

**MARKETING STRATEGIES FOR EXPORT OF CASHEW**

**IN KERALA**

**By**

**Haritha Paul**

**(2019-25-001)**

**THESIS**

**Submitted in partial fulfillment of the requirement  
for the degree of**

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**Kerala Agricultural University**



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**COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT**

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**KERALA, INDIA**

**2023**

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I, hereby declare that the thesis entitled “**Marketing strategies for export of cashew in Kerala**” is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, fellowship or other similar title, of any other university or society.

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# CERTIFICATES

## CERTIFICATE

Certified that this thesis entitled “**Marketing strategies for export of cashew in Kerala**” is a record of research work done independently by **Ms. Haritha Paul (2019-25-001)** under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

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**Haritha Paul**  
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# INTRODUCTION

## CHAPTER – 1

### INTRODUCTION

The term ‘Cashew’ originated from the Brazilian name *acajaiba* and the Tupi name *acaju*, which the Portuguese converted into Caju and is commonly known as ‘Kaju’ in India. Cashew, botanically known as *Anacardium occidentale* L. a native of Eastern Brazil was introduced to India along with other commercial crops like rubber, coffee, tea *etc.* by the Portuguese nearly five centuries ago. Cashew (*Anacardium occidentale*) is a tropical evergreen crop known for its seed all over the world. Cashew blooms once a year between November and January with yellow-pink flower. This season lasts for about three to four months. The tree can tolerate high temperatures and cannot perform well under shade. The ideal temperature is 24-28<sup>0</sup>C. Cashews are commonly called cashu, caju, acajou, anacarde and pomme. The nutrient-rich, flavoured seed which is having export value is obtained from the bottom of the false fruit of cashew known as the cashew nut. The nuts are attached to the bottom of the apple and are kidney-shaped. The cashew apples are not having much demand in the market but are used to produce fermented drinks, distilled to liquor most popularly known as *feni*. Cashew seeds are of economic importance. The shell oil of cashew seed is used in lubricants, waterproofing, paints *etc.* The cashew kernel is a soft, pulpy and white fruit in raw form. When roasted, the kernels turn from a creamy white to golden colour and that mellow pulp becomes crispy. It forms high energy as well as tastes good, and that can be consumed in any form like plain, steamed or roasted.

The cashew kernel is commonly called cashew nut which is most traded and consumed, and also an important part of the cashew tree. The branch of the tree is a source of firewood for the villagers and tribes. The sap and leaves of the tree were used as medicine for certain skin diseases. It consists of 35-45 percent seeds and 55-65 percent shell. The shells contain 15-30 percent oil. A tonne of nuts contains about 200 kg of seeds and 180 kg of cashew nut oil or cashew nut shell liquid (CNSL). The

acidic oil present in the shell known as CNSL made it unacceptable for human consumption and has a major role in industrial applications. Immature cashew nut was consumed by the villagers and tribes in its primitive form, by cutting open the shell before it hardens. About 60 percent to 80 percent of the cashew kernels are produced, which are consumed as roasted and salty snacks (Annual report of CEPCI, 2019).

The cashew industry is the back bone of the economy of many villages in rural and semi-urban India. It provides gainful employment to more than three million people around the world of which around one million are in India alone. The majority of them are women workers from the weaker sections of society. Cashew nuts are the major agricultural commodity that is traded in the international market and now it's spread over different countries. It is a major source of foreign exchange for most of the developing countries in the world. Further, the world of the cashew chain starts with the production of raw cashew nuts (RCN), the processing of raw nuts to cashew kernels, trade and shipments, and the marketing and consumption of cashew kernels all within the countries and across different countries.

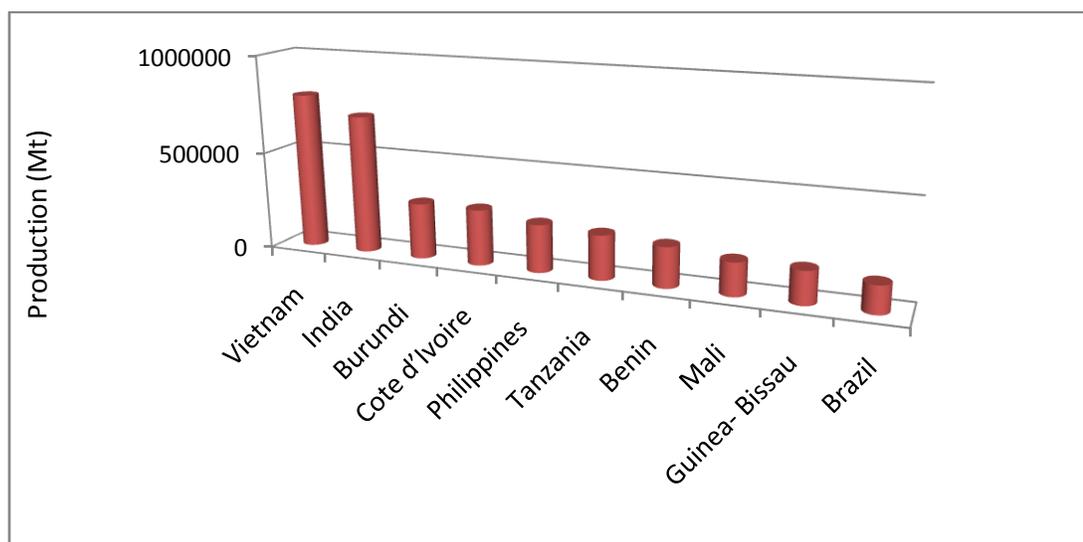
### **1.1 World scenario of cashew**

In the edible nuts category, cashew nuts (16%) are placed as the third most consumed tree nuts in the world after almonds (30%) and walnuts (20%), (FAOSTAT, 2021). The commercial cultivation of this crop is done in more than 32 countries, mostly in countries having hot and dry climatic conditions. African countries contributed about 56 percent of global production, whereas Asian countries contributed 44 percent among the cashew-producing countries (FAOSTAT, 2021). India stands second position in production of raw cashew nuts in the world after Vietnam. The other cashew-producing countries are Brazil, Tanzania, Ivory Coast, Guinea Bissau, Mozambique and Indonesia. Table 1.1 shows world cashew production in 2021.

**Table 1.1 World raw cashew nut productions in 2021**

Country	Production (MT)	Production share (%)
Vietnam	792678	20
<b>India</b>	<b>703000</b>	<b>18</b>
Burundi	283328	7.1
Ivory Coast	283328	7.1
Philippines	242329	6.1
Tanzania	225106	5.6
Benin	204302	5.1
Mali	167621	4.2
Guinea- Bissau	166190	4.1
Brazil	138754	3.5
Others	754044	19
<b>World</b>	<b>3960680</b>	<b>100</b>

Source: FAOSTAT, 2021



**Figure 1.1 World raw cashew nut productions in 2021**

In 2021, the global raw cashew nut production was 14 lakh tonnes, led by Vietnam and India with a combined 38 percent of the world total. Burundi (7.1%), Ivory Coast

(7.1%), Philippines (6.1%), Tanzania (5.6%), and Benin (5.1%) also had significant production of raw cashew nuts. Vietnam is notable as the largest processor of cashew globally (20%). The global trade of cashews exceeds two billion USD and the demand for cashews is increasing day by day in the world market. Vietnam is the largest exporter of cashew nuts with an export volume of about 55 percent of global production in 2020 (Vietnam cashew comprehensive report, 2021). Vietnam has increased its export to more than 85 countries in the last eight years.

In the world scenario, India occupies a premier position contributing to over 50 percent of the world's exports. Now, it is the largest supplier of cashew to USA, Australia, Canada and New Zealand. The United States was the largest importer of cashew kernels with an import value of 1.6 million USD in 2020. Since cashew cultivation requires a frost-free tropical climate, its cultivation is limited to warm tropical regions. So, there is no commercial production of cashews in the US and to meet their local demand, cashews are being imported from countries like Vietnam and India (UN trade statistics).

## **1.2 Evolution of the cashew industry in India**

In India, cashew was introduced in the early 16<sup>th</sup> century. It is one of the most important horticulture crops which ranks high among the Agri-horticultural commodities that are being exported from India. Cashew was first introduced in Goa and from there it spread to other parts of the country. During the 19<sup>th</sup> century, India developed some techniques to extract cashew kernels without shell oil and gradually cashew nuts found a place in the Mediterranean diet and attained the status of a food item. Cashew kernels were separated and sold in the nearby markets and also the far-off markets in the early 19<sup>th</sup> century. This has led to the development of the trade of cashews in the domestic and international markets. During the 1920s, cashew developed as a commodity in the international market with India's export of its first consignment of cashew kernels to United States. India was the sole producer of

cashew and later on efforts made by the western world to find an alternate supplier got into effect and Brazil was encouraged to start processing in the 1950s. Many other countries like Sri Lanka and Indonesia were producing cashew in a minimum quantity. India was the first country to establish cashew processing as an industry and international trade commodity. It has the advantage of having highly skilled labour mostly women labourers. India acts as a processing hub of cashew and a major share of cashew produced from different parts of the world was imported, processed and processed kernels are exported to different parts of the world.

Cashew by all means is a versatile crop. India was the first country that pioneered cashew as an industry as early as the 19<sup>th</sup> century. The cashew processing in India in a commercial way accounts for the early 1900s when villages used to burn/ char raw cashew nuts in a fire and open the shell to extract the kernel. In this process, CNSL gets sucked to the surface of the raw cashew nuts and gets fired. Later on, domestic-level roasting of raw cashew nuts (mixed with sand) in the open pan was started. Afterward, de-shelling of roasted cashew nut should be followed and the kernel will be collected. These kernels were to be sold in the domestic and international markets. The processing and selling of cashew started more or less simultaneously in three centers in India in the 1920s – Kollam (Kerala), Mangalore (Karnataka) and Vettapalem (Andhra Pradesh).

The first attempt in the processing of cashew at an organised level was done by Roche Victoria in India. Cashew was first exported in 1920 to USA. The technical advisor of Pierce Leslie Company Mr. W. Jeffries introduced the first drum roaster technique in 1932, which is being used even today with slight modifications. Mr. Jeffries also introduced the hot oil bath roasting to extract CNSL.

The organised way of processing with the introduction of new machineries paved the way for the growth of several cashew processing centers. Further, the local entrepreneurs in the Kollam district of Kerala pioneered this industry. The vendor group (Founded by Krishna Pillai), Poilakkada group (founded by Parmeswaram

Pillai) and Musaliar group (Founded by Tangal Kunju Musaliar) were the pioneers of the industry in Kollam, whereas M/s. pierce Leslie Company pioneered this industry in Mangalore. With the emergence of more and more private entrepreneurs in this field, the number of processing centers increased, which employed rural women. Most of the cashew processing was owned and managed as a family business. The growth in the number of the processing unit in turn resulted in a corresponding growth in the export of cashew kernels from the country.

Today cashew processing in India is mainly evolved in the states of Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Karnataka, Goa and Maharashtra. The major impact on cashew processing is a shift from family business to corporate levels and the adoption of new technology and quality standards in processing. Despite the adoption of mechanisation, the cashew industry is still dependent on huge labour input in processing. India developed some raw techniques to extract the white pulpy kernels from the raw nuts without much presence of CNSL in the early 1900s. Even before, the villagers used to cut open the raw nuts before the shell hardens and scoop the kernels. But those kernels contained the CNSL and were not acceptable for consumption. In the early days, the open pan method was widely used to roast raw cashew, where the raw nuts were placed over red-hot iron pans and thoroughly stirred. In this process, the raw nut got fired off and charred. The charred nuts were broken open by striking with stone pallets. Cashew processing had undergone different phases of transition in technology ever since its inception as an industry in the early 19<sup>th</sup> century.

Bhoodes (2012) explained the five phases of the cashew processing industry in India.

During the first phase (prior 1930) the roasting of raw nuts in open pans and de-shelling by stone crushing. The borma (de-humidifying) was mostly sun drying and cooling in the open air. Unpeeled and ungraded cashew was exported and packed in

a mango wooden box with paper lining. There was not much adherence to any quality standards nor was any quality standards specified.

The second phase (1930 – 1950) witnessed the drum and oil bath roasting methods which are being continued till now. The shelling was done by malleting with wooden blocks and the de-humidification was done with single/multi-chamber heating ovens. Cooling was mostly in a closed room with water spread over the ground and the nuts got cooled with the natural operations of water. Peeling and grading were manual and packing was done in tins which were vaccumised using hand-operated pumps. Some local standards were specified for quality control.

Drum roasting/oil bath roasting continued to be in practice during the third phase (1950 – 1980) also. During this phase, single/multi-chamber oven heating was replaced by tunnel borma and cooling by rotary humidifiers. Filling and packing continued to be in tins, but vaccumised with electric pumps and flushed with CO<sub>2</sub> gas to prevent infestation. ISO standards were slowly introduced in this phase.

While drum roasting and oil bath roasting continued to be used during the fourth phase (1980 – 2000) also, the steaming of nuts was in practice followed by the cutting of steamed cashews with mechanical cutters. An electric borma was introduced for drying and a window humidifier for cooling operations. In this, peeling and grading continued to be manual, but filling started in a flexi pouch with two numbers of twenty-five lbs pouches in a box, though tin packing was also in use. ISO and HACCP quality standards were in use by major exporters.

After 2000, the shelling is being partly mechanised and new cutting machines are being introduced. Improved hot air and steam borma are used for de-humidification and cooling continuing with modified humidifiers. Peeling is almost mechanised and automated. Grading operations are partly mechanised. Packing is still in flexi

pouches but instead of two numbers of twenty-five lbs pouches, a single fifty lbs pouch is used in a box. More quality standards like BRC and KOSHER are in use.

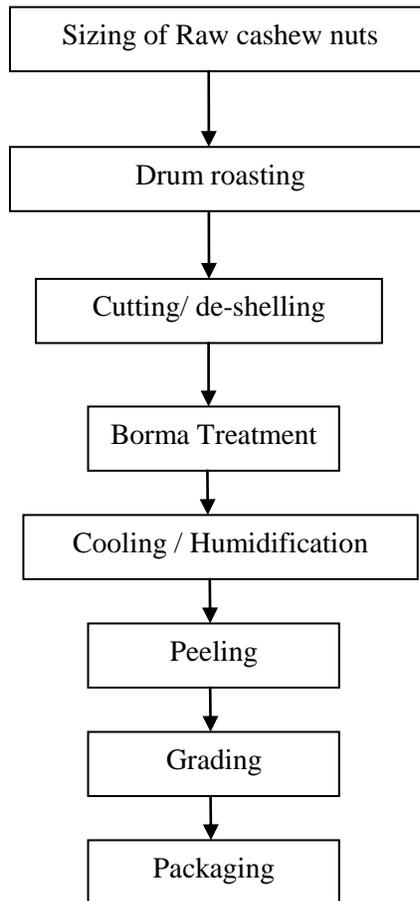


Fig.1.2 Processing steps of cashew nut (Source: Bhoodes, 2012)

(Raw cashew nut processing industry in Kollam district – Annexure –I)

The processing of cashew nuts starts from the sizing of raw cashew nuts and continues up to packaging. The processing involves de- shelling of raw cashew kernels to extract the pulpy kernel inside, heat treatment, removal of skin and standardisation of the final product. The de-shelling of cashew is done mainly in three different ways *viz.* (1) steaming and cutting (2) oil bath roasting and cutting (3) drum roasting and shelling. Each method has its merit and de-merits and is being

adopted in different regions depending on the peculiar socio-economic characteristics of the region.

### 1.3 Indian scenario of cashew

Indian cashew has a brand image in the world cashew market. India is the second largest producer and supplier of cashew to the major importing countries and also, a major platform for providing employment opportunities to many. Table 1.2 shows the state-wise cashew production in India.

**Table 1.2 Major raw cashew nut-producing states of India in 2021**

State	Production (MT)	Production Share (%)
Maharashtra	180.67	25.7
Andhra Pradesh	115.29	16.4
Orissa	91.67	13.04
Karnataka	89.40	11.3
<b>Kerala</b>	<b>87.03</b>	<b>11.14</b>
Tamil Nadu	63.05	8.97
West Bengal	8.96	1.56
Jharkhand	2.0	0.74
Goa	0.89	0.21
Others (Assam, Tripura <i>etc</i> )	64.04	9.11
<b>Total</b>	<b>703</b>	<b>100</b>

(Source: Ministry of Agriculture and Farmers Welfare, Govt. of India)

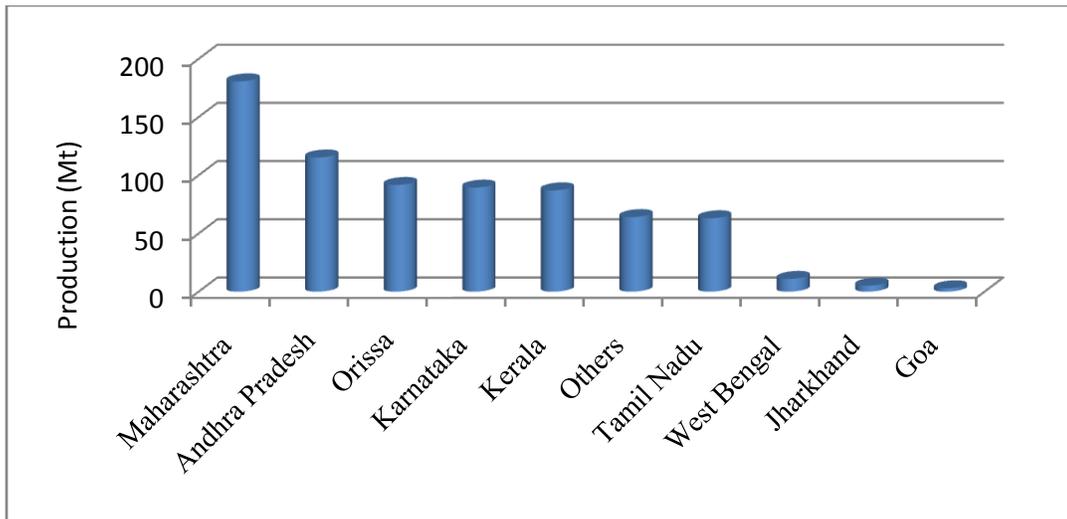


Figure 1.3 Raw cashew nut producing states of India - 2021

In India, Maharashtra, Andhra Pradesh, Orissa, Karnataka and Kerala are the major cashew-growing states. The total productivity of cashew in India was 0.60 metric tonnes/hectare (India Stat, 2021). Among the cashew-growing States in India, Maharashtra stands first in production contributing a share of 25.7 percent followed by Andhra Pradesh at 16.4 percent. Kerala occupies the fifth position in the country.

#### 1.4 Major exporters of raw cashew nuts to India

India mainly depended on Tanzania, Ivory Coast, Guinea Bissau, Benin, Ghana, and Mozambique for importing raw cashew nuts. In 2020-21, the total raw cashew nuts imported into India was 938038 metric tonne valued at Rs. 8861.58 Crore against the import of 835463 metric tonne valued at Rs.10929 Crore achieved in the previous year (2021). In the year 2015-16, the highest number of raw cashew nuts imported by India was 958339 metric tonne valued at Rs. 8561.01 Crore, and the least import of raw cashew was in the year 2000-01 of 249318 MT (Ministry of Commerce and Industry, Govt. of India).

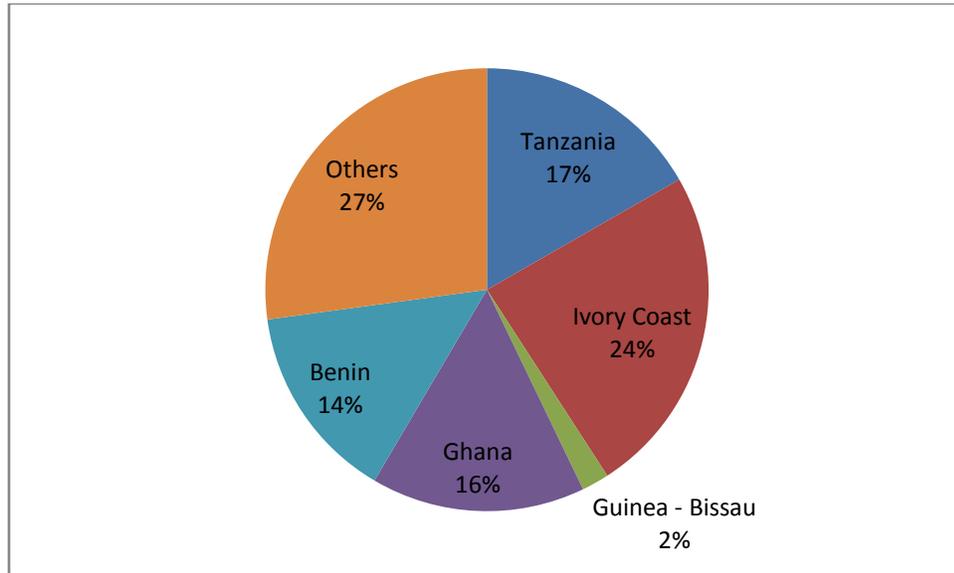


Figure 1.4 Major exporters of raw cashew nut to India - 2021  
(Source: Ministry of Commerce, Govt. of India)

### 1.5 Major markets for Indian cashew

In the early 1990s world witnessed the emergence of Vietnam as a strong competitor for India. In 2007, Vietnam took the batten from India as the world's largest exporter. According to CEPCI (2021), the export of cashew nuts contributed 4.39 percent of the total agricultural export earnings and this accounts for 0.30 percent of the total foreign exchange earnings. It is not only the crop that earns a sizeable amount of foreign exchange (about 4000 crores per year) but also generates sustainable employment opportunities for 1.5 million people especially women in the processing and agriculture sector thereby contributing sustainability to the rural economy (Directorate of Cashew and Cocoa Development, DCCD). Indian cashew is renowned worldwide for their excellent quality. India is the second-largest producer (with a share of 18%), processor and exporter after Vietnam. The major markets for Indian cashew kernels are USA, Netherlands, UAE, Japan and UK.

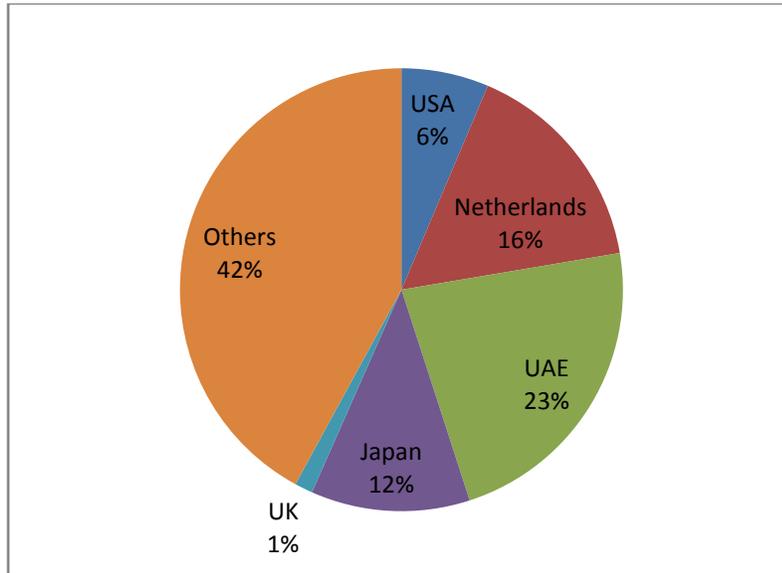


Figure 1.5 Major markets for Indian cashew – 2021(Source: Ministry of Commerce, Govt. of India)

Figure 1.5 presented the major markets for Indian cashew in 2021. UAE (23%) is the largest importer of cashew kernel from India followed by the Netherlands (16%), Japan (12%), and the USA (6%).

