Officers, who had more access and useful interactive facilities with the farmers had expressed their official limitations in responding to the Questionnaire, (though their views and data of the ground realities have been included wherever necessary)

The assorted informal bodies like the Cardamom Growers Association, Exporters, intermediaries for Oleo-resin or essential spice oils, had been less forthcoming or recalcitrant in furnishing data or statistics demanded, but had cooperated in the efforts of gathering and analysing and assessing the information collected

Results And Discussion:-

Major Findings

1. Farmers are unaware of progressive traditional farming techniques and marketing approach.
2. Many farmers do not avail of Spices Board-routed subsidies as their interactions with Board are generally negligible as there is no tangible impact on them. With a centralised e-auction centre at more farmers do not consider them practically effective as most of them are not internet savvy.

3. Many small farmers also traditionally cultivate in lands for which they have no Pattayams (Official land deeds), by which they are denied bank or other Credit Society loans.
4. Soil health-status of minerals and nutrients needed for cardamom cultivation are generally not ascertained or ensured and irrigation facilities are not rationalized.
5. Reportedly continuous research for new crop quantity-enhancing cardamom varieties by any of the above Institutes or the Spices Board have not yielded any tangible results
6. Lack of awareness on cultivation cost structure , bio fertilizers / pesticides and the techniques of removal of such pesticides residues for MRL acceptable are not given importance by farmers
7. Most small farmers tend to sell of their cardamom crop to local procurers and intermediaries for prompt moneys without grading or packing, resulting into unhealthy marketing interplays.
8. The Kerala-based Cardamom Growers Associations and various co- operative bodies, especially of Idukki Dt., are now happily seized of the immense potential in repositioning of cardamom as a special spice merchandise for the export trade in particular along with organic cardamom. Attempts nowadays , to develop the systems of branding based on the demand scenario abroad

Major Suggestions (Questionnaire/exploratory/experiential probe-based)

1. Free market must be established exclusively for cardamom products and subsidies may be introduced for bio-organic plant treatments.
2. Marginal growers should be given crop loan to conduct seasonal operations. Loan should also be provided to growers without pattayams.
3. Fertilizers and other chemicals used for plant protection should be arranged to be reached out to the marginal, financially weak growers on easy and simplified credit bases.
4. Soil testing should be conducted effectively by the Govt. Agriculture Dept/Spices Board and Soil Health cards should be monitored for minerals or nutrients deficiency that have collective adverse effects on the crops obtained.
5. New productive varieties of plants and effective disease control measures, emphasising towards organic treatments to be evolved and popularised.
6. Crop insurance modalities maybe streamlined, effective disease control measures ensuring the 20% subsidy which only 1/3rd of farmers avail (for reasons best known only to them). Govt. must ensure that all other schemes of cardamom promotion should reach out to farmers.
7. The Board should practically reach out to farmers with its schemes through local bodies; devise marketing strategies and action plan for cardamom awareness campaigns through Trade Missions/Chambers of Commerce abroad. through the good offices of the Spices Board
8. Awareness on export opportunities, MRL acceptable abroad, organic techniques of removal of such residues on cardamom pods, regaining the parrot green colour organically. A paradigm shift towards cardamom quality available for export markets be designed and encouraged.
9. Since only the left-over quantity of perhaps less than 10% of national production is traditionally earmarked for export with capacity to earn nearly 40% as foreign exchange, there exist dire need to encourage farmers and other market intermediaries to set aside the premium quality of both normally and organically cultivated selected cardamom in increasingly larger quantities so that earnings can be substantially enhanced
10. The Govt. or the Board must envisage a system to disburse at least interim payments on an export floor-price basis to the farmers crop selected for export and being processed for such trade , so that farmers may not hesitate but prefer exports
11. More cogent awareness campaigns for preferring export trade to domestic trade among the farmers by shifting focus onto exports though smart market re-positioning and global branding to systematically recapture its centuries-old traditionally prestigious export status of Kerala

Conclusion:-

A concerted attempt to study in depth ,highlight the production pattern, existing marketing practices and auctioning machinery , problems persisting in the industry, especially of growers in Kerala and the promising future and potential for cardamom if patented for and effectively re-positioned in the export market , is to be the criterion

In the contemporary context of the threats to India's export trade in Cardamom and the possibility of increasing production through raising productivity, it is imperative that the industry adopts immediate measures to promote the marketing of Cardamom a patented and superlative aromatic spice The strategy for marketing Cardamom in India essentially lies in policies and programmes that will lead to proper control of the entire marketing system. New

foreign markets should also be explored. At the same time our traditional markets in the Middle East should be protected. Otherwise the much loved Indian cardamom will become an 'old flame' to the Arabs.

Special care and attention is needed in extending the area under cultivation and to improve the production and productivity through better and scientific farm management practices. Availability of credit is to be ensured at the time of its requirement. Also it needs extensive help and advice from the Spices Board in promoting and protecting the interests of the Cardamom industry and the growers. In this IT age only a fraction of the effort of the past is required to usher in revolutionary measures to uplift the condition of cardamom growers, provided there is adequate utilization of existing resources and development of new strategies in tune with contemporary technology available in India

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