### 1.6 Scenario of cashew in Kerala

The Portuguese were called ‘paranki’ in Malayalam; they planted the cashew tree in the surroundings of their newly built fort at Kannur, Kerala. During the 1920s, the first cashew processing industry in Kerala was established in Kollam, which became the center of trade. Now there are more than 250000 employees dependent alone on the cashew industry in the Kollam district. Of which 95 percent of this are women workers and there are more than 600 cashew processing industries in the Kollam district alone. An average of 130000 tonnes of processed cashews is exported to different parts of the world (CEPCI, 2020). Data related to cashew production in various districts of Kerala is presented in Table 1.3.

**Table 1.3 Cashew producing districts of Kerala in 2021**

Districts	Production (In'000 MT)	Production share (%)
<b>Kannur</b>	<b>59.2</b>	<b>66.6</b>
Kasargod	10.7	12.2
Kollam	5.2	5.9
Thrissur	4.4	5.0
Alappuzha	3.4	3.9
Kozhikode	1.3	1.49
Malappuram	0.9	1.03
Palakkad	0.8	0.9
Thiruvananthapuram	0.6	0.6
Idukki	0.5	0.5
Wayanad	0.4	0.4
Ernakulam	0.3	0.3
Kottayam	0.2	0.2
Pathanamthitta	0.1	0.1
<b>Total</b>	<b>88.18</b>	<b>100</b>

(Source: Department of Economics and Statistics, 2021)

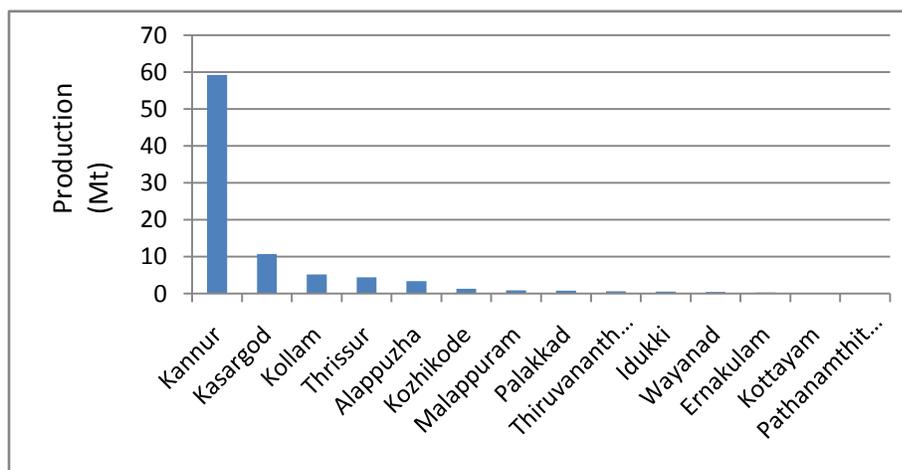


Figure 1.6 District-wise cashew production in Kerala - 2021

In Kerala, Kannur, Kasargod, Kollam and Thrissur are the major districts in which cashews are being cultivated. The total area and production of the cashew in Kerala during 2021 were 92,000 hectares and 88,000 metric tonnes, respectively with a productivity of 0.96 metric tonne/hectare (DCCD, 2021). Kannur district leads the first position in cashew production which accounts for 66.60 percent followed by Kasargod (12.2%) and Kollam (5.9 %), (Department of Economics and Statistics, 2021).

The average size of cashew exports from Kerala is 54,535 metric tonnes per year. It comes to around 52 percent of the total cashew exports from India (Rajesh, 2019). Kerala accounts for 65 percent of the total exporting companies in India of which 96 percent is located in Kollam. The contribution of Kerala to cashew export in 2020-21 was 45.05 percent in terms of quantity as well as realised value. This reveals the significance of Kerala in the cashew processing industry in India, but the region does not have a competitive edge in producing cashew nut shell liquid (CNSL) mainly due to the lack of investment in mechanization and technology adoption. The State has adopted various institutional mechanisms to promote and protect cashew production, processes, trade and employment in Kerala. India imported 9.38 lakh tonnes of raw cashew nut worth ₹. 8861 Crores of which import to Kerala was 13202 metric tonnes worth value of ₹.125.5 Crores in 2020 (Directorate of Cashew nut and Cocoa Development, 2021).

## **1.7 Kollam**

The majority of the Indian cashew processing industry is clustered around the region of Kollam district in Kerala, which is traditionally known as the global cashew trading capital. As per available written records, in the early days, the cashew industry in Kollam was overwhelmingly Cottage Industry. The development of industry in Kollam was industrial units were pioneered by Roch Victoria. Modern

roasting methods were introduced later in 1925 by an enterprising industrialist named Joseph Periera who started the first cashew nut factory in Kollam. In 1920 Kollam entered the world cashew export market with the export of kernels mainly to United States. As per available records, it was W.T. Anderson who set up a business under the name Indian Nut Company in Kollam who made the first exports. Indian Nut Company's factory was situated near Ashramam air strip and the goods were transported using water ways to export through Kochi Port. By the late 1930's the volume of processed cashew, processing capacity and international demand raised manifolds. This necessitated the imports of raw cashew nuts from East Africa to Kollam. To simplify the import process and to ensure price stability of imports the industry leaders formed a 'Cashew Syndicate' and by 1955 this entity was replaced with an institution that had a requisite legal framework *i.e.* the Cashew Export Promotion Council (CEPC) by the Government of India.

Cashew Export Promotion Council of India (CEPCI) and the Kerala State Cashew Development Corporation Limited (KSCDC) work in Kollam city to promote the export of cashew kernels, cashew nut shell liquid and act as an intermediary between global importers of cashew kernels and Indian exporters from India. The industry provides a livelihood for about 600 to 700 thousand employees and farmers. In the Kollam district alone there are more than 250,000 employees directly involved in the industry, which is about 10 percent of the population of the district. 95 percent of these workers are women. There are more than 600 cashew processing units in Kollam with about 800,000 tonnes of raw cashews imported annually to the city for processing. They also protect the interest of workers and attempt to provide maximum employment to the industry's workers and give them statutory benefits such as minimum wages and bonuses. An average of 130,000 tonnes of processed cashews is exported to various countries worldwide every year. CEPCI is expecting a rise in exports to 275,000 tonnes by 2023, a growth of 120 percent over present exports (Annual report of CEPCI, 2021).

## **1.8 STATEMENT OF THE PROBLEM**

Cashew (*Anacardium occidentale* L.) often referred to as ‘wonder nut’, is one of the most valuable processed nuts traded on the global commodity markets and also an important cash crop. It has the potential to provide a source of livelihood for cashew growers, empower rural women in the processing sector, create employment opportunities and generate foreign exchange through exports (Kulkarni, 2012). Cashew is one of the most valuable and nutritious crops. Processed cashew in the global commodity markets has the potential to generate employment and revenue at the national and international levels. African countries are the major producers and suppliers of raw cashew nuts in the world. Among the major cashew producing countries in the world, India (18%) is the second largest producer of cashews after Vietnam (20%) and the major competitor of India in cashew export (FAOSTAT, 2021). Vietnam exports 54.24 percent of the total cashew traded in the world compared to India’s share of 16.82 percent in the year 2020 (CEPCI, 2021).

India is the second largest exporter of cashew in the world. India’s export of cashew was 56747 metric tonne valued at ₹ 3765.16 Crore in 2020. The major markets for Indian cashew during 2020 were USA, Netherlands, UAE, Japan and the UK (Annual Report of CEPCI, 2021). India is the largest importer of cashew from African countries which adversely affects the Indian cashew processing industry due to India’s over dependence on African countries in cashew import. The cashew processing industry plays an important role in India’s rural development in terms of foreign exchange earnings and as an employment provider.

The Cashew Export Promotion Council of India (CEPCI) is an agency to promote the export of cashews and acts as an intermediary between global importers and Indian exporters of cashew. The CEPCI reports that the export of the cashew contributed 4.39 percent of the total agricultural export earnings which accounts for 0.30 percent of the total foreign exchange earnings of Indian exports (Annual Report of CEPCI, 2018). Even though Kerala stands 5<sup>th</sup> position in the production of cashew in India, it

is ranked one in the processing and exporting activities followed by Tamil Nadu, Karnataka, and Andhra Pradesh (Binu, 2018).

However, currently, there is a continuous decline in both the area and production of cashews in Kerala from 2013 onwards (Annual Report of CEPCI, 2018). The cashew processing industry in Kerala which has been facing lot of crisis due to increased wage rate, trade union issues, continuous use of traditional methods of processing (labour intensive), stiff international competition, fluctuations in international markets etc. The cost of production in Kerala is too high compared to other states as it is around ₹. 1000 to ₹. 1800 for a bag, but it is approximately ₹. 3400 in Kerala. Besides in other states the industry was able to improve the productivity by mechanization and automation processes as a result it was multiplied by two or three times. In Kerala due to high resistance from the labour force this could not be materialised. More over high dependence on imports and price fluctuation affected our cashew exports. Cashew export processing unit also face supply crunch amid low domestic output. The above listed problems are serious export marketing problems, which are to be studied in terms of analysing the trend and pattern in cashew exports, analysing the marketing strategies, identifying the major determinants of cashew exports, and problems faced by the cashew exporters. Though there are lot of literature related to the trend and pattern and problems of cashew exporters, the study related to export marketing strategies and the determinants of cashew exports is very limited. The study will help to contribute to this research gap. Moreover, the findings of the study will help to identify the existing export strategies and the problems faced by cashew exporters which will in turn help to improve the existing status of cashew exports and find a solution to the problems of cashew exporters.

## **1.9 Objectives of the study**

The objectives of the study are:

- To analyse the trend and pattern in cashew exports.
- To analyse the export marketing strategies of cashew exporters
- To identify the major determinants of cashew exports and
- To examine the problems faced by cashew exporters.

## **1.10 Scope of the study**

Understanding the marketing strategies for the export of cashew in Kerala would help to comprehend the dynamic business environment in the export market. Thus it is crucial to understand the existing marketing strategies to design appropriate marketing strategies for cashew exporters in Kerala. The different export target market in Kerala was considered in designing the marketing strategy that would help to bring these findings into the wider policy arena. The main rationale of the study was that, due to the tough competition in export marketing, the changing preferences of a customer from time to time and, place to place export market strategies of cashew exporting firms need to be revisited to cope with the existing and future changes in the market environment. Revisiting the marketing strategy of a firm helps to comply with recent market trends and to respond to the needs of international customers accordingly.

The focus of the study was to explore how cashew exporters in Kerala can sustain the competition in the export market and in realising better benefits by exporters and participants in the cashew export chain. The output of this research will be a part of the set of tools that can be used by cashew exporters, cashew growers, academics, rural marketing professionals, the agribusiness sector, policymakers, and other stakeholders to improve the economic benefits realised from cashew export. The study seeks to add knowledge on how to develop viable and compatible marketing strategies for export firms in the Asian continent, particularly in Kerala. The present

study explored the major determinants of cashew export, analysed the trends of export and export marketing strategies in Kerala and examined the major problems faced by cashew exporters.

### **1.11 Limitation of the study**

- Due to the non-availability of the time series data on domestic demand, import of raw cashew nuts to Kerala and the export of cashew kernels from Kerala, the trend analysis of this aspect has not been done.
- Traceability of the products and its influence on export has not been examined.
- Analysis of trends in price of raw cashew nuts in Kerala has done only on the basis of current prices.
- During the survey three partnership firms were reluctant to participate in the survey. Therefore three additional sole proprietorship firms were selected for the study.

### **1.12 Organisation of thesis**

The report of the study has been presented in five chapters. The first chapter narrates the design of the study encompassing significance, statement of the problem, objectives, scope, limitations of the study and organisation of the thesis. The second chapter presents a review of available literature about the various aspects of the study. The third chapter adopted the methodology and elucidates the data sources in conducting the study. The fourth chapter is set aside for the results and discussion of the study. The final chapter highlights the summary of findings and conclusion of the study followed by bibliography, abstract of the thesis, appendix and annexure.

# REVIEW OF LITERATURE

## **Chapter – 2**

### **Review of literature**

The purpose of this chapter is to give an insight in to key emerging findings on the theoretical background, a gap in the existing kinds of literature and related assessments to substantiate the necessity of the current work. The chapter critically reviews the literature on export marketing strategies of different product export firms and cashew export firms in particular. The first section of the chapter gives important definitions of common concepts of marketing, marketing strategy, export marketing strategies for the selected export target market of India and Kerala, the major determinants of exports and problems faced by cashew exporters were reviewed.

#### **2.1 Definition of Marketing and Export Marketing**

##### **2.1.1 Marketing**

There are plenty of definitions of marketing in the existing literature. The process of selling and buying a specific product or service is not as simple as the process of marketing. Previously, marketing was viewed solely as a means of a transaction; it was viewed solely as a means of acquiring and communicating information. Later writers expanded the definition of marketing to include other functions involved in connecting product or service creation and consumption.

Dahl and Hammod (1977) described marketing as a sequential series of functions that must be performed as the product travels from its point of primary production to ultimate consumption, taking into account the various stages. Following the same premise, Kohls and Downey (1979) defined marketing as the execution of all business activities involved in the flow of commodities and services from the point of original agricultural production until they reach the end customer.

Marketing is described by the American Marketing Association (AMA) (1986) as "the process of planning and executing the creation, pricing, promotion, and distribution of

ideas, goods, and services to produce an exchange that meets individual and organisational objectives."

According to Dr. Philip Kotler, marketing is the science and art of discovering, developing and delivering value to fulfill the wants of the target market at a profit.

According to Julie Barlie (2000) marketing is the process through which a company interacts with, connects with, and engages with its target audience to express the value of and eventually sell, its products and services.

Renee Blodgett (2004) explains marketing is a continuous flow of information with clients that educates, informs, and establishes a connection over time.

Mark Burgess (2008) defines marketing as the process through which a company converts client demands into income in a profitable manner.

Marketing is explained by Marjorie Clayman (2014), as building your brand, convincing people that your brand (meaning your product/service/company) is the best and protecting the relationships you build with your customers.

According to Jeff Cutler (2017) Marketing is the process of telling your company's narrative to attract consumers, partners, investors, workers, and anybody else who interacts with it. It's the script that determines whether consumers will accept you as a necessary irritation, a nice-to-have, or a required aggravation in their life. It's how your customers connect with your brand. It's all about first impressions, final impressions, and everything in between.

### **2.1.2 Export Marketing**

Export marketing, according to B.S. Rathor (2000), "includes the administration of marketing efforts for items that cross a country's national frontiers."

The activity of selling items or services to a foreign country is known as export marketing. Products are manufactured or distributed in the company's home country and

sold to buyers in other countries. However, there is a distinction to be made between items available to international nations and those specially targeted toward overseas buyers. This is where the value of an export marketing strategy comes into play.

According to Brodrechtova (2008), a marketing strategy is a road map for how a company allocates resources, interacts with its environment, and fulfills corporate goals to generate economic value and stay ahead of its competition.

Export marketing strategy, according to Cavusgil and Zou (2015), is "how a firm responds to the interaction of internal and external pressures to accomplish the export venture's goal." "It encompasses all aspects of a marketing strategy, such as product, promotion, pricing, and distribution."

"Export marketing" refers to the sale of domestic goods and services outside of a country's boundaries. Export, in simple terms, is the act of transferring things outside of the nation in return for foreign money.

## **2.2 Cashew cultivation in India and Kerala**

Ratheesh Kumar (1990) in his article entitled "Cashew Cultivation in India" analysed the nature of cashew cultivation in India. The study indicates that cashew is a dry land crop and it can be grown on a hillside and in other areas where no other crop can ordinarily be grown. It does not require irrigation and brings in good yields even under conditions of water scarcity. It provides the highest return for a given investment among horticultural crops. It is not as labourer intensive as other plantations and crops. It is the most important marketable commodity in the country and abroad.

Abdul Salam, *et.al* (1991) in their article entitled "Cashew Production Technology" have analysed the recent trend in cashew production technology. The study revealed that new crop management and crop protection strategies are important to increase cashew productivity. They further state that concentrated and integrated efforts by researchers,

farmers, and extension workers, supplemented by media support can increase the production and productivity of cashew in the country.

Mandel (1992) in his study entitled “Cashew Production and Processing Technology” examined the cashew production and processing technology in the cashew industry. The study highlights the background of cashew plantations, diseases of cashew trees, and cashew processing technology. He suggests that effective plant protection measures should be adopted for increasing the productivity of cashew plantations. He also points out the need for introducing high yielding varieties of cashew plants suitable to different climatic and soil conditions.

Laxmi narayana (1993) analysed the growth performance of silk goods exports such as sarees, dress materials, readymade garments, carpets, and other silk exports apart from total silk exports for the period 1970-71 to 1989-90. The exponential form of the function was employed to estimate the growth rates. He found that there has been a significant increase in the growth rates of export of all silk varieties both in terms of quantity and value during the study period. The growth rate was attributed to a tremendous increase in the production of silk under the influence of intensive production and efforts such as increasing the area under mulberry cultivation, improving productivity, and also improving the technology in silk reeling and weaving.

Angles (2001) used the exponential growth function ( $Y_t = abt$ ) to examine the growth performance of turmeric in significant south Indian states from 1979-80 to 1998-99. She found that the area, production, and productivity of turmeric in Andhra Pradesh, Tamil Nadu, and Karnataka all increased at a positive and substantial pace. While the area in Kerala grew at a negative rate, turmeric production and productivity grew at a positive and considerable rate. In Kerala, the cultivation of turmeric in small areas, where plantation crops such as rubber, coconut, and other cash crops dominated and were more profitable than turmeric, resulted in a negative growth rate in the area. The other major

issue was labour, which accounted for around half of the total cost of cultivation in turmeric production. However, labour was in short supply and the wage was extremely high. Because of these factors, farmers shifted to plantation crops, which required less labour throughout the year, and the area under turmeric was shrinking year after year.

Siva kumar (2002) highlighted the differences in trade at the world level for cashew kernels as compared to other edible nuts. The food and Agriculture Organisation and STAT database were used to obtain worldwide trade data for edible nuts. The total exports and imports of major edible nuts were analysed in terms of their growth in value, volume, and average unit value and inferences made. The other nuts with which cashew compared are almonds, Brazil nuts, Hazel nuts, and Walnuts. It is indicated that cashew is the reigning premium edible nut with the highest average unit value realisation among all the edible nuts exported.

Sundravaradarajan and Kumar (2002) analysed the nature and extent of instability in cashew production and trade in India. It was conducted using the following aspects of cashew trade, the quantity of kernels exported, raw cashew imported and cashew production in India using the time series data from 1971-72 to 1998-99. Results showed that there was a desirable instability in terms of quantity of kernels exported showing the hold of India in the world cashew trade scenario. It was suggested that necessary steps should be taken to maintain this trend. Production of raw cashew exhibited a desirable instability and it was achieved by the constant and continuous efforts of various cashew research institutions in India. It was recommended that cashew productivity should be increased and efforts should be taken to bring more area under cashew.

Borate (2003) conducted a study on economic analysis of cut flower export for the period of 1991 – 2002 and reported that the compound growth rate of floriculture export and cut flower export was 27.52 percent and 32.28 percent respectively which indicated a significant increase in export earnings during the study period.

The study on the cashew nut industry in India by Vellingiri and Thiyagarajan (2007) assessed the overall profile of the Indian cashew industry, particularly in terms of production and exports. The results indicated that cashew production in India has been fluctuating during recent years and suggests that the cashew industry needs certain incentives to achieve a higher growth rate of production as well as exports in the future.

Gupta (2009) discussed the production and uses of cashew and their prospects in India. Despite being the health nut of the world, cashew is grown in poor soil where no other plant grows. However, normal agricultural practices doubled their yield. The endless uses of cashew have led to exponential growth in its trade over the last few decades. India ranks first in the world in the area utilized for cashew production and it is the third-largest consumer. Considering the commercial importance of cashew in India, cashew futures were launched by two leading bourses. The Indian cashew industry, however, lags in competitiveness due to its reliance on imported raw cashew kernels and scattered non-mechanised processing sector that depends on labourers. India also lags in processing. Thus, farmer's governments and the processing industry must work hand in hand for efficient production, processing, and marketing.

Balamurugan *et.al* (2011) studied new issues in the cashew market in Tamilnadu with an objective of trends in the area, production, yield, and price of cashew in the domestic and world market. The study revealed that growth in the area, production, and productivity showed on the way out-trends during post – liberalisation and overall periods. The study recommended concerted efforts to improve productivity by replacing age-old plants and emphasised the need for yield and area stabilising policies through appropriate crop insurance schemes for cashew to protect the cashew nut producers from high fluctuations.

Padmanaban *et.al* (2013) assessed the trend and instability in the export of cashew kernel and cashew nut shell liquid from India. The study was based on the secondary data

collected from the cashew promotion council of India, for 1980-2010. The export of cashew kernel was constant in the initial study period after it showed an increasing trend till the end of 2010. At first cashew, nutshell showed a fluctuating trend and then an increasing trend till the end of the study period. The instability in export of cashew kernel and cashew nut shell liquid was highly unstable. Since Vietnam and Brazil emerged as stiff competitors to the Indian cashew industry and some African countries stopped the export of raw cashew nuts to India.

A study carried out by Senthil & Mahesh (2013) analysed cashew nut production in India. The main objective of the study was to highlight the growth and performance of cashew nut production in the various states in India during 1990-91 to 2009 -10. Cashew nut production in Indian states had been gradually increasing from 1990-91 to 2009-10. But sometimes a negative trend and rapid decline were also been noticed over the study period mainly because of poor crop husbandry and rampant disease spread to an endemic level which caused a complete collapse of the production process. Problems were due to major pests of cashew and the supply of quality planting material required the attention of research and development departments. Massive area expansion programs and rejuvenation of old cashew orchards of seedling origin, coupled with the supply of quality planting material may have the potential to alter the cashew production, processing, and Exim scenario of not only these states but also the whole country. The policy initiatives towards the promotion of cashew grower's cooperatives (for procurement of raw nuts, the supply of inputs, credit, and infrastructure, small-scale processing, value addition, and marketing), and cashew apple processing would widen the perspective of cashew growers.

Mahantesh and Manjunatha (2018) conducted a study on trends in the area, production, yield, and export-import of cashew in India. The study found that the area under cashew nuts in India has increased from 464 thousand hectares in 1980-81 to 1062 thousand hectares during 2017-18 (CAGR of 2.33%); production has increased from 185 thousand

metric tonnes in 1980-81 to 817 thousand tonnes in 2017-18 (CAGR of 3.97%) and productivity has increased from 399 kg per hectare during 1980-81 to 769 kg per hectare in 2017-18 (CAGR of 1.60%). India's cashew kernels export decreased from 1, 18,540 metric tonnes in 2006-07 to 82,302 metric tonnes in 2016-17. Nearly one-third of the total national cashew production is from Maharashtra only (32.93%) and productivity is also highest in Maharashtra state (1378 kg/ha).

Sisili (2018) focused the study on analysis of cashew nut production in Kerala to analyse the growth performance of cashew nut production in the various districts. The study realised that the production of raw cashew nut was high in the Kannur district and the contribution to total production during 2005-06 and 2015-16 was 42.85 percent and 7.69 percent respectively. Compared to other top cashew-producing states, year by year cashew production is slightly reducing in Kerala State and this may be attributed mainly to the replacement of cashew with remunerative crops like rubber in this state. The decline in the area is attributed to the pressure on land and the existing land ceiling laws and the continued denial of plantation status to cashew. The study suggested that the easiest way to overcome the situation is to bring more area under cashew by encouraging farmers to adopt cashew cultivation in their lands and also in homesteads, barren lands under the possession of Government and Public Sector undertaking, and if they are replanted cashew with high yielding varieties, the production could be enhanced.

Veeranjaneya and Krishna (2018) conducted a study on economic analysis of the cashew industry in India and reported that the area under cashew nuts in India increased by 54.28 percent from 5.65 lakh hectares during 1993-94 to 10.49 lakh hectares during 2006-17. The compound annual growth rate in production was the maximum in Maharashtra (7.33%) followed by Tamil Nadu (5%) and Karnataka (4.16%). The yield of cashew nuts in India increased from 694 kg/ha during 1993-94 to 753 kg/ ha during 2016-17. The Cashew prices were very high in Goa compared to all other states in India, due to the large size of nuts as compared to the nuts of other states.

### **2.3 Export scenario in India**

Shende et.al (1999) studied the export performance of India in Tea, Coffee, and Tobacco. The author observed that the growth rates of production of all commodities were significant at a 1 percent level. As regards India, the highest growth was noticed in coffee production 3.44 percent per year whereas tea 2.4 percent per year and tobacco 1.79 percent per year. On the other hand, India's export was significant only in the case of coffee. The growth rates of tea and tobacco were negative for India i.e -0.28 and -1.09 percent per year respectively. Tea appeared as a typical commodity in which the growth rate of the physical quantity of export was negative, but the share has turned positive and significant so far as India's export is concerned.

The export competitiveness of Indian cashew was analysed by Ashalatha (2000) using the nominal Protection Coefficient. Under the exportable hypothesis, NPCs were found to be lesser than unity with an average value of 0.91, implying that the Indian cashew kernel is competitive in the export market.

Mahesh (2000) studied the export performance of Indian tea for the period of 1979-80 to 1998-99 using an exponential growth model. The results revealed that the export of Indian tea exhibited a negative growth rate of 1.15 percent, whereas, the export value and unit price recorded annual growth rates of 8.82 and 7.65 percent respectively.

Jyothi *et.al* (2003) examined the export performance of onions and potatoes from India by using an exponential function, C.V. and Coppock's instability index. The results of the study revealed that the growth in the volume of export, export earnings, and unit value realisation indicated a positive trend for both onion and potato during the study period. The highest instability was observed for the volume of exports in both potato and onion when compared to export earnings and export price/ unit value. The average NPC values of onion and potato during 1996-97 to 1999-2000 indicated moderate and high competitiveness respectively.

Mahadevaih (2005) analysed the source of change in the variance of cotton export earnings in India by using Hazell's decomposition model. She indicated that the instability in export earnings in price variance is contributing to the tune of 20 percent to the variability in export earnings as the effect of changes in quantity variance is nil. Therefore measures should be taken to minimise the price variance by entering into bilateral/ trade agreements with the importing countries to minimise the instability in the export earnings.

Thumaret.al.(2006) computed the growth rate for the export of garlic from 1961-62 to 200-01 in terms of quantity and value using compound growth rates. Growth rates for both export quantity (3.70%) and value (13.92%) registered positive and statistically significant trends during the study period.

Nalini Kumar et.al (2008) studied the performance of cucumber and gherkin export from India. It has been observed that India has made tremendous progress in the export of cucumber and gherkin products during the period 1990- 2005. The export has increased by about 128.50 times with an impressive annual compound growth rate of 37.46 percent, as against only 4.38 percent in the world market during the study period.

Sakamma (2009) analysed the growth in the production and export of major spices in India during the pre and post-WTO period. The major spices selected for the study were chili, pepper, cumin, turmeric, and coriander. The study noticed that a positive growth rate was observed in the area, production, and productivity of pepper and turmeric during the study period. During the overall period, an increasing trend was seen in the growth of the export of chili, turmeric, cumin, and coriander. The growth in export value of pepper was found to increase whereas it was found to decrease in terms of quantity exported during the overall period. The highly loyal markets for chili are UAE and Bangladesh during the WTO period and Malaysia and Sri Lanka during the post-WTO period.

Bangladesh and Malaysia were found to be highly loyal markets for turmeric and coriander during the overall period respectively.

Abolagbaet.al (2010) analysed the factors affecting Nigerian agricultural exports with special reference to cocoa and rubber. The results revealed that domestic rubber production, producer price, and interest rate had a significant influence on Indian rubber exports, while, domestic consumption and exchange rate registered a negative influence on rubber exports from India. In the case of cocoa, domestic consumption, cocoa output, and rainfall have a significant impact on cocoa exports.

Angles *et.al* (2011) conducted a study to know the growth rate of turmeric export from India. The export of turmeric from India both in quantity and total value has increased after liberalisation (1994-95) due to the reduction in the unit value of turmeric in international markets. The turmeric exports in value terms recorded a growth rate of 9.89 percent per annum which indicated the rise in demand for turmeric.

Vaishali*et.al* (2011) indicated that India exports different agricultural commodities to SAARC member countries under major exportable agricultural commodities such as wheat, rice, mango, and onion have been purposively selected. Markov chain analysis was used to analyse the direction of trade. Maldives was a stable market for rice with a high retention probability of 41.54 percent among the SAARC countries for the reference period. Bangladesh was the most stable market for all four commodities such as rice, wheat, mango, and onion as reflected by retention probabilities of 22.86, 45.40, 39.29, and 24.00 percent, respectively among the SAARC member countries. It was observed that India was in a competitive position in rice, mango, and onion with Nominal Protection Coefficient (NPC) values of 0.98, 0.975, and 0.893, respectively from 2008 to 2009.

Jayanthi and Nikita (2012) conducted a study on "Growth and Instability in Indian Frozen Scampi Export." The compound growth rate, market concentration, and instability indices of Indian scampi export were analyzed using tools like CGR, and Coppock's instability index. The quantity and value of scampi exported from India have increased by 67.22 and 117percent, respectively. This study concentrated on major markets Belgium, Canada, Germany, Japan, Netherlands, UAE, USA, and UK. The study revealed a high market concentration for Indian scampi in international markets, and a high degree of instability is revealed using the Coppock instability index. The export instability index (EII) of frozen scampi was studied for 15 years and found EII for most countries are fluctuating. The study concluded that the instability of the quantity greatly influenced the export of scampi, so it is necessary to increase scampi production to ensure a constant supply.

Tejaswini and Murthy (2012) in their study on the export of desiccated coconut from India calculated the growth rate from 1991-92 to 2007-08 using the exponential growth function. The export of desiccated coconut showed a positive and significant growth rate both in export quantity (46.67%) and export value (37.45%).

Gunabhagya et.al (2013) studied the export performance of fresh fruits grew at 10.56 percent per annum and its value at 20.26 percent per annum during the study period (1999-2000 to 2012-2013). The growth in export of both quantity and value was positive for all the importing countries.

Kannan (2013) examined the factors influencing the production and export of natural rubber in India. The study found that domestic price: export quantity and stock had a positive and significant relationship with natural rubber production. However, the import of natural rubber showed a negative and non-significant relation with the production of natural rubber. Regarding the export of natural rubber, except for production, all the other variables such as world market price, stock, domestic price, and the world population have shown a significant effect on the export of natural rubber from India.

Kumaresh and Sekar (2013) studied the export performance and competitiveness of fresh mangoes in India. The growth of fresh mango for period II was lower than that of the period I which implies that there was no standard in quantity. For mango pulp growth in export remained no changes in two periods but the export value and unit price were lowered during period II which implies demand was low in the international market. The study advocates that strategies for export may be oriented towards these countries for stabilising the export of fresh mangoes as well as mango pulp.

Muthusamy (2013) conducted a study on the "Performance of Turmeric exports from India." The study focuses on analyzing the state-wise and country-wise turmeric export from India. The study's objectives include first over viewing India's turmeric production, second analysing India's state-wise export of turmeric, and third analysing India's county-wise export of turmeric. The data was collected from the Ministry of Agriculture, the Spice Board of India, and the smart economic device at CMIE. The data collected was analyzed using the growth rate (GR) and average. The study concluded that India is also the world's largest turmeric exporter, accounting for more than 50 percent of world trade. Compared to other states, Maharashtra, Karnataka, and Kerala were in the lead. The spices board conducted many export-related market surveys, and efforts had been made to find the export potential for turmeric in other countries.

Yogeshand (2014) researched the growth of Indian export and import of spices. The study was conducted for commodity-wise export of spices from India during 2005-06 to 2012-13. They estimated instability indices for spices exports and pepper exports were 9.11 percent and 27.23 percent respectively indicating that there was an inconsistency in the export of pepper during the study period. The high coefficient of variation (79.13%) was indicating the inconsistency in the export of the product cumin whereas the low CV (25.82%) indicated the consistency in the export of spice oils and oleoresins.

Deb and Pramanik (2015) conducted a study on "Groundnut Production Performance in Bangladesh: A District Level." The growth performance was estimated using the Annual compound growth rate, and instability is measured with the Cuddy-Della Valle Index and co-efficient of variation. In the 1990s, both the area and groundnut production at the national level decreased but subsequently increased. Peanut production increased by 31 percent, although the area for peanuts remains the same. The study concludes that peanut farmers should focus more on increasing yield than reducing yield variability and encouraging farmers to allocate more area under groundnut cultivation. The scope for an increase in the area of groundnut cultivation is limited due to land scarcity and the conversion of non-farm enterprises.

Sajitha (2016) conducted a study on the "Export Performance of Marine Fish Products in India." This study analyzed the export performance of marine fish products using time series secondary data. Analysing Indian seafood exports' destination pattern, it turns out that United States was the leading destination for Indian frozen shrimp, but after 1977 Japan emerged as the ultimate destination. The study concluded that the fisheries sector is a major foreign currency generator in India. There are many issues affected by the Indian marine fishing industry, such as food and safety standards in international markets, a lack of infrastructure, and a large number of intermediaries.

Chakravorthy and Banu (2017), in their study entitled "A Study on The Export Performance of Pepper in India," highlight the functions of the Spices Board and the various promotional schemes available for pepper. The study's objectives include analysing the export performance of pepper, studying the production and export of pepper, studying the Spices board's functions and different promotional schemes, to study the pepper industry in India. The simple percent and simple arithmetic mean were the tools used for analysis. The significant findings are pepper contributed around 18 percent in quantity, and 35 percent in value of whole spices exported from India, production of white pepper in India is negligible, USA is the largest buyer of pepper in EEC from India,

a large producer of pepper in the world is India. Moreover, they suggested productivity has to be increased by using a scientific and improved cultivation method, value addition of pepper should be promoted, new markets should be identified, and better promotional measures should be taken to bring awareness about the products.

Hari (2017) has done a study on "Export Performance of Spices in India: An Empirical Study," in which the researcher's purpose is to find whether there has been an increase or decrease in the export of spices. The tools like ordinary least squares, regression analysis, mean, standard deviation, and Shapiro-Wilk normality test was used. The study objectives include examining the average growth of the quantity and value of spices and examining the functional relationship between the value and quantity of export. The researcher test normality of data to know which correlation test has to be conducted. The quantity of spice is normally distributed, but the value is not. Therefore Spearman's Rank correlation is used and observed that there is a strong correlation between the quantity and value of spice export. The regression is examined to know the trend of spice export in India. He concluded that the previous close linkage between commodity exports and the balance of payment has been declining. Some of the developing countries are shifting from raw commodities to processes. Various factors appear to play a large role in export performance.

Ibrahim (2017) has done a study on "Performance of Spice Exports during the WTO regime: A disaggregated analysis." The objectives are to analyse the growth in the export of major Indian spices and spice products during the pre-WTO and WTO period, examine instability in the growth rate, and find out trends in the growth rate. The tools used for the analysis are Simple growth rate, Compound growth rate, Standard deviation, Method of least square, and Chow test. The study explains some of the export issues in Indian spices based on the pre-WTO regime and post-WTO regime performance. The growth rate, trends, and instability in growth rate are used to analyze the export performance of Indian spices. The export potential of the country is derived using trend analysis. Indian spices

export's overall performance during the WTO regime was satisfactory and led to India's spices export growth. He concluded that the spice export growth is unstable, and instability is increasing.

Suvagiya *et.al* (2017) analysed the growth performance of major vegetable crops in Gujarat state from 1994-95 to 2012-13. The rate of increase in area, production, and productivity of vegetables was highest in the south Gujarat region during the overall period. The highest instability was registered in the Saurashtra region in all their parameters i.e. area, production, and yield. The study also found that the growth of brinjal in area, production, and productivity was found to be significant in all the regions of the state except productivity in Saurashtra. Dang district of Gujarat recorded the highest growth rate in area (36.65%) and production (46.59%) of okra, while Gandhinagar district registered the highest growth in area and production of cabbage. Regarding the instability of vegetables, the highest instability was observed in area and yield compared to production in Gujarat state.

Yogesh and Mokshapathy (2017), in their study entitled "Production and Export Performance of Black Pepper," highlight the black pepper production and export performance. The study's two objectives are (i) to study the trend in the area, production, and productivity of black pepper in the world, and (ii) to analyze black pepper's export performance. The secondary data collected from the International Pepper Community from 2001 to 2010 are analysed using compound annual growth rate analysis. The researchers found that pepper production in Kerala decreased due to unseasonal rainfall in pepper-grown areas. Pepper production is highly volatile, and domestic and global production and international prices influence the domestic pepper price. The domestic consumption of pepper includes culinary usage, grinding, extraction of oil, and pharmaceutical companies, which show that pepper consumption in various sectors in India increased. So they concluded that Indian pepper prices in the international market

since July 2010 were quoted at higher rates. Those led buyers to shift to cheaper destinations like Vietnam, and Indonesia.

Abraham (2018) has done a study on "The Trend in Export, Import and Production Performance of Black Pepper in India." The paper aims to analyse the trend in the export, import, and production of black pepper in India and analyse the state-wise production trend of black pepper; and factors affecting the production, export, and import. The study has been conducted based on secondary data; and analysed using percent analysis. The study's findings include that Kerala contributes 88 percent of total production in the country, and world demand for black pepper is higher than its supply. He suggests that training should be provided to farmers concerning improvement in quality aspects and concluded that out of total export from India, pepper has a significant share in quantity and value.

Bhavani and Kamalavalli (2018) conducted a study on the "Export Performance of Indian Products." The study analyses the commodity-wise export performance of spices from India and identifies the growth in the export of major spices from India. The study is conducted with the aim of an in-depth analysis of various indicators and their effect on exports. The study covers ten years from 2007 to 2016, and the techniques used for the analysis are percent analysis, growth rate, and CAGR. From the analysis, the total export of pepper increased in 2016 compared to 2007. The study suggested that farmers should cultivate the best quality spice products so it may create demand in the foreign market; the government should announce new schemes in improving agriculture. They concluded that agriculture plays a key role in Indian policy-making not only because of its contribution to the economy but also due to the large part of the Indian population being dependent on agriculture.

Shrestha (2018), in his study entitled "Growth Trend Analysis of Cardamom in Nepal," highlights the trend of area, production, and productivity of large cardamom and suggests

options for its improvements. The focus is mainly on three levels; central, provincial, and district. For central-level analysis, 23 years of data were used, and for local and provincial analysis, 12 years of data were used. Exponential compound annual growth rates (CAGR) are estimated using the log-linear function on data of the area, production, and productivity data. According to the study, the central level growth rate in the area, production, and productivity were 0.53 ( $p=0.000$ ), 0.49( $p=0.44$ ), and -0.04 ( $p=0.83$ ), respectively. From six cardamom-producing provinces, province no.1 represents 92.8 percent of the total cultivated area of the country. However, the CAGR of area production and productivity is negative. Likewise, the area, production, and productivity of the district are also decreasing. The low growth of large cardamom in Nepal is reflected in the results. Therefore, the authorities have suggested high-yield variety, control measures for pests and diseases, and improved practice packages.

Kamalaveni (2019) conducted a study on "A study on cardamom production and export: Queen of spices." The correlation between the area and production of cardamom is measured using Karl Pearson's coefficient correlation. The correlation between area and production volume shows a positive correlation, but there is no significant correlation between them. The increase in cardamom's domestic consumption has also increased the demand for cardamom due to the increase in the indigenous people's disposable income and the increased consumption of pan. The study concluded that India exports around 5 to 8 percent of its production. India may soon regain the top spot in the cardamom trade since the Indian government pays more attention to cardamom cultivation.

Thomas L. et al. (2019), in their study entitled "Trade Competitiveness and Export Performance of Indian Cardamom," highlight export competitiveness along with an increase in the share of global cardamom exports. The growth in critical parameters like area, production, and productivity was measured using the compound annual growth rate; the competitiveness of exports is analysed by using the revealed comparative advantage (RCA) method. The study also argues for strengthening the research investments in

cardamom for enhancing the benefits of cardamom export from the country. Indian cardamom sector was the leading exporter at a global level and has strong price-based competitors like Guatemala and Indonesia. However, the strong domestic demand and higher domestic prices for cardamom strengthened the primary sector. The study emphasises the cardamom sector's potential for strengthening its export performance through strong investments in research to raise production efficiency. They concluded an urgent need to adopt the latest technologies in processing and enhance product development.

Mehazabeen and Srinivasan (2020), in their study entitled "Export Performance of Banana in India," used the exponential growth model for computing the area, production, and productivity of bananas. The direction of trade and variations in the export was examined by employing the first-order Markov chain model. The area under banana cultivation in India has increased from 533 thousand hectares to 860 thousand hectares in 2016-17. Production and productivity also increased. Among the countries which imported Indian bananas, UAE retains its exports share over the study period. They concluded that 45 percent of Indian banana export would go to UAE, 39 percent would go to Oman, 6.37percent to Iran, 3.65 percent to Saudi Arabia, 1.44 percent to Nepal, and 39.41percent to other importing countries.

## **2.4 Cashew export scenario In India**

Balasubramaniam (1979) in his study entitled "Import Promotion of cashew Nut into Japan" has examined the reasons for the drastic fall in the exports of cashew kernel. He has found that poor cashew crops, reduction in the inflow of raw cashew nuts from East African countries, relatively high price of raw material, and consumer resistance to the resultant higher price of cashew kernel are the main reasons for falling in exports.

Rajashekharan and Radhakrishnan (1989) analysed the export performance of cashew and noticed that India's share in world cashew kernel export, which was almost one

hundred percent in 1950, declined sharply to 55 percent in 1986. In 1987-88, their share further declined to 42 percent. The main reasons were identified as the non-availability of raw nuts, inadequate quantity, and stiff competition from other countries like Brazil. They suggested that if the country is not to lose further, it is essential that raw nut production should be increased preferably by increasing productivity.

Basavaraj Banakar and Shankar (1994) in their article entitled “Export of Cashew Product from India” state that apart from cashew nut, cashew nut shell liquid is also an important export item and it is exported to Germany, Japan, and Korea to the tune of ₹ 3.4 crores during 1992-93. They also point out that there are 1677 cashew processing factories in the country. The total processing capacity is about 6 to 6.5 lakhs million tons of raw nuts and India exports cashew kernel to the American Zone, European Zone, and West Asia Zone in large quantities and the African Zone in small quantities.

Balasubramanian and Rema (1996) in a study on cashew nut export reported that the trend in export was found to be directly correlated to imports and a high correlation was found in such a way that for every tonne of kernel exported, 5 tonnes of raw nuts was imported. The dependence of cashew nut export trends on the international market price for kernels and the foreign exchange rate of the Indian rupee were examined.

Behura and Naik (1997) observed that the contribution of India’s cashew kernel to the global market was 60 to 70 percent of the world cashew trade. The exports of cashew kernel from India increased from 32,260 tonnes in 1981-82 to 69,680 tonnes in 1995-96 and registered a compound growth rate of 6.49 percent. India’s export position in the international market especially the USA (the largest number importer of Indian cashew kernels) was getting eroded by stiff competition from Brazil due to its proximity to the US market and also other tree nuts like almonds, pistachios, and walnuts. They are competing with cashew kernel in the global nut trade. Further, they reported that

domestic raw nut production and raw nut import have a positive impact on the export of cashew kernel from India and domestic consumption has a negative influence.

Bhat (2004) reported that India's imports of raw cashew nuts increased from 4.01 lakh tonnes valued at Rs. 1231 crores in 2002-03 to 4.53 lakh tonnes valued at Rs. 1401 crores in 2003-04. The major countries, which have supplied raw nuts to India during 2003-04, were Ivory Coast, Tanzania, Guinea – Bissau, Benin, Indonesia, Mozambique, and Ghana supplying 87.11 percent of total imports in terms of quantity and 88.81 percent in terms of value. The export of cashew kernels from India was 1.01 lakh tonnes valued at ₹ 1804.40 crores in 2003-04. USA was the biggest buyer of Indian cashew kernel with 48503 tonnes valued at ₹ 88.16 crores followed by Netherlands, UAE, and Japan, during 2003-04. India had exported 6926 tonnes of cashew nut shell liquid valued at ₹ 7.03 crores during 2003-04. USA was also the largest buyer of Indian CNSL, which accounts for 6600 tonnes valued at ₹ 644.68 lakh.

Patil. B.L. (2005) focused the study on the production and export performance of cashew. India is the largest producer, processor, exporter, and consumer of cashew in the world. It accounts for 44.58 and 57.25 percent of the world's production and exports respectively. Cashew is a major foreign exchange earner for India. Positive growth in the production of cashew nuts was observed and the interactions between mean yield and area variance have contributed to the variability of cashew nut production at all Indian levels. The establishment cost of cashew plantations was higher in Dakshina Kannada than in Belgaum. The financial analysis revealed that cashew enterprise has maximum NPC, BCR, PBP, and IRR. Markov Chain analysis revealed that the USA, Australia, and the Netherlands were stable importers of Indian cashew kernels. The study suggests enhancing and stabilising production through increased productivity. To prevent fluctuations in the prices of cashew, Crop Insurance Scheme for cashew has to be initiated.

Prabhu (2006) studied the role of Eastern India in the production and export trade of cashew. It is suggested that all available resources must be channeled to increase the output of raw cashews. Increased availability will then enable competition and consolidation in India's export position. Further, Eastern must develop its footprint on the world export markets in a manner that is profitable to all participants.

Ramanathan et.al (2009) attempted to examine the direction of exports and imports of cashew in two periods Viz, pre liberalisation (1980-81 to 1991-92) and post liberalisation (1992-93 to 2003-04), with the help of the Markov chain model. The results obtained from exports of cashew have shown that USA and Netherlands were major importers of Indian cashew as indicated by the high probability of retention in both pre and post liberalisation periods. The other countries Viz, UK, Japan, and Australia with low values of probability of retention in the pre-liberalisation period indicated that they were the unstable importers of Indian cashew, whereas in post liberalisation period UK and UAE were unstable importers of cashew. The results of the analysis on the importers of cashew have shown that Ivory Coast, Tanzania, and Guinea – Bissau were major exporters of raw cashew nuts to India as reflected by the high probability of retention. On contrary, Mozambique, Benin, and Indonesia had a probability of retention of Zero in post – the liberalisation period indicating that they were the most unstable exporters of raw cashew nuts in India.

Kumar and Chinnappa (2010) analysed the trade performance of Indian cashew by collecting secondary data on the export of cashew kernels, cashew nut shell liquid (CNSL), and import of raw cashew nuts for the years 1974-75 to 2007-08. The growth rate of kernel exports was 5.37 percent with an instability index of 8.70 percent and the export of CNSL was 6.15 percent with an instability index of 41.92 percent during the post – liberalisation period was observed. Among the different countries, the USA is a stable market for Indian cashew kernel and CNSL. Further, the export potential is to be tapped by creating brand or image loyalty in the potential markets abroad.

Padmanaban (2010) conducted a statistical investigation on the export of cashew nuts from India were analysed from 1980 to 2008, for trend analysis of the export of cashew kernel and cashew nut shell liquid. For the import of raw cashew nuts, the period was taken between 1995-2008. The results revealed that the trend in the export of cashew kernel behaved almost constantly in the initial study period. The transitional probability matrix showed the USA was one of the most stable importers of an Indian cashew kernel and cashew nut shell liquid. Tanzania was the major exporter of raw cashew nuts to India. UAE showed an increased rate of import of cashew kernel from India. In the case of cashew nut shell liquid, countries like USA, Japan, and 'other countries showed an increased rate and the Korea Rep. The raw cashew nut import from Tanzania and Mozambique showed decreased rate compared to the year 2008. The results revealed from instability analysis, the USA, and the Netherlands are stable importers and UAE was the most unstable importer of Indian cashew kernel. The cashew nutshell liquid export showed unstable to all importing countries. In the case of raw cashew nut import, Tanzania showed the stable, compared to all other exporting countries.

Aravinda Kumar *et.al* (2015) studied the export performance of cashew in India which aimed to analyse the area, production, productivity, and export of cashew and to assess the share of export in production. The study found that area of cashew had registered a growth rate of 2.46 percent per annum, while the production increased by 4.51 percent per annum. The variation in area, production, and productivity of cashew was observed at 3.84 percent, 6.29 percent, and 8.09 percent, respectively. Results on variability in export revealed that in quantity terms it was 7.64 percent, in value terms it was 12.23 percent and in terms of unit value it worked out to be 14.23 percent, which was the highest. The study suggested that the introduction of new High Yielding Varieties of cashew can improve the production and export of cashew kernel and concentrate on exporting more value-added products to realize higher profit and it will ensure a better price to the producer by increasing competition in the domestic market.

Wankhede (2019) conducted a study on the Export Performance of Cashew-nut in India. The study's objective is to estimate the growth in the production export of cashew nuts in India. The growth rate in the export and import of cashew nuts in India was studied using compound growth rates. The other tools used for the analysis are the Coefficient of variation and the Cuddy-Della Valle index. From the study, it is observed that there is an increase in India's cashew exports during the study period. The growth rate of export quantity, value, and unit value of cashew export were positive and significant during the study periods. The study on instability showed stability in the production, export quantity, export value, and unit value during period II compared to period I. The study concluded that there is an increase in agriculture export, but the percent share of agriculture export to total export was decreasing.

## **2.5 Determinants of cashew exports**

Jacob Baby (1985) in his study entitled “A Blue Export Development of Cashew and Processing in Kerala” has analysed the reasons for the agglomeration of the cashew industry in Kerala. He has found that the availability of skilled labourers in abundance and the dynamic entrepreneurship of the businessmen as the main reasons for the concentration of the cashew industry. But, these factors have been since the processing of raw cashew nuts in Tamil Nadu amounts to one-third of what is prevalent in Kerala. The study suggested the need for using improved technology and simple gadget to improve the efficiency of workers and increased productivity, to take on fierce competition from Africa and Brazil.

Thomas Mathew and Rama (1986) in their study “Production and Export of Cashew” analysed the production and exports of cashews from India. Their study depicts that the state of Kerala, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu are the major producers of rawnuts. However, the cashew processing industry is mainly concentrated in the states of Kerala and Tamil Nadu. It is observed from the study that Kerala contributes around 60 percent of the cashew exports from India. According to them, the cashew

industry plays a vital role in the growth of the national economy. Their study indicates that the cashew nut processing unit was initially started at Mangalore in Karnataka and later shifted to Kerala in 1925 due to the availability of skilled labourers.

Raj Narain (1992) in his study entitled “World Market for cashew” states that quality control is the primary requisite to boost the export trade of cashew kernel from India. He suggested that a pre-condition for a successful export marketing strategy for cashew kernel or any product is that the product must conform to market requirements and the cashew exporter needs to be familiar with the individual market.

Musalier Shahul Hassan (1996) in his article entitled “The Trend of cashew Export in Consumer Packaging” has made a study on the trend in the export of cashew in consumer packaging. The study suggests that consumer packed products should be in line with international standards of packing and pricing to compete with foreign markets. It has identified the non availability of suitable packing methods of international standards as one of the main constraints. Further, the study states that the major constraint in marketing consumer packages is the local language requirement of the countries where products are retained, and also statutory labeling regulation that differs from country to country.

Ramalingum Pillai (1998) in his study entitled “Changing Need in Packaging of Cashew for Export” stresses the need and importance of changing the design and style of packing cashew for exports. The study points out that to attract the international market and to compete with cashew kernels from Africa and Brazil, the package should look attractive.

Ashalatha (2000) used the nominal Protection Coefficient to assess the export competitiveness of Indian cashew. NPCs were found to be smaller than unity with an average value of 0.91 under the exportable hypothesis, showing that the Indian cashew kernel is competitive in the export market.

Mahesh (2000) used an exponential growth model to examine the performance of Indian tea exports from 1979 to 1999. According to the findings, Indian tea exports grew at a negative rate of 1.15 percent, while the export value and unit price grew at yearly rates of 8.82 and 7.65 percent, respectively.

Arene and Okafor (2001) studied the influence of exchange rates on the non – traditional agricultural exports (i.e. shrimps, pineapple, cashew nuts) of Nigeria during the period 1988- 98 assessed, using secondary sources of data. Geographical direction and regional share of exports of the commodities were also investigated descriptively. The study shows a wide dispersion of exports of these commodities across the geographical regions of the world; exports were distributed to a total of 39 countries. The analysis also shows that there is no relationship between the exchange rate liberalisation which came into play in 1986 and the volume of non - traditional agricultural commodities exported from Nigeria.

Sundaravardarajan *et.al* (2001) indicated that the quantity of kernels exported and production of raw cashew showed desirable instability and instability in the import of raw cashew was undesirable. They further suggested that even if India doubles the production of cashew, there would not be any marketing problems or price fall. Hence, suitable action should be taken to increase the domestic production of raw cashew nuts through developing high-yielding varieties and instructions for post-harvest operations, warehousing, etc, and diversifying the market for cashew kernels by strengthening the non-traditional markets.

Wadkar (2001) analysed the export of cashew in India. He observed total quantity exported and the value received were stable during the study period (1980- 1998). He analysed the export performance of cashew by using a multiple regression equation. The regression coefficient for the domestic price was 0.03 thousand Mt, domestic consumption was 0.016 thousand Mt, and found non–be significant. The regression

coefficient to world export was highly significant. The coefficient of multiple determinations ( $R^2$ ) was 0.9658 indicating that 96 percent of the variation in the export of cashew is explained by the variables in the equation.

A study conducted by Leonidou *et.al* (2002) on marketing strategy of export performance found that using export sales representative office and direct purchasing had a positive effect on the intensity of sales export while, a weak relationship is found between export performance and adaption of the distributor, agent, and merchant in the export market.

Mamta *et.al* (2002) estimated trends in the production and export of cashew in India. They observed the growth rate of the area in Kerala declined (-4.32%) due to the feeling of cashew trees, and the conversion of cashew area into rubber plantations due to its rise in prices of rubber whereas the cashew production growth rates of cashew were positive and significant for Andhra Pradesh (10.16%), West Bengal (12.58%), Karnataka (7.72%), Tamil Nadu (12.84%) and Maharashtra (5.25%). The growth rate in the productivity of cashew in Goa (-7.78%), Kerala (-0.96%), Orissa (-7.49%), and Tamil Nadu (12.84%) were indicated a negative and decreasing trend. The growth rate of area (5.20%), production (2.26%), and productivity (2.87%) at all Indian levels experienced positive, significant, and showed an increasing trend.

A study conducted by Umesh (2002) indicated that the strong and established research and development network, the availability of a good number of cashew varieties suitable for varied situations across the country along with scientific production management practices offered a good opportunity for the development of the cashew industry in the country. There has always been a stable price in the international market for cashew when compared to any other edible nuts. They found that cashew represents a diversification option for inferior/ degraded lands which are less suitable for commercial cultivation of other food crops.

Bhosale *et al.* (2004) identified the determinants of the export of grapes. The export function was estimated by using the time series data for 11 years from 1991 – 92 to 2001-02. The variables namely balance of trade; domestic and wholesale average prices of grapes and average world prices of grapes have explained 78 percent of the variation in export. The results revealed that if the balance of trade in grapes is increased by one lakh rupees the export of Indian grapes will significantly increase by 3.39 metric tons. A negative relationship was found between the domestic price of grapes and the export of grapes indicating the increase in domestic price would reduce the export of grapes.

Lageset *al* (2004) conducted a study on determinants of export marketing from a European perspective based on perceptions of Portuguese and British export managers using an open-ended question and found that product quality and service quality were the major determinants and followed by design, brand image, innovation, and product differentiation. Recently, a study by the same authors investigated the relationship between capabilities, quality, and innovation as determinants of export performance via a questionnaire through two types of respondents from the same Portuguese firm. They noted that product quality and product innovation were recognised by academics and managers as top determinants of export performance and product innovation and product quality led to export performance enhancement.

Laxmi (2006) analysed the growth rate in the export of Indian grapes. The compound annual growth rate was calculated for the pre (1978 – 1992) and post (1992-2004) liberalisation periods. The highest compound growth rate for quantity exported was recorded at 26.15 percent during the pre- liberalisation period. The credit for such impressive growth in quantity exported during the study period should go to the various promotional activities of central and state Governments, the institutes run by the Government, and Farmer's organisations. The study suggested that the entry of grapes and NAFED to develop considerable infrastructure had helped to increase exports of high-quality grapes from India.

Thanuja (2006) conducted a study on the export performance and competitiveness of ginger from India. The export growth between the pre and post-WTO period in terms of quantity and values was found to be declining and negative. The correlation analysis revealed that the selected markets in three states were well-integrated and the pair of Bangalore – Trivandrum market was highly integrated.

A study conducted by Eusebio *et.al* (2007), investigated management perception and marketing strategy in export performance via comparative analysis in the Italian and Spanish textile industries. The outcome showed that the commercial branch in the export market had positive and significant relations with export performance.

Kumar and Rai (2007) studied the determinants of tomatoes from India using regression analysis for the period 1985- 2004. The factors considered in this study were the volume of international trade in tomatoes, the ratio of Indian and Non- Indian international export prices, the domestic production of tomatoes, and the exchange rate. These variables explained about 98 percent of the total variation in the export quantity of tomatoes. All the variables except the exchange rate have shown a positive effect on tomato exports. The study also found that demand for Indian tomatoes increases with an increase in the international trade in tomatoes Viz., with a one percent increase in international trade in tomatoes, the demand for Indian tomatoes in the international market raises by 10.8 percent. The results also revealed that the price realisation for exports from India concerning the export price of the world has increased with the rise in Indian tomato exports. However, domestic production coincided with the increased world production, causing depression in international prices and turn resulted in lower tomato exports from India.

Nalini *et.al*. (2008) studied the demand for cucumber and gherkin products and identified the factors affecting the export. The three basic determinants namely world market size, exchange rate, and Indian export price could together explain 96 percent of the total

variation in the export of cucumber and gherkin from India. The estimate for international trade volume has shown that for a one percent increase in the world trade in cucumber and gherkin products, demand for them from India will increase by 5.96 percent. Indian export prices had a positive effect on export products from India.

Nagoor (2009) conducted a study on "Performance of India's Tea Exports: A Comparative Study of Major Tea Exporting Countries of The World." The study examined the export performance of India's tea and identified the underlying factors. Compound annual growth rate (CAGR), coefficient of variation, and Nominal protection coefficient were the tools used for analysis. From 1981 to 2004, the percent share of Indian tea exports in total agricultural exports decreased dramatically. The principal factors responsible for the poor performance of Indian tea exports identified in the study are the increase in domestic demand, the slow increase in yield, the slow expansion of the area, etc. The study concluded that to encourage the export of tea from India, the relative profitability of sales on the international market should be improved compared to the domestic sales market.

Umesh et al. (2009) conducted a study on "Performance Analysis of Production and Trade of Indian Silk under the WTO Regime." The analytical tools and techniques used were exponential growth function, Cuddy Della Valle Index, Co-integration techniques, Nominal protection co-efficient, etc. The temporal price efficiency between the world and the domestic market was measured using the co-integration test for the period from 1991-92 to 2004-05. Overall growth in the cocoon and raw silk production in India showed a downward trend with moderate instability. The overall performance of silk without mulberry was encouraging as the growth rate was positive. The co-integration test showed that the lack of integration implied that there was no long-term equilibrium between the relationship between the domestic market and the world price. The study concluded that to increase the production and export of silk; there is a need to expand production and income-enhancing support to the silk industry.

Venkattakumar (2009) conducted an ex-post facto research study to assess the impact of cashew cultivation in Kerala, Maharashtra, Andhra Pradesh, and Tamilnadu. The study aimed to suggest an implicative strategy to improve the cashew cultivation scenario. They collected primary data and Percent, mean, standard deviation, and t distributions were the statistical tools used for the study. The study found that the knowledge, adoption level, and technology gap of the majority FSG (farmers with gardens of seedling origin) and FGG (farmers with gardens of graft origin) were medium in all four states. The study suggested an action model depicting implicative strategies for a cashew production scenario.

A study carried out by Adejo et.al (2011) examined the marketing channel and pricing system of cashew nuts in the eastern part of Kogi state. A total of 180 respondents were randomly selected from 3 market zones of the area. Data collected were analysed using descriptive statistics. The result of the study indicated a unidirectional movement of cashew nuts from the producers to the final consumers. Where 14.6 percent of the marketers were involved in the retailing and small-scale business, 38.33 percent were bulk assemblers and 20 percent of them engaged in wholesales. The marketing of cashew nuts is mostly affected by price instability due to the seasonality nature of its production and lack of storage and processing facilities. Cashew nuts are either sold to the retailers by farmer's producers in smaller quantities or sell it to the bulk assemblers directly.

Sakamma and Ananth (2011) conducted a study on growth and instability in the production and export of major spices in India: an economic analysis. The study was an attempt to evaluate the growth and instability of major spices namely chili, pepper, cumin, turmeric, and coriander. These spices were chosen purposively because; these spices account for 77.9 percent area and 64 percent of the production of total spices. The result showed that there were positive growth rates in both export quantity and value during the data period and also the instability was high in terms of export value than the export quantity.

Jethu (2012) studied the export and price behaviour of cashew kernels by using the techniques of classical decomposition of time series analysis. The monthly average price data on cashew kernels in domestic and international markets were decomposed into four components. The analysis showed that the cashew kernel prices in both domestic and international markets widely fluctuated during the period 1999 to 2009 February after which an increasing trend in prices was noticed. The prices of cashew kernels in both markets generally increased from 2009 onwards due to global supply constraints but the prices in the domestic market abruptly fell in 2011 July. The instability in cashew prices was studied using the coefficient of variation which was 23.87 percent for the domestic market and 26.46 percent for the international market. The export competitiveness of Indian cashew kernels was measured using NPC under exportable hypothesis, moving average, single exponential smoothing, double exponential smoothing, ANN, and ARIMA models were tried to develop a reliable price forecasting model for cashew kernel prices in both domestic and international markets. This result is of utmost importance as cashew kernels from Kerala set the bench mark quality in the world market. Even though India is the largest area-holder under cashew, it lags in productivity.

A study carried out by Pavaskar and Kshirsagar (2013) analysed the Indian Cashew industry for its ability to meet the competitive challenges of the Vietnam cashew industry which is the world leader in the export of shelled cashew kernels. They concluded that the shift to the production of spices and rice by Vietnam, higher per-unit value realisation for India, and availability of plenty of coastal area in India are some of the factors which give India a competitive advantage over Vietnam.

Wongnaa (2013) analysed factors affecting the production of cashew in Wench municipality, Ghana. The study considered the determinants of cashew production with special reference to the Brong-Ahafo Region of Ghana. Results showed that farm size, fertilizer, pesticides, pruning, education, and contact with extension officers are positively related to cashew output while labour and years of experience are inversely related. Farmers may get encouraged for using fertilizers and pesticides, which will

increase productivity. Among other things, farmers should have more access to extension services to improve their knowledge of farm management. Also, the government may introduce the farmers to formal education through adult literacy education, evening classes, and the establishment of demonstration farms.

Adhikari (2014) conducted a study on "Export of Rice from India: Performance and Determinants." Tabular analysis, growth analysis, instability analysis, Markov chain analysis, Nominal protection coefficients, and multiple linear regressions are the primary tool used for the analysis. The study observed that the growth in value of basmati rice export is 15.87 percent, which is higher than the quantity of export of 7.55 percent. The growth rate of export of non-basmati rice in terms of quantity and export earnings was 23.03 percent and 30.91 percent. Due to the higher price in the international market, India is highly competitive in the export of basmati rice and non-competitive in the export of non-basmati rice. The study suggests that the government and policy makers have to execute suitable export promotion strategies to boost rice export.

In her paper "Export Growth and Prospects of Floriculture in India," Amitava (2014) identifies some rising floriculture markets and examines India's export performance in these regions from 2001 to 2005. Secondary data can be utilised to make comparisons and research export performance. According to the report, India's flower export growth rate from 1996 to 2005 was the greatest in the world. India's exports of cut flowers and dried flowers for bouquets, which are in high demand in Europe, fell from 71 percent to 46 percent in 2005. This dismal performance is because Indian exporters are unable to achieve the high-quality standards demanded by most European countries. The researcher proposes forming an export promotion committee to promote floricultural exports while also increasing the production of value-added items such as dried fruits and seeds.

Greeshma (2014) conducted a study on the "Export Performance of Indian Textiles Industry in the Post Multi Fibre Agreement Regime." The export performance has been examined in terms of compound annual growth rate and annual growth rate from 1992 to

2012. The study observed that textile exports registered a remarkable growth rate in the post-quota period. However, India was not able to continue the same momentum in the later years. Many Indian textile manufacturers shifted or started a new unit in neighboring Bangladesh to reduce the labour cost and duty concessions on exports to US and European markets. Moreover, conclude that the Indian textile industry is facing so many challenges in the post-quota regime. The researcher also added that factors such as export market prices are slightly higher than the domestic price and dependence of other international companies on Asian India Bangladesh, which has enhanced the Indian textile industry's hope.

Jan (2014) conducted a study on econometric analysis of Indian cashew exports. India ranks first in the world in the area utilized for cashew production and it is the third-largest consumer. India continued to be the largest producer of raw cashew nuts in the world. The compound Annual Growth Rate of cashew exports and various aspects of the existing status of cashew export were analyzed for different periods depending upon the availability of data and the dynamics of changes in the export trade of cashew kernels from India were studied through the estimation of a Markov Transitional Probability Matrix. The results revealed that Southern India is the major cashew nuts-producing part of the country. During the year 1993-94 to 2002-03 USA, Netherlands and other minor importing countries were moderately stable in retaining their previous year's share.

Mishra *et.al* (2014) studied the export of cashew kernel from India: its direction and prediction. The paper quantifies the changing structure of cashew kernel exports to understand the dynamics of changes and the growth rate analysis. The growth rate analysis reveals that UAE shows the highest growth rate and the countries like USA, Netherlands, and UK show negative growth rates. The Markov chain model was used to assess the transition probabilities for the major cashew kernel export from India. The result revealed that the country USA was the highest probability of reduction (0.87) compares to all other countries. The forecasted values for, the countries UAE and 'other

countries' show an increasing trend and the countries like USA, the UK, Netherlands, Japan, and France show a decreasing trend.

Padmanaban (2014) studied the export of cashew kernel from India: its direction and prediction. The result revealed that the country USA was the highest probability of reduction (0.87) compares to all other countries. The forecasted values for, the countries UAE and other countries show an increasing trend and the countries like USA, UK, Netherlands, Japan, and France show a decreasing trend.

Funke (2015) analysed the comparative advantage and competitiveness of cashew crops in Nigeria. The study was analysed by using descriptive statistics and a policy analysis matrix. Results showed that social output prices were higher for farmers, marketers, and exporters than what they are getting at the farm gate/ domestic level. The processors received a lower social price but made up for this through higher value added to the product. As a result of farmers' lower output prices and higher factor prices compared to social prices, farmers are not encouraged to produce cashew nuts. The higher social prices reflect an imperfect market in terms of input used, quality control measures, and under utilisation of resources. All the actors in the cashew nut value chain were profitable at the local level. In terms of profitability and market demand, cashew nut was a potentially good crop to grow. This paper attempts to assess India's trade intensity as well as the revealed comparative study.

Govindasamy (2015) studied "Production and Export Performance of Cardamom in India," which described cardamom's export performance from 2000-2001 to 2011-2012. The study's objectives were (i) to examine the trend in the area, production, and productivity of cardamom during 2000-01 to 2011-12, (ii) the export performance of cardamom in India from 2001 to 2012, and (iii) to estimate the contribution of area and productivity in the change in the production of cardamom. The tool used for the analysis was compound growth rate and analysis of cardamom production by component

elements. The area, production, and productivity of cardamom have a constant trend. The export of cardamom had an increasing trend. He concluded that even though the export shows a rising trend, it is not enough, so the Indian government may take the required steps to support farmers by providing subsidies.

Adhikari *et.al.* (2016) the study has examined the growth performance and identified determinants of rice exports from India with special reference to basmati rice. The time-series data were made stationary before estimating the determinants of rice export. The estimated regression model has shown that export price, international price, lagged production, domestic consumption, and exchange rate are the major determinants of rice export from India.

Yanita *et.al* (2016) analysed the factors determining rubber exports in Indonesia. The results revealed that production, crumb rubber price, crumb rubber export quantity in Malaysia, and crumb rubber export quantity in lag time have found a positive correlation with crumb rubber exports in Indonesia. But exchange rate and crumb rubber export quantity in Thailand had shown a negative association with Indonesian rubber exports. The results revealed also showed that crumb rubber export played a substantial role in foreign exchange earnings in Indonesia. But still, major alterations in the export earnings of Indonesian crumb rubber have raised concern about the country's future growth potential and self-sustainability. Hence, long-term strategies need to be devised to raise product quality through the adoption of advanced technology and the encouragement of foreign direct investment in moderately high-tech industries.

Anbuchelvi (2018) conducted a study on "Economic analysis of Indian Cardamom and its Export Trends." The study discusses cardamom cultivation pattern, climate, plantation type, harvesting, drying, curing etc. The cardamom price has changed from ₹ 274.22 to ₹ 1339 per kilogram over sixteen years. The high volatility is a threat to cardamom planters and traders. The Compound growth rate of sixteen years from 1991-92 to 2015-16

measured is 4.78 percent. The study concluded that even though high variations in the export price of cardamom in India, the CGR for the export of cardamom is 11.38 percent. The various economic and social issues should be solved with the help of central and state governments. The study revealed that there is plenty of opportunity for cardamom in the country to expand and dominate the world market for high-quality cardamom.

Bhuvaneshkumar and Bruntha (2018) conducted a study on the "Impact of the Financial crisis on Tobacco Export." The study objectives are to evaluate tobacco products' export performance from 1996 to 2016 and analyse the growth in export proceeds of tobacco products during the pre-financial crisis and post-financial crisis using growth rate, standard deviation, and compound annual growth rate. Tools such as growth rate, standard deviation, and compound annual growth rate were used. There is a decrease in the export of tobacco from the post-financial crisis. In the compound annual growth rate during the pre-financing period, one product shows a negative impact, but in the case of the post-financing period, three tobacco products show a negative growth rate. The study suggests that the government should take incentives to export tobacco products from India; the market channel needs to be improved for tobacco products.

Deepika (2018) conducted a study on "Export Performance and Factors Affecting Competitiveness of Plantation Commodities in India." The tools used for analysis Revealed comparative advantage (RCA), Nominal protection coefficient (NPC) and Effective protection coefficient (EPC). The study's objectives are to examine the changing pattern of international trade in plantation commodities in India, find major competitors of India, and find the key markets in the world. The study concludes that although European countries and Middle Eastern countries do not produce any plantation crops, a substantial volume of tea, coffee and pepper after adding value and brand of their products are re-exporting. The lack of certification emerges as a major non-tariff barrier, especially for tea and coffee exports from India. The study suggests better value addition through innovative technologies, penetrating unexplored markets and settling technical

and non-tariff barriers in an international forum to enhance the competitiveness of Indian plantation product exports.

Jermi (2018) investigated the long-term viability of traditional resource-based sectors, particularly the cashew export processing sector in Kerala. The need for the cashew processing sector in Kerala to be revitalised was investigated. Simple data analytical approaches and cash flow analysis was used in the investigation. The study found that the cashew export industry's long-term viability necessitates a comprehensive technological make over that can solve concerns such as labour shortages and waste reduction assisted by new processing technology. According to the study, the new processing technology being adopted by the business would help to considerably improve the industry's export performance by improving the quality of processed cashews while also providing job benefits to rural communities.

Patil et al. (2018) conducted a study on the "Growth and Export Performance of Mango in India." The objective is the estimation of the growth and export performance of mango in India. Analytical tools like the coefficient of variation, compound growth rate, and Coppok's instability index were used. The study observed that the area, production, and productivity of mango show positive and significant growth. The largest variation was observed in the case of production (15.88%). Bangladesh was the most stable mango importer, followed by the United Arab Emirates and Bahrain. The study observed significant and positive growth in mango area, production, and productivity from 2004-05 to 2014-15. They concluded that India's mango production share is 50 percent of the total mango produced in the world, but the export share is low. Therefore, more emphasis is placed on exporting mangoes from India.

Anbuchelvi (2019), in his study entitled "Import and Export of Small Cardamom in India," highlights that cardamom growers are struggling to survive in the hills to meet the increasing cost of production, especially labour and fertiliser cost. The tools used for the analysis were percent analysis, Mean, Standard Deviation, Coefficient of variation, and

Compound growth rate. The lack of rain in one season and followed by a flood in the next season damages crops and reduced yield, resulting in low productivity. In the cardamom market, both international and national level presence competitors influence the demand and supply situation, and the entry of new competitors depresses the market more. He concluded that there are more scopes to undertake further research in the Economic, Social, and Political context regarding Cardamom Plantation Industry in India. The variations in the demand and supply conditions are unpredictable; thus, the traditional cardamom industry suffers from survival.

Nisha et al. (2019) conducted a study on "Growth analysis of Area, Production, and Productivity of the Wheat crop in Haryana and India." The study intends to examine the trend of wheat production in Haryana and India during the study period. Analytical tools such as Coefficient of variation, Standard deviation, and Cuddy-Della Valle index were used. The results show a significant and positive trend in the area, production, and yield for both Haryana and India. The trend of yield was similar to that of Haryana. In Haryana and India, the coefficient of variation and instability indices in wheat output and yield exhibit similar results.

## **2.6 Problems in the cashew industry**

The problem of the cashew business was examined by Chirayath John Thomas (1965) in his paper "A Study on Cashew Industry in Kerala." This paper examines the cashew tree, cashew products, and processing methods, as well as the export prospects of a cashew kernel and shell liquid, as well as the rise of trade unionism. The cashew industry's processing methods, employment and productivity, and welfare initiatives are all highlighted in this report. The study suggests that cashews have the potential to earn foreign exchange if they are well-organised and improved at many levels. It demonstrates how piece-rate workers in the Shelling and Peeling division are guaranteed a daily minimum wage. Cashew manufacturers associations such as the Kerala Cashew Manufacturers Association and the India Cashew Exporters Association, according to his

work, have aided in the exchange of research information for the advancement of knowledge and techniques in the manufacturing and storage of cashew kernel, cashew shell liquid, and its by-products and derivatives.

The State Planning Board (1969) undertook a study highlighting numerous challenges faced by the cashew sector in Kerala in the 1960s. The Board notes that raw material storage is a serious issue in the cashew business.

Rachel James (1981) in her study entitled “Problem of Workers in the Cashew Industry” examined the problem of cashew workers in the cashew industry in Kerala. The study shows that the main problem faced by casual workers in the industry is that they do not get enough working days. Until the supply of nuts is increased, the problem of having more working days cannot be solved. The study has found that workers have been exploited by employers. A minimum output per day has been prescribed by the management for Dearness Allowance. This means D.A. is given only when the minimum output produced is ready. The prescribed minimum output is what a worker can produce on average in a day under below-normal working conditions. Though variation will always be there in the output level, the management insisting on the minimum output is intending to deny payment of D.A. The workers are often given small or inadequate quantities for processing to make them ineligible for D.A. for some days. Therefore, a worker who works for six days may not get D.A. for all days. Workers who offer a bribe to the ‘meishiri’ (Headman, who distributes the raw materials) get enough raw nuts. So, a part of this meager income has to be set apart to please the headman. The study also highlights another problem involved in Shelling. As it is done by sitting on the floor and beating nuts with a light hummer, the shell liquid that splashes out in droplets has an abrasive effect on the skin. She concludes that Shelling is the most unpleasant job in the cashew industry. Moreover, when the import of raw materials is falling, local nuts that go to the cottage sectors, cannot help cashew factories much to provide more working days.

Kannan (1983) in his study entitled “Cashew Development of India– Potentialities, and Constraints” has analysed major issues involved in the cultivation, distribution, processing, and marketing of cashew and examined the prospects of development of the cashew industry in India. The major finding of the study is that the general policy of promoting exports without an adequate appreciation of the industry with its linkage with the processing and cultivation of the crop in the agricultural sector. The study has revealed the high level of profitability in the industry and the low level of wages. He has also found that the workers in Kerala have experienced an erosion of the quantum of employment owing to the diversion of the processing activity to Tamil Nadu.

John (1990) in his study entitled “Problems of Cashew Workers in Kanyakumari District” has attempted to identify the problems of cashew workers in the Kanyakumari District of Tamil Nadu. The study reveals that lower wages and a poor working environment affect the interest of cashew laborers in Kerala. The availability of cheap labour, absence of labour problems and availability of raw nuts, low investments, availability of land at low cost, and absence of any intervention motivates the establishment of more and more cashew industries in Kanyakumari District. He suggests that the cashew industry in Tamil Nadu should be brought under Minimum Wages Act and social welfare measures like Provident Fund, Gratuity, and Employees Security Insurance (ESI) should be made statutory for the development of cashew workers.

Gangadharan Pillai (1992) in his study entitled “International Trade of Cashew – Problems and Perspective” initiated a discussion at the national workshop on cashew in Kannur (Kerala) about the problems and prospects in the international trade of cashew. He points out that the most important problem faced by the Indian cashew industry is an inadequate supply of raw cashew nuts. He further notes that the development of the cashew industry in Mozambique, Tanzania, and Kenya, the major cashew-growing countries, has resulted in lower import possibilities and India is facing serious competition from low-price kernels from such countries. Another problem faced by our cashew trade is the competition from substitute nuts like almonds and pistachio. He

opines that any increase in the production of raw nuts will help to increase export and thereby earn more foreign exchange. Since this is a highly export-oriented industry, he suggested that an increase in the production of raw cashew nuts will help to substitute imports and can save foreign exchange.

Giridhar Prabhu (1992) in his study entitled “Trade and Trade problems and Strategies of Cashew” attempted to investigate the problems of cashew trade in India. He points out that wrong harvesting practices, absence of research and development activities, existing land ceiling act, absence of plantation status to cashew, scarcity of high yielding varieties of cashew plant, purchase tax, and sales tax in cashew trade are the important problems faced by the cashew processing industries in India. Besides, overcoming the problem of shortage of raw cashew nuts, he suggests that wrong harvesting practices can be avoided by disseminating information and imparting training to growers. Moreover, the introduction of cashew arched management can also solve many of the problems.

Deorukhakar et.al (1995) studied the constraints in the technology adoption of cashew nut cultivation in the Sindhudurg district of the Konkan region, Maharashtra. They found that the high cost of fertilisers, plant protection chemicals, high cost of improved planting material, and irregular supply of input were the major constraints faced by the cashew growers.

Nasrudheen and Balakrishnan (1996) identified the problems of agricultural export in India; the major constraints were high tariffs, quality restrictions, quotas, strict hygienic standards package, and labeling requirements. They reported that the most important problems in the export of agricultural commodities were mainly due to inadequate surplus. Adopting modern technology advancement was coupled with capital intensity but the availability of capital was less and also capital formation in the agricultural sector was measured at 2.2 percent only.

Gunjate (1997) reported on problems of cashew plantation management at the regional fruit research station, in Maharashtra, and observed that some problems in cashew plantation management the non-availability of the right kind of inputs, inadequate funds, non-availability of suitable farm equipment and machinery, and unavailability of qualified and experienced personnel. It was necessary to make available the grafts of the choicest varieties in all the regions, replanting the gaps may be done as early as possible and it may never be left beyond the second year. Prophylactic sanitary measures are recommended.

Siju (2001) used Garrett's ranking technique to rank the constraints faced by the cashew processing industry and revealed that marketing, labour unions, scarcity in capital, scarcity in labour, quality of raw material, procurement, and storage were the main problems experienced by the farmers.

Balaji et.al (2003) used Garrett's ranking method to rank the constraints faced by the production and marketing of groundnut. The study revealed that major constraints were pests and diseases, erratic rain fall, water scarcity, forest animals, non-availability of good quality seeds, inadequate supply of labour coupled with high wage rate, low level of adoption of recommended technologies, lower marketed surplus, collusion among the traders in marketing, malpractices in weighing and delayed payment.

Gupta and Prasanth (2004) stated that lack of money, lack of awareness about market news and intelligence, lack of transportation facilities, pucca road, lack of processing units, and lower prices of produce were major problems faced by producers in cashew nut marketing.

Rajan and Binilkumar (2004) in their study entitled "Spectral Study on Cashew Industry" highlights the weaknesses, opportunities, and threats in the cashew industry. It shows that youngsters are unwilling to work in the manual shelling process owing to the social status of workers in the industry, and comparatively lower wages. The prevalence of strong

trade unions and the lack of sufficient stockyards for raw nuts are the other areas of concern. The study also points out that under cultivation of cashew nuts annually results from reduced production of raw cashew nuts. As India faces competition in the cashew market from countries like Vietnam and Brazil, it suggests that the internal production of raw cashew nuts should be enhanced to sustain the cashew industry.

Sampal Pankaj (2004) explains the world cashew market scenario issues. Cashew Industry has gone through various changes, ups, and downs. Brazil and Vietnam are competitors to India in the world market. To compete in the international market, the internal production of raw nuts should be increased.

Shyam *et.al* (2004) analysed the constraints in the exports of fisheries by the exporters by using the Garette ranking technique. They observed the high cost of investment, scarcity of raw materials, the dictatorship of buyers, and low capacity utilization were the major problems encountered in the fisheries export. The additional cost of investment required for the processing plant given the “Europeans Union Guidelines and Approval” necessitated an exorbitant investment. The raw material shortage was acute with cut-throat competition among the exporters. Due to the non-availability of raw materials, there seems to be less utilisation of the plan which is about 20 percent less than the installed capacity.

Velavan (2004) in his study performance of cashew: A growth analysis observed the major production constraints were poor yield of cashew nuts, because of an age-old plantation, lack of financial support, irrigation facility, improper pest management, and high cost of pesticides. In addition to this, India was facing stiff competition from other exporting countries like Brazil and Vietnam in the export of cashew because of the devaluation of their currencies, non-availability of value-added kernels in consumer packets for exports, non-availability of the packing material of the international standards, inconsistency and the non-uniformity in quality of kernels for individual

brands and the markets value-added products from cashew were not available in the export from India.

Eswaraprasad (2005) analysed the constraints in the exports of Indian spices by the exporters by using the Garette ranking technique. The lack of stringent quality parameters as announced by western countries was rated as the foremost constraint in exports of spices followed by inadequate exportable surplus due to high domestic demand. The low productivity of Indian spices was ranked third by exporters followed by declining per unit realisation. The other constraints identified were the order of emergence of low-cost competition, the inadequate price for producers and non-availability of suitable inputs, lack of markets oriented agricultural extension, lack of crop insurance, and finally insufficient mechanisation of production and processing.

Thanki (2009) analysed the constraints faced by medicinal plant exporters. The major constraints were low international prices, lack of quality packing materials, fluctuation in the exchange rate, lack of suitable market surveys, and unorganised domestic markets.

A study carried out by Yadav (2010) from the economics and research departments of NABARD highlighted the improved technology adoption by cashew growers and identified the constraints like infrastructural deficiency and senile plantations, inadequate working capital, and unorganised marketing of cashew nuts. The study recommends phased replanting or recommended varieties, a high level of hygiene standards to be maintained by the processors, to achieve a higher growth rate of production and processing in the future, and setting up of cashew export zones, besides providing other facilities, would make contract farming arrangements feasible for cashew cultivation.

A study carried out by Desai *et.al* (2013) studied constraints of the supply chain of cashew entrepreneurs of the Konkan region. Were collected the micro and small cashew nut processing units. A total of 100 units (50 micro and 50 small) were selected by the

random sampling method. The majority 90 percent of the micro cashew nut processors and 92 percent of small cashew nut processors had constraints namely harvesting of immature cashew by the farmers. The majority 90 percent of the micro cashew nut processors and 70 Percent of small cashew nut processors had constraints about the irregular supply of electricity 90 percent of the micro cashew nut processors and 70 percent of small cashew nut processors had constraints about increasing prices of electricity.

Chandrashekar and Jeykumar (2014) conducted a study on the export potential of cashew from India with special reference to Kerala. The study aimed to identify the problems faced by cashew exporters from India and offer suggestions to overcome the difficulties and enhance the growth of the Indian cashew industry. They used both primary and secondary sources for collecting the data. The study found that shortage of cashew nuts, exchange rate fluctuations; infrastructure, competition, and financial problems were mainly faced by the cashew exporters in India. The study suggested integrated management of emerging pests and development of cost-effective, eco-friendly approaches, and the development of production and post-harvest technologies to improve product quality and minimize environmental impacts.

Mownika (2015) conducted a study on the value chain analysis of cashew nuts in the Srikakulam district of Andhra Pradesh. This study aimed to find out how the performance of value chains in the potential area at the Srikakulam District of Andhra Pradesh could be improved to bring sustainable development to India's cashew industry. The key players involved in the value chain of cashew nuts are producers, village traders, commission agents, wholesalers, retailers, and processors. The need for cashew board near the area, awareness programs for price arrival information, and improved technology needed before production are some of the solutions for those constraints.

Binu (2018) identified the problems faced by the cashew exporters in Kerala viz; which included insufficient domestic raw nuts, poor quality of cashew nuts, low productivity, scarcity of high-yielding varieties, inadequately skilled labour for the workforce,

problems of cashew workers, problems of cashew trade, and absence of research and development activities.

The literature related to the cultivation of cashew, and their roles in agriculture conducted by different states and outside of India were reviewed and it convincingly supported that the role of cashew export can be an appropriate measure to find out the position of cashew in India and to recognise the export marketing strategies used by the exporters in Kerala. The studies carried out in different states exclusively on the cashew industry in India, cashew export scenario in India, determinants of cashew export, constraints faced by the cashew industry etc. were reviewed under separate headings in this chapter and it confirms the need for including the current objectives in the research work. It should be noted that no study on marketing strategies for the export of cashew was identified in the literature reviewed for the study. Hence, it was decided to carry out the research, while the methodological aspects are narrated in the next chapter which included, the study period and location, data source, sample design, variables used and data collection and analysis techniques.

## **MATERIALS AND METHODS**

## **CHAPTER - III**

### **MATERIALS AND METHODS**

The study entitled “Marketing strategies for export of cashew in Kerala” aimed to analyse the trend and pattern in cashew exports, to analyse the export marketing strategies of cashew exporters, to identify the major determinants of cashew exports, and to examine the problems faced by cashew exporters. The methods used to study these objectives were explained in this chapter under the following heads.

1. Concepts used in the study
2. Location of the study
3. Source of data
4. Sample design
5. Variables measured
6. Data collection
7. Data analysis

#### **3.1 Concepts used in the study**

##### **3.1.1 Export**

Export meaning includes such manufactured goods and services which originate in one country, but are procured by another country. Export can be of services and goods of any type, and that may be traded through electronic transmission or traditional transportation like shipping.

##### **3.1.2 Export Marketing**

Export marketing is the practice by which a company sells products or services to a foreign country. Products are produced or distributed from the company’s home country to buyers in international locations.

### 3.2 Location of study

The study area was confined to the Kollam district in Kerala.

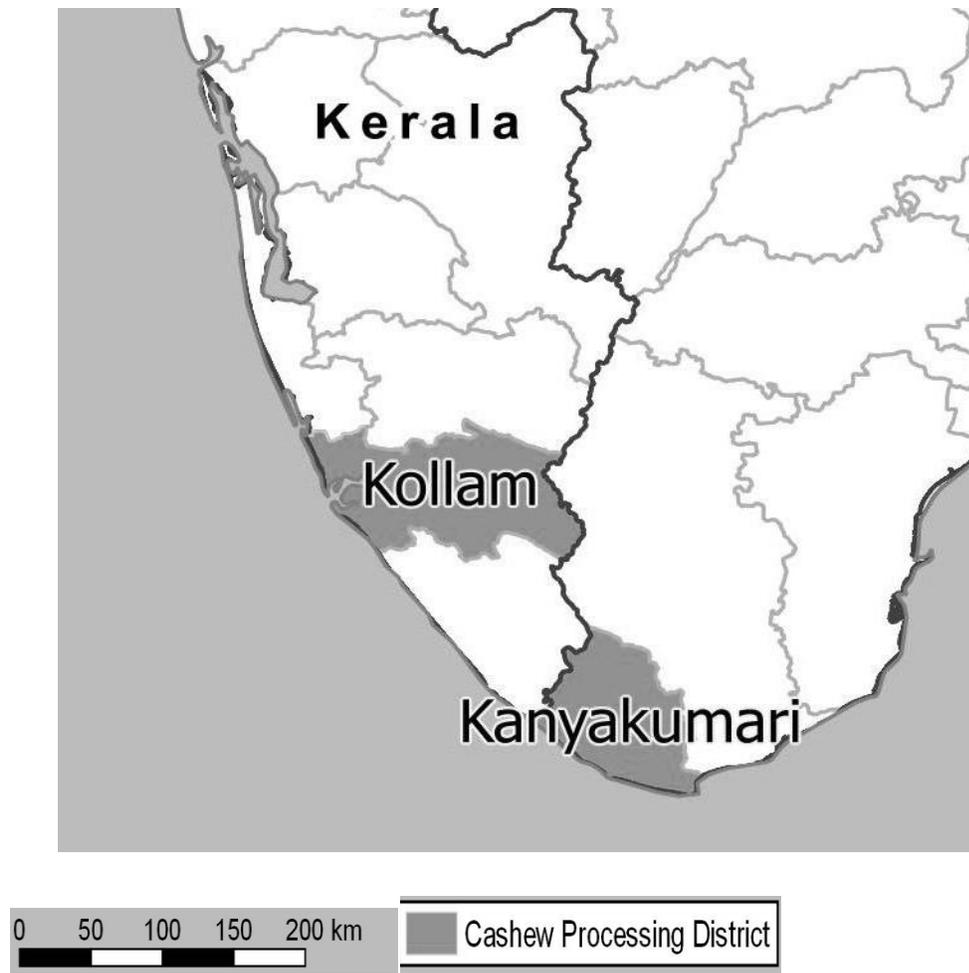


Figure 3.1 Location of the study  
(Source: Map of RCN production and processing in southern India)

### 3.3 Sources of data

Both primary and secondary data were used in the study.

### 3.4 Sample design

Primary data were collected from the cashew exporters of Kollam district in Kerala by using stratified random sampling technique. Out of the total cashew exporters those who have been continuously exporting cashew for the last five years were listed out (N=100). They were again stratified based on different legal forms and sample respondents were selected proportionately from each strata. The total number of 68 cashew exporters constituted the sample size.

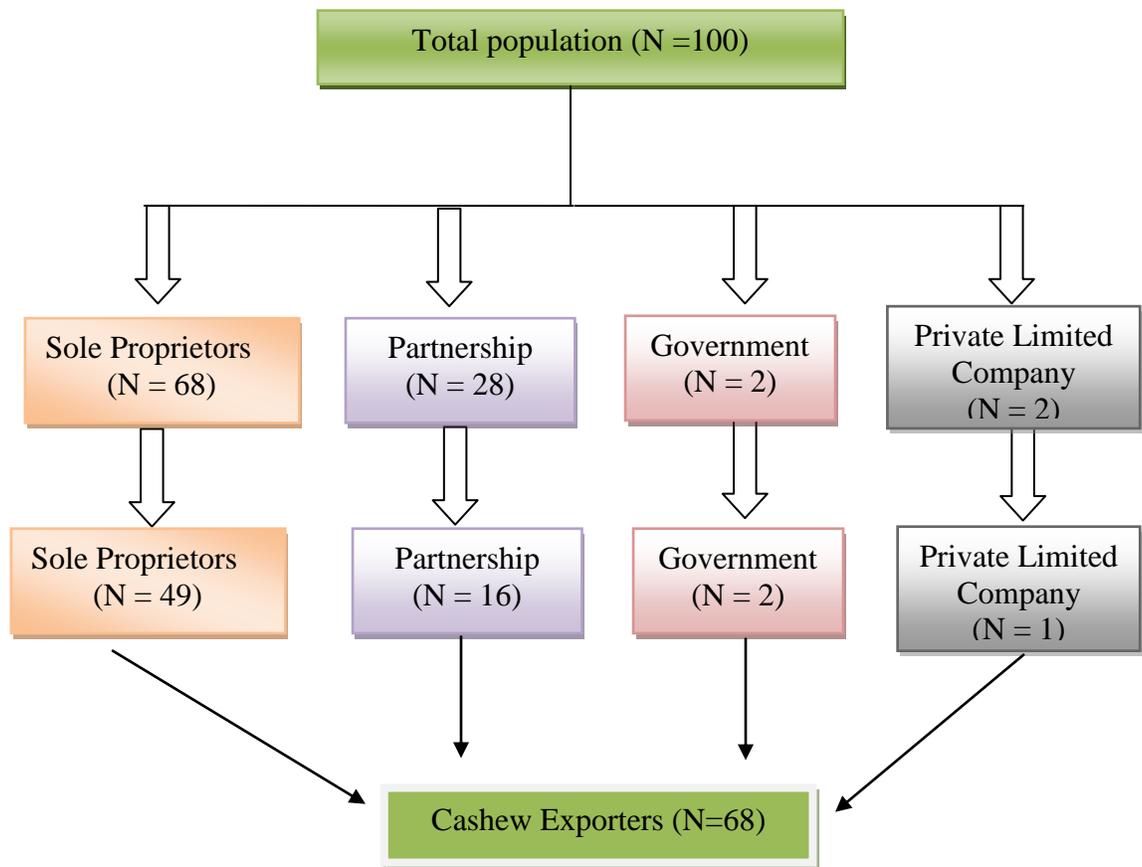


Figure 3.2 Sample design

### 3.5 Variables measured

Variables for each objective were listed based on the reviews of literature and also based on the expert's opinion. Identified variables and tools for analysis for each objective were given in table 3.1.

**Table 3.1 Variables and tools used for analysing the objectives**

Sl.no	Objectives	Variables	Tools
1.	To analyse the trend and pattern in cashew exports	<ul style="list-style-type: none"> <li>• Area, production, and productivity of the cashew</li> <li>• Export and import of the cashew</li> <li>• Value and quantity of the cashew</li> <li>• Country-wise export and import of the cashew</li> <li>• Price of the cashew.</li> </ul>	Annual Growth Rate, Compound Annual Growth Rate, Cuddy Della Valle Instability Index (CDVI), Kinked exponential method, Augmented Ducky Fuller test, GARCH model.
2.	To analyse the export marketing strategies of cashew exporters	<ul style="list-style-type: none"> <li>• The export market strategies (export market pricing strategy, promotional strategy, distribution strategy and product strategy).</li> </ul>	Market share and market growth model, descriptive frequency, percent method, SWOC analysis

3.	To identify the major determinants of cashew exports.	<ul style="list-style-type: none"> <li>• Legal, political, socio-cultural, geographical and economic and institutional factors</li> <li>• Export &amp; import policy of the country</li> <li>• International trade agreements</li> <li>• Market logistic factors</li> <li>• Competitive factors</li> <li>• Cost factors.</li> </ul>	Kendall's coefficient of concordance, indices, factor analysis
4.	To examine the problems faced by cashew exporters.	<ol style="list-style-type: none"> <li>1. Internal problems related to: <ul style="list-style-type: none"> <li>• Organisation structure</li> <li>• Production practices</li> <li>• Labour cost</li> <li>• Technology adoption.</li> </ul> </li> <li>2. External problems related to <ul style="list-style-type: none"> <li>• Political interventions</li> <li>• Free trade agreements</li> <li>• International quality standard problems.</li> </ul> </li> </ol>	Garette ranking method

### 3.6 Data collection

Both primary and secondary data were used in the study.

#### 3.6.1 Secondary data source

Secondary data was collected for analysing the trend and pattern in cashew exports. The data relating to the area, production, productivity of Kerala and India, Export and Import

of the cashew, country wise export and import of the cashew and Price of the cashew were collected from various sources Cashew Export Promotion Council of India (CEPCI), Ministry of Commerce, Directorate of Cashew nut and Cocoa Development Board (DCCD), Ministry of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Directorate General of Commercial Intelligence and Statistics (DGCIS), Agricultural and Processed Food Products Export Development Authority (APEDA) and UN Trade Statistics. The time series data were collected during the period from 2000-01 to 2019-20 (20 years) for variables like area, production, the productivity of cashew nuts in India, area, production, the productivity of cashew nut in Kerala, price of raw cashew nuts in Kerala, country-wise export and country wise import. The variables like import of raw cashew nut to India and export of cashew kernel from India, the data were collected during the period from 1990-91 to 2019-20 (30 years).

### **3.6.2 Primary data source**

Primary data were collected through pre-tested structured schedule for 68 cashew exporters (continuously exporting for the last five years), for analysing the objectives; to analyse the export marketing strategies of cashew exporters, identify the major determinants of cashew exports, and examine the problems faced by cashew exporters. The survey was conducted during the period from 2019-2020.

### **3.7 Data analysis**

The various tools used for analysing the objectives are described below.

#### **3.7.1 Growth Rate**

The growth rate method is a simple tool to calculate the growth of time series data. The growth rate is calculated by subtracting the past value from the present value, and the result obtained is divided by the past value. The growth rate is converted to a percent by multiplying the growth rate by 100.

$$\text{Growth rate} = \left[ \frac{\text{Present value} - \text{Past value}}{\text{Past value}} \right] * 100$$

### 3.7.2 Average Annual Growth rate (AAGR)

The Average Annual Growth Rate is the average increase or decrease in the value over a specified period. The Average Annual Growth Rate is determined by taking the numerical mean of specified year-to-year growth rates.

$$\text{Annual Growth Rate} = [(\text{growth rate})_y + (\text{growth rate})_{y+1} + \dots + (\text{Growth rate})_{y+n}] / N$$

**Where:**

- Growth Rate (y) – growth rate in year 1
- Growth rate (y+1) – growth rate in the next year
- Growth rate (y+n) – growth rate in the year “n”
- N - Total number of periods.

### 3.7.3 Compound Annual Growth Rate (CAGR)

The compound Annual Growth rate is the most commonly used measure of growth rate for the study of growth performance and thereby export performance. The compound annual growth rate is estimated using the:

$$\text{CAGR} = (V_{\text{final}} / V_{\text{begin}})^{1/t} - 1$$

**Where:**

- $V_{\text{begin}}$  – beginning value
- $V_{\text{final}}$  – final value
- t- Time in years

### 3.7.4 Co-efficient of Variation (CV)

The coefficient of variation is a statistical tool that represents the ratio of the standard deviation to the mean. It is a statistical tool for comparing the degree of variation from one data to another.

$$CV = (\sigma/\bar{X}) * 100$$

**Where:**

- CV is the coefficient of variation,
- $\bar{X}$  is the mean,
- $\sigma$  is the standard deviation

### 3.7.5 Standard deviation (SD)

Standard Deviation is the measure of the dispersion of a set of data from its mean. It measures the absolute variability of a distribution; the higher the variability, the greater the standard deviation.

$$\sigma = \sqrt{(\sum X - \bar{x})^2/n}$$

**Where:**

- X is the variables,
- $\bar{x}$  is the arithmetic mean,
- n is the number of observations

### 3.7.6 Cuddy Della Valle Index

The instability index is the analytical tool to find the instability or fluctuations in any time series data. Instability analysis in export quantity and value of cashew is studied using instability measures such as the Cuddy Della Valle Index and Coefficient of

Variation. The Cuddy Della Valle index is used to measure instability in data. This index de-trends the coefficient of variation when it is over-estimated and gives a clear direction of instability. The formula for CDVI is:

$$CDVI = CV \sqrt{1 - R^2}$$

Where CDVI is the instability index (in percent), CV is the coefficient of variation (in percent) defined as the ratio of the standard deviation to its mean, and  $R^2$  is the adjusted coefficient of determination.

The ranges of CDVI are given as follows:

Low instability – between 0 and 15

Medium instability – greater than 15 and lower than 30

High instability – greater than 30

### 3.7.7 Ordinary least square regression analysis

Ordinary least square regression is commonly named linear regression (simple or multiple), one of the most frequently used statistical methods. Regression analysis is a quantitative method used to test the type of relationships between a dependent variable and one or more independent variables. The basic form of the regression model includes unknown parameters, independent variables, and dependent variables. The regression equation is used to predict 'y' when the value of 'x' is given. Both 'y' and 'x' are two sets of measures of a sample size of 'n'. The linear regression equation is

$$y = a + bx$$

$$b = \frac{n\sum xy - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

$$a = \frac{\sum y - b\sum x}{n}$$

**Where,**

- $y$  = dependent variable
- $a$  = constant of the equation
- $b$  = slope of the regression equation
- $x$  = independent variable
- $n$  = number of observations.

Regression analysis helps to validate whether the predictor variables are good enough to help in predicting the dependent variable. The independent variable is a good predictor of the dependent variable when the coefficient of determination is high. The coefficient of determination,  $R^2$ , is the percent variation in  $y$  explained by  $x$ -variables. The value of  $R^2$  lies between 0 and 1. If  $R^2$  is high, it indicates that the higher amount of variability is explained by the model.

$$R^2 = 1 - (\text{RSS}/\text{TSS})$$
$$= \frac{\sum(y_i - \hat{y}_i)^2}{\sum(y_i - \bar{y})^2}$$

**Where,**

- $y_i$  = actual  $y$  value
- $\hat{y}_i$  = predicted value of  $y$
- $\bar{y}$  = mean of  $y$
- RSS – Residual sum of square
- TSS – Total sum of square

The adjusted R-squared is an improved version of the R-squared, which shows whether adding additional independent variables or predictors improves the regression model or not. A lower adjusted R-squared value denotes that the additional predictor variables do not add value to the model.

$$\text{Adjusted } R^2 = 1 - \frac{(1 - R^2)(N - 1)}{N - K - 1}$$

**Where,**

- $R^2$  – sample R – squares
- K- Number of independent variables
- N – Total sample size.

### **3.7.8 Market Share and Market Growth Model**

To examine the market growth and share of cashew exports and imports to different countries, the percent rate was fitted. The market share of cashew in different countries was also calculated using the percent share method against the total volume of cashew export from the country to different export and import destinations. The export share of India at major export destinations was presented using pie charts and tables.

### **3.7.9 Generalised Auto-Regressive Conditional Heteroscedasticity Model (GARCH)**

The generalised Auto-Regressive Conditional Heteroscedasticity Model (GARCH) was employed to examine the extent of volatility in production in India and Kerala, export and import volume, and price of raw cashew nuts in Kerala for the study period (2000-2020). The data were analysed using R – version 4.1.1. GARCH (p,q) is a general autoregressive conditional heteroscedasticity model. Its key aspects include:

**Autoregressive (AR):** Tomorrow's volatility is a regressed function of today's volatility, it regresses on itself.

**Conditional:** Tomorrow's volatility depends on the condition of the most recent variance. Unconditional volatility would not depend on today's variance.

**Heteroscedastic (H):** volatilities are not constant, they change over time.

GARCH regresses on ‘lagged’ or historical terms. The lagged terms are either variance or squared returns. The generic GARCH (p,q) model regresses on (p) squared returns and (q) variances. Therefore, GARCH (1,1) ‘lags’ or regresses on the last period’s squared return (i.e just 1 return) and last period’s variance (i.e just 1 variance).

GARCH (1, 1) is given by the following equation.

$$\Sigma^2_t = \mathbf{a} + \mathbf{b}r^2_{t-1,t} + \mathbf{c}\Sigma^2_{t-1}$$

The same GARCH (1, 1) formula given by Hull (1988) for the same GARCH equation as:

$$\Sigma^2_n = \gamma V_L + \alpha u^2_{n-1} + \beta \Sigma^{2n-1}$$

The first term ( $\gamma V_L$ ) is important because  $V_L$  is the long-run average variance. Therefore, ( $\gamma V_L$ ) is a product: it is the weighted long-run average variance. The GARCH (1, 1) model solves for the conditional variance as a function of three variables (previous variance, previous return squared and long-run variance):

$$\mathbf{h}_t = \alpha_0 + \alpha_1 r^2_{t-1} + \beta \mathbf{h}_{t-1}$$

Where,

$h_t$  = conditional variance

$\alpha$  = weighted long-run variance

$h_{t-1}$  = previous variance

$r^2_{t-1}$  = previous squared item

The sum of the weights assigned to the lagged variance and lagged squared return is persistence ( $b+c$  = persistence). A high persistence is where the sum of the weights assigned to the lagged variance and lagged squared return persistence = ( $b+c$ ) or ( $\alpha + \beta$ ), greater than zero but less than zero implies slow reversion to the mean. But if the

weights assigned to the lagged variance and lagged squared returns are greater than one (if  $b+c>1$ ), the model is stationary.

### 3.7.10 Augmented Dickey-Fuller (ADF)

Augmented Dickey-Fuller (ADF) test was carried out to test the stationarity of the time series data before running the GARCH model. The test was computed based on the following regression form:

Regression with Augmented Dickey-Fuller test:

$$\Delta Y_t = \alpha + \beta T + \delta Y_{t-1} + \gamma_i \sum \Delta Y_{t-i} + e_t$$

Where the lag difference from “0 to 1” were considered to regress the ADF test

The hypothesis is:  $H_0: \delta=0$  (unit root)

$$H_1: \delta \neq 0$$

Decision rule:

If the ADF test is  $>$  ADF critical value, implies accepting the null hypothesis.

If the ADF test is  $<$  ADF critical value, implies rejecting the null hypothesis.

### 3.7.11 Descriptive Frequency and Percent Method

One of the most frequent ways to represent statistics is by percent. Percent simply means "per hundred" and the symbol used to express percent is %. One percent (or 1%) is one-hundredth of the total or whole and is therefore calculated by dividing the total or whole number by 100. In the study, the frequency and percent analysis were employed to figure out the type of export marketing strategies that are currently being implemented, those that are being planned to be implemented in the future and strategies which were implemented before but not presently applicable to cashew export firms in Kerala.

### **3.7.12 Kendall's Co-efficient of Concordance**

Kendall's W, or Co-efficient of Concordance, was developed as a measure of association, with the N blocks representing N independent judges, each one assigning ranks to the same set of K applicants (Kendall and Babington – Smith, 1939). Kendall's W measures the extent to which the N judges agree on their rankings of the K applicants. Kendall's W bears a close relationship to Friedman's test; Kendall's W is a scaled version of Friedman's test Statistic:

$$W = T_F / N (K-1)$$

The scaling ensures that  $W = 1$  if there is perfect agreement among the N judges in terms of how they rank the K applicants. On the other hand, if there is perfect disagreement among the N judges  $w = 0$ . The fact that the judges don't agree implies that they don't rank the K applicants in the same order. So each applicant will fare well at the hands of some judges and poorly at the hands of others. Under perfect disagreement, each applicant will fare the same overall and will thereby produce an identical value for  $R_j$ . This common value of  $R_j$  will be  $R$ , and as a consequence,  $W = 0$ .

Thus, the inferential statistical test- Kendall's W Test (Co-efficient of Concordance) was fitted to determine if there are any significant differences in the various rankings of legal, political, socio- cultural, geographical and economic and institutional factors, export & import policy of the country, international trade agreements, market logistic factors, competitive factors, cost factors in influencing the success of Kerala cashew export firms.

### **3.7.13 Regression analysis using a dummy variable**

In regression analysis, a dummy variable (also known as indicator variable or just dummy) takes the values 0 or 1 to indicate the absence or presence of some categorical effect that may be expected to shift the outcome.

Fitted regression model equation is:

$$\mathbf{Ln}_{ec} = \alpha_0 + \alpha_1 \mathbf{ln}_{Irc} + \alpha_2 \mathbf{ln}_{prc} - \alpha_3 \mathbf{ln}_{Ip}$$

Where;

$\mathbf{Ln}_{ec}$  = Export of cashew kernel

$\alpha_0$  = Intercept

$\alpha_1 \mathbf{ln}_{Irc}$  = Import of raw cashew nut

$\alpha_2 \mathbf{ln}_{prc}$  = Production of raw cashew nut

$\alpha_3 \mathbf{ln}_{Ip}$  = International price of cashew kernel

Use this equation to find the variables that influence the export of cashew from India.

### 3.7.14 Kinked exponential model

To estimate the growth rates, an exponential model of the type  $Y_t = ae^{bt}$  ( $\ln_e Y_t = \log a + bt$ ) has been fitted, using the least squares technique. The year-wise growth rate has been estimated by fitting the kinked exponential function (Boyce, 1986). In this function, the discontinuity between segments of year-wise regression (if separate exponential trend lines were fitted for different periods) is eliminated by imposing linear restrictions. The single kink employed is used for the analysis and the model is explained below.

#### 3.7.14.1 Single kink model

In the single – kink model, a time series for the period  $t=1,2,3,\dots,n$  is broken at point  $k$ . discontinuous growth rate estimates for the resulting sub-periods could be derived by estimating them separately or equivalently, by fitting the single equation:

$$\ln Y_t = \alpha_1 D_1 + \alpha_2 D_2 + (\beta_1 D_1 + \beta_2 D_2) t + u_t$$

Where  $D_j$  is a dummy variable, which takes the value 1 in the  $j^{\text{th}}$  sub period and 0 otherwise. The discontinuity between the two trend lines can be eliminated via a linear restriction such that they intersect at the breaking point  $k$ :

$$\alpha_1 + \beta_1 k = \alpha_2 + \beta_2 k$$

Substituting for  $\alpha_2$  (and noting that  $\alpha_1 D_1 + \alpha_2 D = \alpha_1$ ), we get restricted form:

$$\ln Y_t = \alpha_1 + \beta_1 (D_1 t + D_2 k) + \beta_2 (D_2 t - D_2 k) + u_t$$

The linear squares of  $\beta_1$  and  $\beta_2$  give the exponential growth for the two sub-periods. There is a kink between the two –trend lines  $\beta_1 \neq \beta_2$ .

### 3.7.15 Indices

Indices were calculated based on a five-point Likert scale of summated rating.

$$\text{Indices} = \frac{\sum_{i=1} \sum_{j=1} S_{ij}}{\sum \text{Max } S_j}$$

I = respondent

J = factor

$S_{ij}$  = total score of the  $j^{\text{th}}$  factor of  $i^{\text{th}}$  respondent.

Max  $s_j$  = maximum score of  $j^{\text{th}}$  factor.

The intensity of the problem was interpreted based on the range of Indices score.

Range of score	Interpretation
$2 * SD + \text{Mean}$	High contribution
$SD + \text{Mean}$	Good contribution
$(SD + \text{Mean})$ between $(SD - \text{Mean})$	Average contribution
$SD - \text{Mean}$	Less contribution
$2 * SD + \text{Mean}$	Unfavourable

From this, scores were calculated for each factor and find out the mean rank by dividing the individual score by the total score of all factors.

### 3.7.16 Garratt ranking Method

An attempt is made to recognise the problems faced by the Cashew exporters in Kerala. The identified problems of exporters are ranked by making use of Garrett's Ranking Technique. The technique was used to rank the preference mentioned by the respondents on different problems. It is used to find the most significant factor which had influenced the respondent in their exporting process. Founded on Garret's Ranking technique, the study had the respondents rank different problems and outcomes based on their impact thereby converting them into score values and ranking with the help of the following formula:

$$\text{Percent position} = \frac{100 (R_{ij}-0.5)}{N_j}$$

Where  $R_{ij}$  = Rank given for the  $I^{\text{th}}$  variable by  $j^{\text{th}}$  respondents  $N_j$  = Number of variable ranked by  $j^{\text{th}}$  respondents With the help of Garrett's Table, the percent position estimated is converted into scores by referring to the table given by Garret and Woodworth (1969). Then for each factor, the scores of each individual are added and then the total value scores and mean values of the score are calculated. The factors having the highest mean value is considered to be the most important factor. (Garrett ranking conversion table presented in Annexure –II)

### 3.7.17 Factor analysis

Factor analysis is used to uncover the latent structure of a set of variables. It reduces attribute space from a large no. of variables to a smaller no. of factors and as such is a non dependent procedure.

#### **Steps in Exploratory Factor Analysis:**

1. Collect data: choose relevant variables.
2. Extract initial factors (via principal component).

3. Choose number of factors to retain.
4. Choose estimation method, estimate model.
5. Rotate and interpret.
6. (a) Decide on changes need to be made ( e.g. drop items include items)  
(b) Repeat (4), (5).
7. Construct scales and use on further analysis.

Based on the concepts and methodologies stated above, the objectives of the study were analysed and results and discussions were presented in chapter IV.

## **RESULTS AND DISCUSSIONS**

## **Chapter IV**

### **RESULTS AND DISCUSSION**

The present study “Marketing strategies for export of cashew in Kerala” is aiming to analyse the trend and pattern in cashew exports, to analyse the export marketing strategies of cashew exporters, to identify the major determinants of cashew exports, and to examine the problems faced by them. The analysis is based on secondary and primary data. Trend and pattern of cashew exports were analysed based on the secondary data collected from the period of 20 years from 2000 - 01 to 2019 - 20. For the objectives, a pre-tested structured schedule was used for each cashew exporter in the Kollam district. The analysis of the objectives is presented under the following four heads:

1. The trend and pattern in cashew exports.
2. The export marketing strategies of the cashew exporters.
3. The major determinants of cashew exports.
4. The problems faced by the cashew exporters.

Primary data were collected from the exporters of Kollam district in Kerala. A sample of 68 cashew exporters who have been continuously exporting cashew for the last five years were selected through stratified random sampling method. Besides, time-series data was collected from different authenticated sources like Cashew Export Promotion Council of India (CEPCI), the Ministry of Commerce, Directorate of Cashew nut and Cocoa Development Board (DCCD), United Nations Conference on Trade and Development (UNCTAD), Department of Economics and Statistics, Ministry of Agriculture and Farmers Welfare.

Analytical models such as Annual Growth Rate (AGR), Compound Annual Growth Rate (CAGR), Cuddy Della Valle Instability Index (CDVI), Augmented Duckey Fuller test, Generalised Auto-Regressive Conditional Heteroscedasticity (GARCH), Kinked Exponential method, Market Share and Market Growth Model, Descriptive Frequency, Percent method, Kendall’s Co-efficient of Concordance, Garette Ranking Method were

computed to analyse the data. Statistical Package for Social Sciences (SPSS) and Advanced Excel analysis computer packages were used to generate results.

## **OBJECTIVE I**

### **4.1 Trend and pattern in cashew exports**

To analyse the trend and pattern in cashew exports, time series data were collected from different authenticated sources. For analysing the trends in cashew exports; area, production, productivity of cashew nuts in India, import of raw cashew nuts to India, export of cashew kernel from India, area, production, the productivity of cashew nut in Kerala and price of raw cashew nut in Kerala variables were taken for the study. For analysing the pattern in cashew exports; variables like country wise export and country wise import were taken.

The time series data were collected during the period from 2000-01 to 2019-20 (20 years) for variables like area, production, the productivity of cashew nuts in India, area, production, the productivity of cashew nut in Kerala and price of raw cashew nuts in Kerala, country-wise export and country wise import. The variables like import of raw cashew nuts to India and export of cashew kernel from India, the data was collected during the period from 1990-91 to 2019-20 (30 years). The session was presented in the following subheads:

#### **4.1.1 Trend in area, production and productivity of cashew in India**

India is the largest area holder of cashew crop. The cultivation of cashew in India is confined mainly to coastal areas. Cashew, as a marketable commodity, has a very important role in the liberalised Indian economy. It is an important plantation crop grown in wasteland due to its utility in soil conservation and help in the buildup of a balanced ecosystem. It is grown in Maharashtra, Andhra Pradesh, Orissa, Karnataka, Kerala, Goa, Tamil Nadu and West Bengal along the east coast. A large number of small and marginal farmers, especially those living in the coastal belts of India, depend on cashew for their cultivation. It occupies an important position along with traditional crops like coffee,

pepper and cardamom. For analysing the area, production, and productivity of cashew in India, 20 years (2000-01 to 2019-20) of data was taken for the study. The following Table 4.1 represents the area, production and productivity of cashews in India.

**Table 4.1 Area, production, and productivity of cashew in India**

<b>Years</b>	<b>Area (In'000 Hectare)</b>	<b>Annual growth rate of area (%)</b>	<b>Producti on (In'000 MT)</b>	<b>Annual growth rate of production (%)</b>	<b>Productivity (In MT/Hectare )</b>	<b>Annual growth rate of productivi ty (%)</b>
2000-01	720		450		0.6	
2001-02	770	6.94	472	4.88	0.6	0
2002-03	770	0.00	506	7.20	0.7	16.67
2003-04	780	1.29	535	5.73	0.7	0
2004-05	820	5.12	544	1.68	0.7	0
2005-06	837	2.07	573	5.33	0.7	0
2006-07	854	2.03	620	8.20	0.7	0
2007-08	868	1.63	665	7.25	0.8	14.29
2008-09	893	2.88	695	4.51	0.8	0.00
2009-10	923	3.35	613	-11.7	0.7	-12.50
2010-11	945	2.38	653	6.52	0.7	0.00
2011-12	979	3.59	725	11.02	0.7	0.00
2012-13	991	1.22	752	3.72	0.8	14.29
2013-14	1011	2.01	753	0.13	0.7	0.00
2014-15	1030	1.87	745	-1.06	0.7	-12.50
2015-16	1037	0.68	671	-9.93	0.6	-14.29
2016-17	1041	1.89	745	11.02	0.8	33.33
2017-18	1062	8.58	817	9.66	0.8	0.00
2018-19	1105	4.04	743	-9.05	0.7	-12.50
2019-20	1125	1.81	703	-5.38	0.6	-14.29

<b>AAGR</b>	2.41	2.61	0.65
<b>CAGR</b>	2.38	2.38	0.00

**Source:** Ministry of Agriculture and Farmers Welfare, Govt. of India.

From table 4.1, it can be seen that the compound annual growth rate of the area of cashew showed a growth of 2.41percent, which indicated positive growth in the area from 2000-01 to till 2019-20. The Compound Annual Growth Rate of the production of cashew is 2.38 percent. The table shows that productivity during the period was almost stagnant. Whereas, the Average Annual Growth Rate of cashew production is 2.61 percent and that of productivity is 0.65 percent.

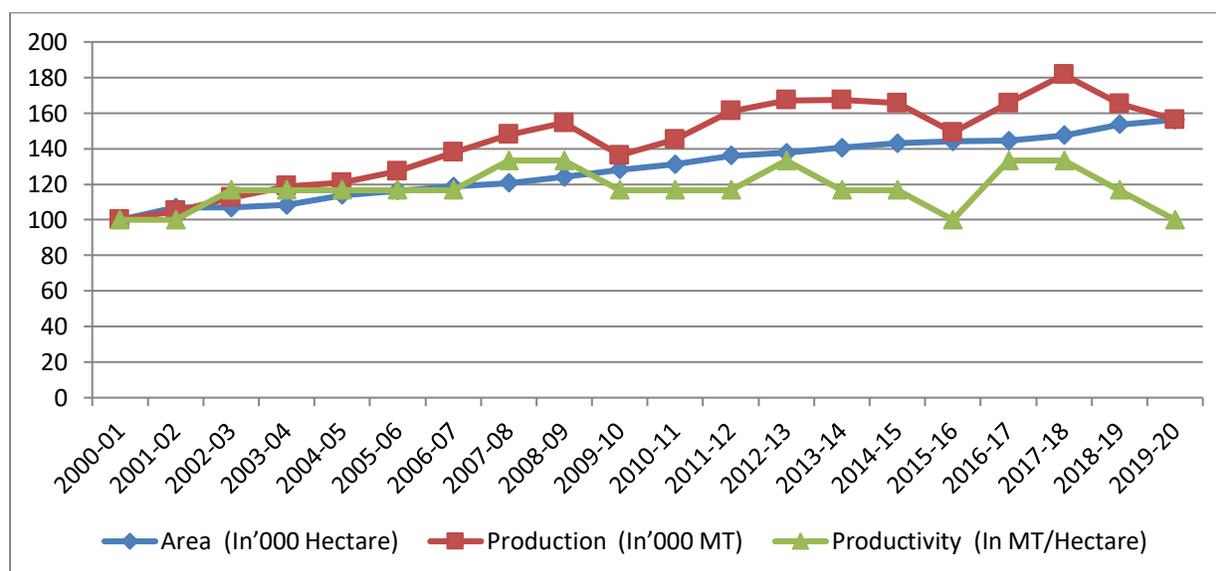


Figure 4.1 Trend in area, production, and productivity of cashew in India (2000-01 to 2019-20)

Note: The values are indexed to 100 during the first year

Figure 4.1 depicts the growth in the area, production, and productivity of cashew in India over the 20 years from 2000-01 to 2019 - 20. The period from 2000 to 2020 showed an increasing trend in the area under cultivation, which attributed to more wasteland being brought under cultivation by the farmers in Bihar, Jharkhand and Orissa. This was facilitated by government interventions for plantations in wastelands; watershed areas

and subsidy support for private plantations. There were the major reasons for the increased area of cashew plantations in India (Binu, 2018, Jermi, 2018, CEPCI, 2020).

Production of cashew has not increased in comparison with the area of cultivation. The percent growth of the production during the period from 2000-01 to 2008-09 showed an increasing trend. Balamurugan (2011) stated that it is due to the spread of cultivation of cashew in the non growing areas of Bihar, Jharkhand and Orissa. The production has enhanced due to the fertility of the soil and also many farmers started to use wasteland for planting cashew, which may increase the growth rate of both area and the production of cashew in India. Later in the year 2009-10 a negative growth rate was noticed in production (-11.79%). Chandrasekaran (2014), his study mentioned that due to the rampant disease spread to an endemic level which resulted in the complete collapse of the production process. The attack of major pests in cashew and the poor-quality seedlings also contributed to decline in the production. During the year 2011-2014 showed an increasing trend due to the shift of Maharashtra to a high yielding variety of seeds to promote cashew, with the support of the State Government. This became a persuading factor for farmers to improve cashew production (Binu, 2018). The period 2014-2016 witnessed a decline in production (-9.93%) due to that farmers faced a lot of problems such as a lack of innovations to congregate the emerging demands and ineptitude to update the systematic and scientific development programs (Chandrasekaran, 2014). In 2016-17 cashew production (11.02%) recorded the highest production, due to the improved management practices adopted by the farmers in Maharashtra (Binu, 2018). After 2017, the production of cashew India has declined, due to natural calamities like floods, landslides (CEPCI, 2020).

The productivity of cashew has not increased in comparison with the area of cultivation. The percent growth of productivity during the period from 2000 to 2009 showed a stable trend. Later on the years 2009-10 (-12.50%), 2014-2016 (-14.29%), and 2018-2020 (-

14.29%) a negative growth rate was noticed in productivity. The deviation in the growth rate of production was reflected in the productivity of cashew in India.

#### **4.1.2 Trend in import of Raw Cashew Nut (RCN) to India**

India despite being the largest producer of raw cashew nuts in the world was also the largest importer in the world. Apart from her domestic production of raw cashew nuts, a large volume was imported to meet her processing requirements. Earlier the import of raw cashew nut has identified in three phases and which explained his study (Bhoodes, 2012). In the first phase (the 1980s), apart from the entire import, a major portion of domestic production of the raw nut was used to meet the exports. The second phase (the 1990s) witnessed an equilibrium situation where the imports of raw nuts were balanced against the exports of kernels. In the third phase (after the 2000s), apart from the entire domestic production of raw nuts, a major portion of imported nuts was used to cater to the needs of domestic demand for kernels. India does not produce sufficient quantities of raw cashew nuts required for export demand and had to resort to importing cashews from other countries. Indian cashew is known for superior quality in the international market. The quantity and value of imports from India for the last 30 years (1990 – 91 to 2019- 20) are analysed in Table 4.2.

**Table 4.2 Import of raw cashew nut to India**

Years	Quantity of Imports (in '000 MT)	Annual growth in quantity (%)	Value of Imports (Rs. Crores)	Annual growth in value (%)
1990-91	82	0	134	0
1991-92	106	29.27	266.68	99.01
1992-93	134	26.42	376.33	41.12
1993-94	191	42.54	482.7	28.27
1994-95	228	19.37	690.94	43.14
1995-96	232	22.04	760.09	10.01
1996-97	236	22.63	687.57	-9.54
1997-98	240	25.66	743.95	8.20
1998-99	247	26.96	766.00	2.96
1999-2000	253	36.02	1186.0	54.83
2000-01	249	-1.58	960.84	-18.98
2001-02	355	42.57	949.25	-1.21
2002-03	401	12.87	1230.60	29.64
2003-04	452	12.76	1400.93	13.84
2004-05	578	27.96	2190.94	56.39
2005-06	565	-2.33	2162.95	-1.28
2006-07	586	3.65	1811.62	-16.24
2007-08	605	3.40	1746.80	-3.58
2008-09	605	-0.02	2632.41	50.70
2009-10	752	24.26	3037.09	15.37
2010-11	529	-29.68	2649.56	-12.76
2011-12	809	52.98	5338.60	101.49
2012-13	898	10.95	5331.70	-0.13
2013-14	776	-13.60	4564.00	-14.40
2014-15	940	21.19	6570.93	43.97
2015-16	958	1.86	8561.01	30.29
2016-17	770	-19.61	8839.42	3.25
2017-18	649	-15.76	8850.03	0.12
2018-19	835	28.72	10929.0	23.49
2019-20	938	12.28	8861.58	28.92
<b>AAGR</b>	10.27		20.23	
<b>CAGR</b>	8.77		15.55	

**Source:** Ministry of Commerce and Industry, Govt. of India.

From table 4.2 the average annual growth rate of the volume and value of imported raw cashew nuts showed positive growth of 10.27 percent and 20.23 percent respectively. The CAGR of imported volume (8.77%) and value (15.55%) also show positive growth.

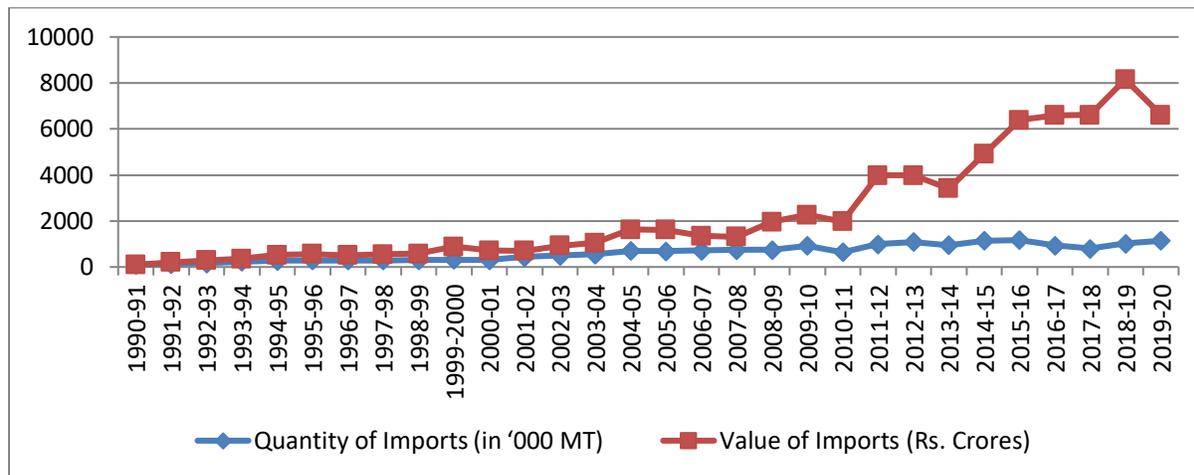


Figure 4.2 Trend in import of raw cashew nuts to India

Note: The values are indexed to 100 during the first year

The figure shows the quantity and value of raw cashew nuts imported by India from 1990 - 91 to 2019 - 20. The cashew nut processing industry in India partly relied on the imported raw cashew nut owing to inadequate production of the same within the country. Table 4.2 and Figure 4.2 revealed that the quantity of raw cashew nuts imported to India grew steadily from early 1990 to 2020. India imported 82 thousand metric tonnes of raw cashew nuts during the year 1990-91 and it showed an increasing trend (36.02%) up to the year 1999-2000. During that period India was the largest importer of cashew kernel from India, the less production of domestic cashew nut could not meet the demand of international buyers. So, India depend imported raw cashew nut.

During the year 2000-01 showed a decline trend in the import of raw cashew nut due to the fall in the cashew nut production in Africa due to the combination of biological, agronomic and socio cultural factors (Andrigetti, 2011). In 2002- 05 showed an increasing trend due to the low price of imported raw cashew nut from Africa compared to domestic raw cashew nut (Kumar 2007). In the year 2005-06 the import growth rate

declined by -2.33 percent. Arvindakumar (2015) stated that less production of raw cashew nuts in African countries (it was in grown poor condition, the cashew trees are more than 15 years old, and some had disappeared in fire) were the reasons for the decline the import in India during that period.

In 2008-09 the import growth rate has declined by -0.02 percent respectively. The poor handling of raw cashew nuts which increased the spoilage rate was the major reason for the decline in the import of raw cashew nuts to India stated by Arvindakumar (2015). The year 2010–11, the import of raw cashew nuts has decreased due to African countries improved the processing capacity (UNCTAD, 2019). In 2012 -13, showed an increasing trend in the import of raw cashew nut to India because, African countries could not absorb the full yield of raw cashew nut in their country. In 2013-14, the quantity of imported raw cashew nuts to India shows a negative growth of -13.60 percent. The major reasons for the decrease in imports noted by Veeranjaneya (2018) were the imposition of duty on imported raw cashew nuts and an increase in raw nut prices. During 2014-15 quantity of raw cashew imported had risen from -13.60 (2013-14 year) to 21.19 percent. Veeranjaneya (2018) in his study stated that the increased processing capacity in India on account of the increase in the number of processing units was the major reason for the increase in the import of raw cashew nuts to India.

The period from 2016 to 2018, witnessed a negative growth in imports to the tune of 19.61 and -15.76 percent due to the higher price of raw cashew nuts (CEPCI, 2020). After 2018, the imported duty has reduced from five percent to 2.5 percent (CEPCI, 2020). Raw cashew nut availability was the major challenge for cashew processing units. The domestic production of cashew nuts met half of the demand by cashew processing units. The entry of African countries into the cashew nut processing industry may adversely affect the future of a country like India.

Trends in the import of raw cashew nuts for thirty years are examined using the kinked exponential model and are shown in Figure 4.3.

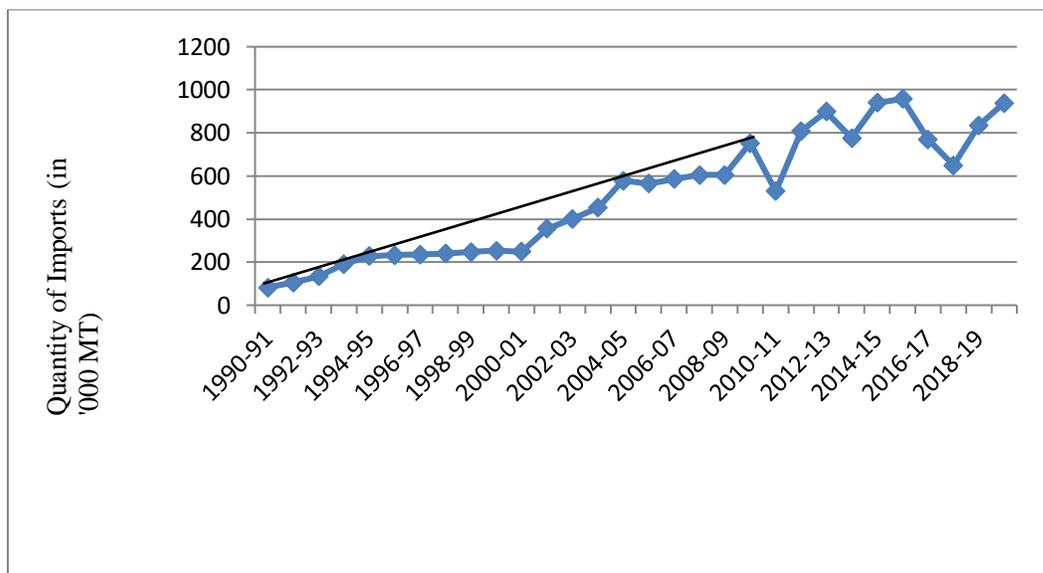


Figure 4.3 Trend in import of raw cashew nut  
(Source: Ministry of Commerce and Industry, Govt. of India)

To make a comparative analysis of the growth rate between the years 1990-91 to 2009 - 10 and 2011-12 to 2019-20, the kinked exponential model is used. Table 4.3 shows the results of the kinked exponential model for the import of raw cashew nuts to India.

**Table 4.3 Trend in import of raw cashew nut**

Model	Co-efficient	t value	Sig.
Constant	4.605	28.881	0.000
t	0.092	7.262	0.000
di	3.151	2.628	0.014
dit	-.126	-2.658	0.013
The growth rate for the I phase (1990 – 2010)		92 percent	
The growth rate for the II phase (2011 – 2020)		-28.82 percent	

The growth rate for the import of raw cashew nuts was 92 percent during the period 1990-91 to 2010, whereas -28.82 percent from 2011-12 to 2019-20. The African Government banned the export of Raw Cashew Nut (RCN) in 2009 by land transportation to avoid smuggling and to ensure the collection of the export tax at seaports; however, they lifted the ban for 90 days in 2010 as the domestic processing industry could not absorb the full yield of Raw Cashew Nut (RCN). Subsequently, they started to improve their processing capacity which reduced the share of import of Raw Cashew Nuts (RCN) to India (UNCTAD, 2019). To conclude, the trend analysis has revealed a statistically significant growth differential in the import of raw cashew nuts to India from 2010-11 to 2019-20.

#### **4.1.3 Trend in the export of cashew kernel from India**

India is the largest producer, exporter and processor of cashew nuts. Cashews are the crop that earns sizeable foreign exchange income for most countries. Indian cashew was known for their quality, taste and appearance in the international market. The quantity and value of exports from India for the last 30 years (1990 – 91 to 2019 – 20) are analysed and depicted in Table 4.4.

**Table 4.4 Export of cashew kernel from India**

<b>Years</b>	<b>Quantity of exports (in '000 MT)</b>	<b>Annual growth in quantity (%)</b>	<b>Value of exports (Rs. Crores)</b>	<b>Annual growth in value (%)</b>
1990-91	49	0	442	0
1991-92	50	4.08	669	51.36
1992-93	53	12.77	745	11.36
1993-94	69	30.19	1046	40.40
1994-95	70	11.59	1246	19.12
1995-96	72	11.62	1240	-0.48
1996-97	74	11.66	1285	3.63
1997-98	76	11.76	1396	8.64
1998-99	86	15.32	1630	16.76
1999-2000	92	22.67	2569	57.61
2000-01	89	-3.26	2049.60	-20.22
2001-02	98	10.14	1788.70	-12.72
2002-03	127	29.55	2006.40	12.17
2003-04	100	-20.75	1804.43	-10.06
2004-05	126	25.62	2709.24	50.14
2005-06	114	-9.88	2514.86	-7.17
2006-07	118	3.85	2455.15	-2.37
2007-08	114	-3.54	2288.90	-6.77
2008-09	109	-4.21	2988.40	30.56
2009-10	108	-1.28	2905.82	-2.76
2010-11	105	-2.18	2819.39	-2.97
2011-12	130	23.74	4383.80	55.48
2012-13	100	-23.50	4046.20	-7.70
2013-14	114	14.67	5058.70	25.02
2014-15	118	3.62	5432.90	7.39
2015-16	96	-19.00	4952.10	-8.85
2016-17	82	-14.57	5168.80	4.37
2017-18	84	2.49	5871.00	13.58
2018-19	66	-20.93	4434.00	-24.47
2019-20	67	1.43	3867.16	-12.78
<b>AAGR</b>	2.12		9.61	
<b>CAGR</b>	1.08		7.77	

**Source:** Ministry of Commerce and Industry, Govt. of India

India's cashew nut export varied from 49 thousand tonnes in 1990 to 67 thousand tonnes in 2019–20, which represented an average annual growth of 2.12 percent.

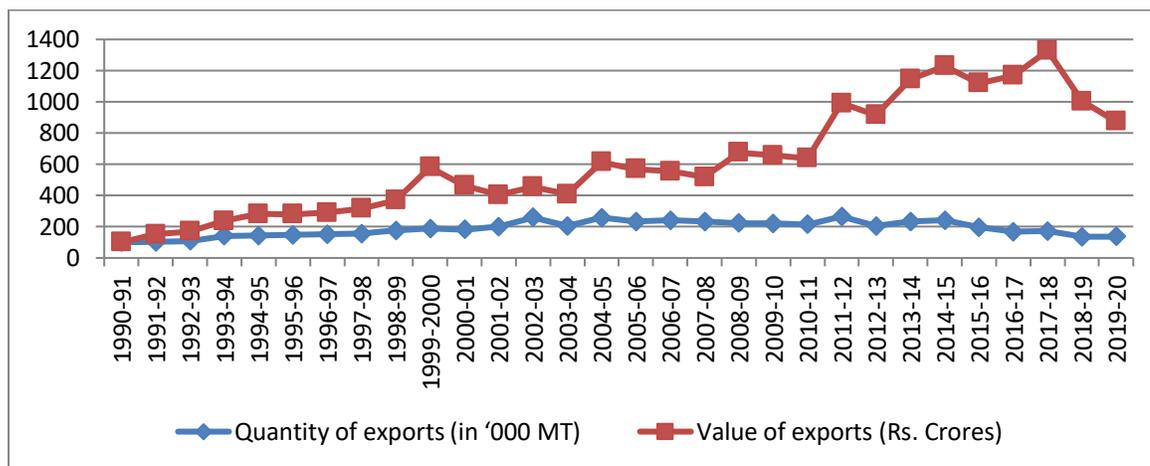


Figure 4.4 Export of cashew kernel from India

Note: The values are indexed to 100 during the first year

Figure 4.4 depicts the volume and value of cashew kernel exported by India during the year 1990- 2020. It can be observed that the quantity of cashew kernels exported from India grew steadily in the early 1990s with a growth rate of 22.67 percent till 1999-2000, due to increased production during that year (Table 4.1). In the year 2000-01, the export of cashew kernel showed a decreasing trend (-3.26%). The buyers started to depend on the Philippines for cashew kernel at lower prices, which affected the fall of cashew export from India (Jethu, 2012). The export of cashew kernel shows a negative growth rate in the year 2003-04 (-20.75%), Chandrasekaran (2014) noted that the stoppage of five percent export incentive as per Vishesh Krishi Upaj Yojana. Due to this reason exporters were park their products in domestic rather than sending it to abroad.

In 2005-06, the export of cashew kernel showed a growth rate of -9.88 percent. Chandrasekaran (2014) pointed out that the reflection of the improved processing and export of cashew by Vietnam and Brazil during that period was the major reason for the decline in the share of cashew kernel from India. From the year 2007 to 2011, the export

of cashew shows a negative growth rate of -3.54 and -2.18 percent respectively. As per the study of Jermi (2018), due to the tough competition in the world market, the competitors like Vietnam and Brazil sell all grades of cashew kernel at a lower price which in turn affected the export of cashew. During the year 2011-12 showed an increasing trend in the export of cashew kernel from India, due to the high demand of Indian cashew from European countries (Aravindakumar, 2015).

The year 2012-13, showed a declining trend due to the various flavours of value added cashew kernels offered by Vietnam at cheaper prices (Mahantesh, 2018). In 2014-15 shows a negative growth rate (23.50%) in the quantity exported to different countries due to the increased domestic demand for cashew kernels stated by Aravindakumar (2015). The year 2015 to 2017 also showed a decline in the quantity of cashew export. There was a fall in the export incentive to three percent from five percent and an increase in wages in states like Kerala, Karnataka, and Tamil Nadu have pushed up the cost of production for the cashew industry which automatically reduce the share of cashew kernel from India during the period 2015-17 (Annual report of CEPCI, 2019). Export of cashew kernels during 2018-19 declined; due to various reasons including the imposition of import duty on RCN and slashing down of Export Incentives (Merchandise Exports from India Scheme) from three percent to two percent on shipment base (Free Trade Agreement, 2015-2020).

The trend in the export of cashew nuts is presented in Figure 4.5. To examine if there is a statistically significant differential growth rate kinked exponential model was used.

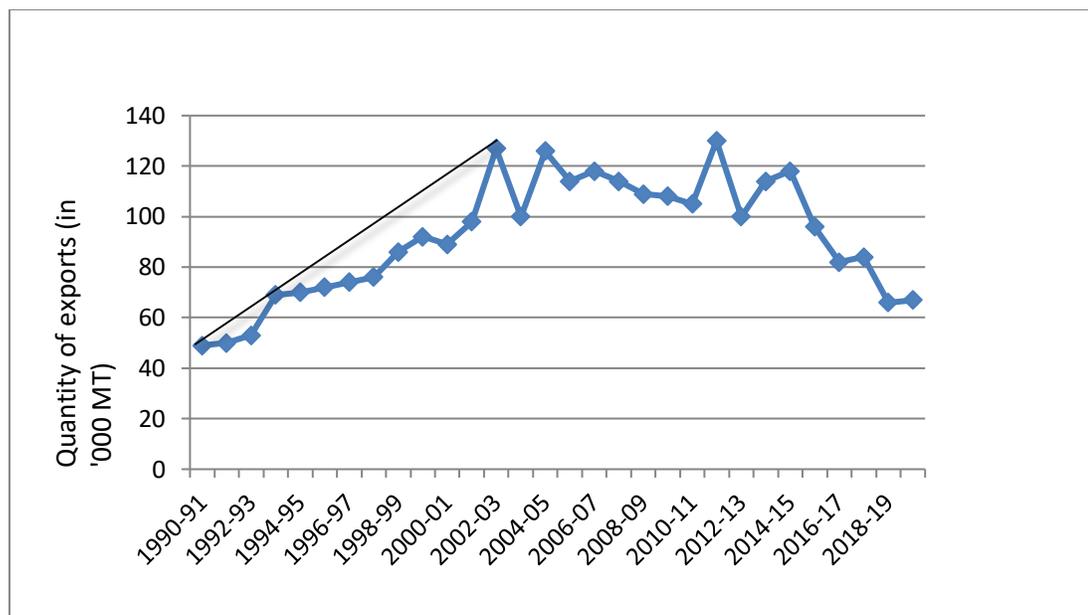


Figure 4.5 Trend in the export of cashew kernel

As mentioned in the above paragraph, the kinked exponential model has been employed to estimate the growth rates for the two periods from 1990 - 2003 to 2004 to 2020 and test their significance shown in Table 4.5.

**Table 4.5 Trend in the export of cashew kernel**

Model	Co-efficient	t value	Sig.
Constant	3.692	19.722	0.000
t	0.077	3.261	0.003
di	2.474	6.164	0.000
dit	-.141	-4.959	0.000
The growth rate for the I phase (1990 – 2003)		79 percent	
The growth rate for the II phase (2004 – 2020)		-47.27 percent	

When comparing the years 1990-91 to 2002-03, the growth rate for the export of cashew kernel was 79 percent, while from 2004-05 to 2019-20, it was -47.27 percent. With the stoppage of a five percent export subsidy exporters preferred to park their products in the

domestic market rather than send it abroad. The subsidy, which had been announced as per Vishesh Krishi Upaj Yojana (VKUY), had given a big boost to exports in 2004-05. The scheme was only limited for a period from 4<sup>th</sup> January to 26<sup>th</sup> April 2004. After the expiry of this short-term subsidy scheme, the exporters started to face financial challenges and the stiff competition from Vietnam has also been affected adversely (UNCTAD, 2019). This was primarily owing to the set back faced by Vietnam, India's main opponent in the world market during that period. Due to these reasons many of the exporting firms were shutting down which reduces the share of export from India. To conclude, the trend analysis has revealed a statistically significant growth differential in the export of cashew kernels from India from 2004-05 to 2019-20.

#### **4.1.4 Pattern in country wise cashew import by India**

The wrong harvesting techniques and aging of cashew trees adversely affected domestic production in India. The production of raw cashew nuts in India had gone up slightly high but that was not sufficient to cater to the needs of the processing. Apart from her domestic production of raw nuts, a large volume was imported from different countries. India mainly imports raw cashew nuts from African countries like Ivory Coast, Guinea Bissau, Tanzania, Indonesia, Ghana, Nigeria and Mozambique. The quantities of export from various countries are given in Table 4.6. Growth rate and market share are employed for analysing the major import destinations for raw cashew nuts.

**Table 4.6 Country-wise raw cashew nut import by India (Quantity in '000 Mt)**

Years	Tanzania		Ivory coast		Guinea Bissau		Ghana		Benin		Others		Total
	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity
2000-01	50	0	50	0	56	0	3	0	27	0	56	0	242
2001-02	82	64.0	68	36.0	70	25.0	3	0.0	32	18.52	97	73.21	352
2002-03	82	0.0	84	23.5	65	-7.1	6	50.0	36	12.50	123	26.80	396
2003-04	80	-2.4	83	-1.2	73	12.3	33	70.0	45	25.00	136	10.57	450
2004-05	79	-1.3	39	-53.0	31	-57.5	3	-50.9	23	-48.89	75	-44.8	250
2005-06	69	-12.7	146	27.4	98	16.1	32	66.7	59	15.52	164	18.67	568
2006-07	66	-4.3	187	28.1	76	-22.4	39	21.9	65	10.17	150	-8.54	583
2007-08	79	19.7	205	9.6	98	28.9	30	-23.1	57	-12.31	133	-11.3	602
2008-09	128	62.0	68	-66.8	70	-28.6	3	-10.0	32	-43.86	86	-35.3	387
2009-10	82	-35.9	84	23.5	68	-2.9	6	10.0	36	12.50	115	33.72	391
2010-11	108	31.7	23	-72.6	18	-73.5	1	-53.3	11	-69.44	77	-33.0	238
2011-12	60	-44.4	81	58.0	36	55.6	28	30.0	84	19.09	281	35.06	570
2012-13	145	14.7	268	48.1	109	-19.9	83	-35.2	154	26.23	130	-28.1	889

2013-14	111	-23.4	209	-22.0	114	4.6	96	15.7	103	-33.12	135	3.85	768
2014-15	124	11.7	219	4.8	112	-1.8	106	10.4	113	9.71	264	95.56	938
2015-16	148	19.4	223	1.8	89	-20.5	112	5.7	124	9.73	258	-2.27	954
2016-17	139	-6.1	124	-44.4	148	66.3	12	-89.3	139	12.10	206	-20.1	768
2017-18	145	4.3	234	88.7	138	-6.8	13	8.3	11	-92.0	106	-48.5	647
2018-19	124	-14.5	204	-12.8	112	-18.8	113	49.2	104	45.45	175	65.09	832
2019-20	156	25.8	226	10.8	18	-83.9	146	29.2	134	28.85	254	45.14	934
<b>Total</b>	<b>2057</b>		<b>2825</b>		<b>1599</b>		<b>868</b>		<b>1389</b>		<b>3021</b>		<b>11759</b>
<b>CAGR</b>	<b>18.5</b>		<b>13.2</b>		<b>24.6</b>		<b>19.4</b>		<b>19.35</b>		<b>22.23</b>		<b>14.10</b>

Source: Ministry of Commerce

and

Industry, Govt. of India.

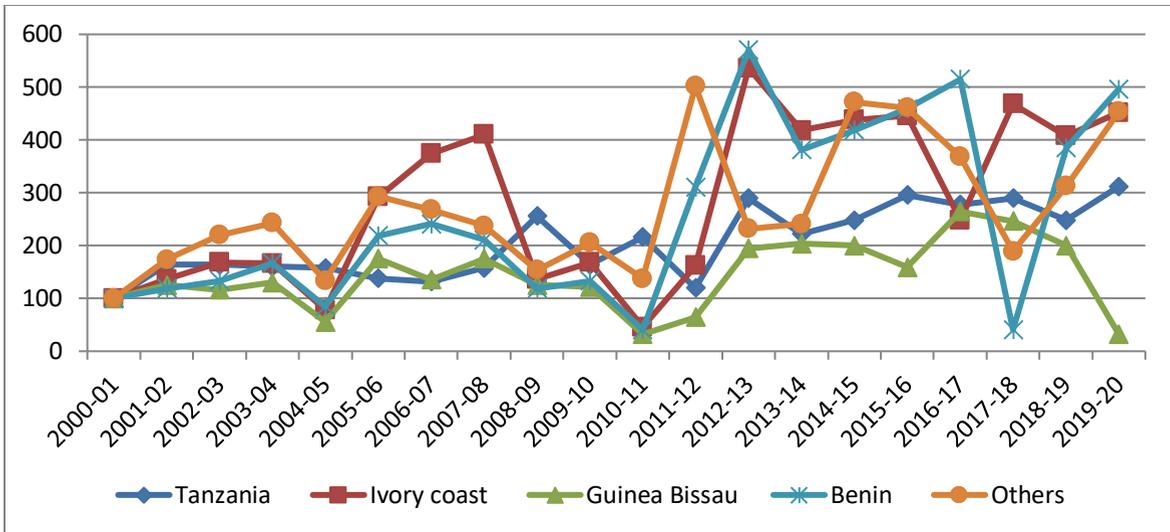


Figure 4.6 Country-wise raw cashew nut import by India

Note: The values are indexed to 100 during the first year

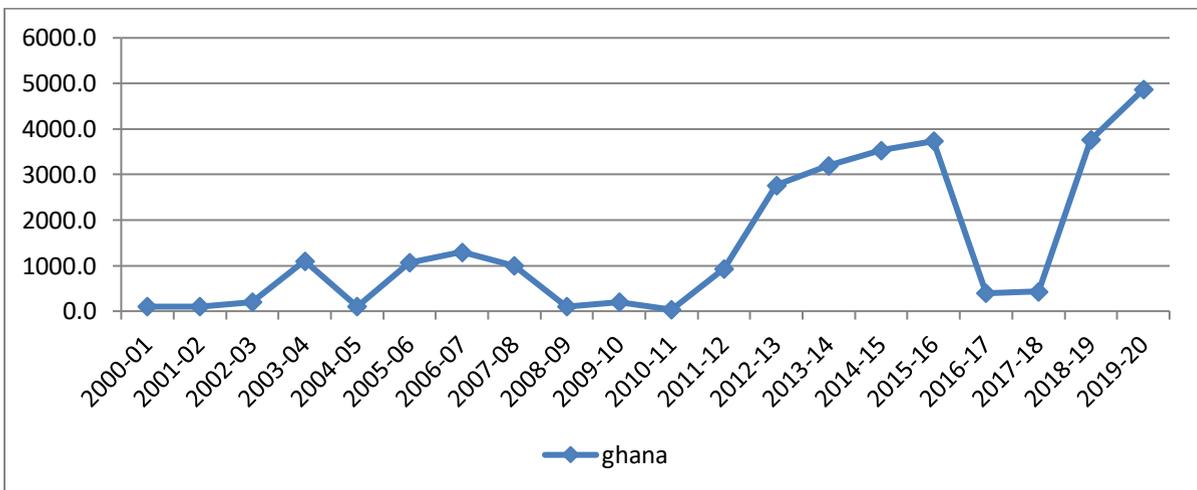


Figure 4.7 Raw cashew nut imports by India from Ghana

(Note: Graph of Ghana is shown as a separate graph due to its variability  
 Note: The values are indexed to 100 during the first year)

Table 4.6 and Figures 4.6 and 4.7 show the quantity and annual growth rate of raw cashew nuts imported by India from different countries from 2000-2020. India imports raw cashew nuts from Tanzania, Ivory Coast, Guinea Bissau, Ghana, and Benin during these 20 years. A total of 11759 thousand Mt of raw cashew nuts were imported by India

in 20 years. Among these, the highest share of raw cashew nut was from Ivory Coast followed by, Tanzania, Guinea Bissau, Benin and Ghana. The remaining countries are pooled under the title 'other' countries.

Ivory Coast was the leading seller of raw cashew nuts in India. A total of 2825 thousand Mt of raw cashew nuts was imported to India in 2000-20. It can be observed that the quantity of raw cashew nuts imported to India grew steadily in the early 2000s with a growth rate of 23.5 percent till 2002-03. The import of raw cashew nuts from the Ivory Coast shows a negative growth rate from 2003-04 (-1.20%) to 2004-05 (-53.00%). The major reason for the decline in the import of raw cashew nuts from the Ivory Coast stated by Andrighetti *et.al*, (2007), that there was a fall in cashew nut production due to the combination of biological, agronomic and socio-cultural factors. Ivory Coast started processing cashew internally, and due to this reason, the import was reduced in the year 2008-09 (-66.80%). Due to the obvious rise in demand for raw cashew nuts for processing, the quantity imported from Ivory Coast during the 2010–2011 year exhibits a negative growth rate (-72.60%). The high price of raw cashew nuts from Ivory Coast was the major reason for the reduction of imports in the year 2013-14 (-22.00%) and 2016-17 (-44.40%). Imports of raw cashew nuts from the Ivory Coast were adversely affected by the imposition of import duties, which resulted in a negative 2018–19 (-12.80%), (Annual Report of CEPCI, 2020).

Tanzania was the second seller country of raw cashew nuts to India during the period 2000-20. The lack of raw cashew nut availability (the cashew trees are more than 15 years old and it reduced the productivity) might be the reason for the reduced raw cashew nut from Tanzania in the year 2003-07 (United Nations Conference on Trade and Development, 2006). The year 2009-10, showed a negative growth rate (-35.90%) due to the inappropriate storage of raw cashew nuts which loss in quality and a reduction in the weight of stored raw cashew nuts. This resulted in a high rate of rejections from India (Aravindakumar, 2015). In 2011-12, Tanzania started processing internally and also increased the domestic demand for raw cashew nuts for processing, which in turn resulted

in a decline in the growth rate (-44.40%) of raw cashew nut import to India. The price of raw cashew nuts (price fixed by Central Bureau of Tanzania) in Tanzania was very high in 2013-14 (-23.40%) and 2016-17 (-6.10%) which lead to negative growth in the import of raw cashew nuts. The imposition of import duty may be the reason for the reduction of imports from Tanzania in 2018-19 (-14.50%) (Free Trade Agreement 2015-2020).

India was the largest importer of unprocessed cashews from Guinea Bissau. A total of 1599 thousand Mt of raw cashew nuts were imported by India in 2000-20. The year 2002-03 showed a negative growth rate (-7.10%) in raw cashew nut import. Climate change and environmental degradation reduced the production of cashew nuts in Guinea Bissau, which is identified as the reason for the reduction of import of raw cashew nuts from that country (Balamurugan, 2011). During the period from 2004 to 2005, it can be seen that an increasing growth in the domestic production of raw cashew nuts (Table 4.1), as a result, imports from Guinea Bissau decreased (by 57.50%). The year 2006-07 showed a negative growth rate (-22.40%). India slashed the imports due to the high price of raw cashew nuts in Guinea Bissau. The import of raw cashew nuts from Guinea Bissau shows a negative growth rate from the year 2008 to 2011 due to the less production of cashew nuts in Guinea Bissau. Increased domestic production of raw cashew nuts in India (Table 4.1) led to the reduction of imports from Guinea Bissau in the year 2012-13 (-19.90%). Guinea Bissau commenced initiating internal cashew processing in 2013. Earlier, they processed less than one percent; currently, small, medium and big enterprises have been processing cashews (Binu, 2018). The imposition of import duty and Covid -19 restrictions had highly adversely affected the import of raw cashew nuts from Guinea Bissau, which reduced the growth rate during 2017-20 (CEPCI, 2020).

Benin was the next exporter of raw cashew nuts to India after Guinea Bissau. A total of 1389 thousand Mt of raw cashew nuts were imported to India in 2000-20. It can be seen that the volume of raw cashew nuts imported into India increased consistently in the early 2000s, growing at a rate of 25 percent till 2003–2004. The import of raw cashew nut from Benin shows a negative growth rate in 2004-05 (-48.89%) due to the high production of

cashew nuts in India (Table 4.1) which reduced the import in the same year. During the year 2007-09 the government did not provide any seed subsidies which were according to the given area for cashew cultivation (Desai, 2013). It was a discouraging factor for reduced cashew production during these two years. The price of raw cashew nuts was very high in 2010-11; which reduced the import (-69.44%) of raw cashew nuts to India (Desai, 2013). The year 2017-18 shows a negative growth rate (-92%) due to the five percent of import duty on raw cashew nuts which affected the import from Benin in the year.

Ghana was the fifth largest selling country of raw cashew nuts to India. The import of raw cashew nuts shows a negative growth rate (-50.90%) in 2004-05 due to the less production of raw cashew nuts in Ghana (it was grown in poor condition and some have disappeared in fire),(Andrighetti *et.al*, 2007). During the year 2007-08, most of the trees in Ghana were relatively young and new, which might have reduced the production and import of raw cashew nuts to India (Aravindakumar, 2015). India slashed imports from Ghana due to the poor handling of raw cashew nuts which increased the spoilage rate of raw cashew nuts from that country, which was rejected by India in 2010-11 (Aravindakumar, 2015). Due to improved domestic production in 2012–2013, India decreased its imports from Ghana (Table 4.1). In the year 2016-17, which seemed the high price of raw cashew nuts, reduced the imports from Ghana.

It can be observed that a total of 3021 thousand Mt of raw cashew nuts were imported from other countries in 2000-20; it is 24.34 percent of total cashew imports to India. The domestic production of raw cashew nuts noticed an increasing growth rate (Table 4.1) in the year 2004-05. This, in turn, resulted in a reduction in imports (-44.80%). The decline in the raw cashew nut production in other countries reduced the import in the year 2006-09. The lack of raw cashew nut availability from other countries is the reason for the reduction of import of raw cashew nuts in the year 2010-11. The high price of raw cashew nuts led to a reduced the raw cashew nut import from other countries in the year

2012-13. In 2015, the countries started their processing internally, which reduced import from other countries (Binu, 2018).

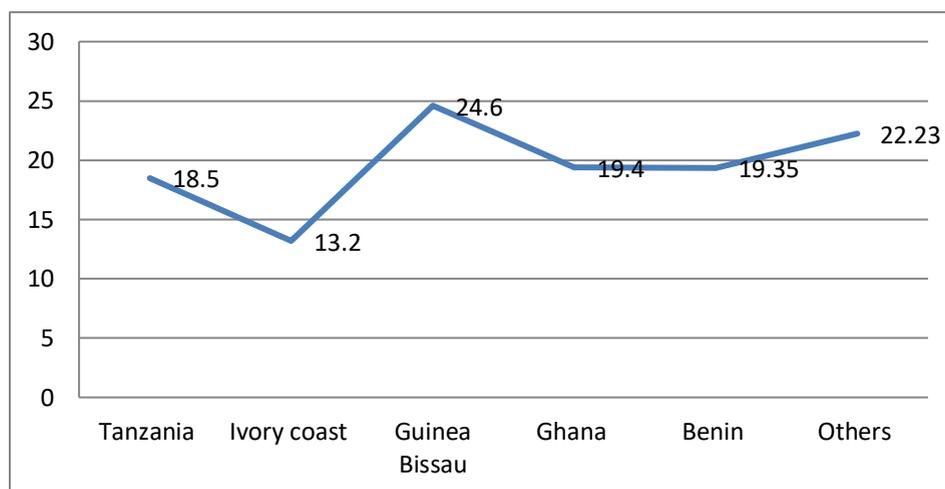


Figure 4.8 The CAGR of raw cashew nuts to India from major cashew import destinations

The raw cashew nuts import from different countries like Guinea Bissau, others, Ghana, Benin, Tanzania and Ivory Coast showed positive incremental growth of 24.60 percent, 22.23 percent, 19.40 percent, 19.35 percent, 18.50 percent and 13.20 percent, respectively (Figure 4.8).

The average percent share of the country wise share of imports of raw cashew nuts in the different years is shown in Table 4.7.

**Table 4.7 Import of Raw cashew nut from different countries**

Years	Tanzania	Ivory coast	Guinea Bissau	Ghana	Benin	Others	Total
<b>2000-2005</b>	74.6 (22.07)	64.8 (19.17)	59 (17.46)	9.6 (2.84)	32.6 (9.64)	97.4 (28.82)	338 (100)
<b>2005-2010</b>	84.8 (16.75)	138 (27.26)	82 (16.20)	22 (4.35)	49.8 (9.84)	129.6 (25.60)	506.2 (100)
<b>2010-2015</b>	109.6 (16.10)	160 (23.51)	77.8 (11.43)	62.8 (9.23)	93 (13.66)	177.4 (26.07)	680.6 (100)

<b>2015-2020</b>	142.4	202.2	101	79.2	102.4	199.8	827
	(17.22)	(24.45)	(12.21)	(9.58)	(12.38)	(24.16)	(100)

\*figures in parenthesis indicated percent to total

\*Average of each five years

Table 4.7 shows the average percent share of raw cashew nuts from various countries between 2000 and 2020. Tanzania had the highest percent of raw cashew nut imports to India from 2000 to 2005 (22.07%), while Ghana had the lowest percent (2.84%). The main cause of the reduction in Ghana's share during this period was, less production of raw cashew nuts (it was grown in poor condition and some disappeared in fire), (Aravindakumar, 2015).

Ivory Coast was the leading seller of raw cashew nuts from 2005 to 2020, whereas Ghana was the least seller of raw cashew nuts in India during this period. Due to the poor handling of raw cashew nuts, increased the spoilage rate and the high price of raw cashew nuts, which reduced the imports of raw cashew nuts from Ghana (Aravindakumar, 2015).

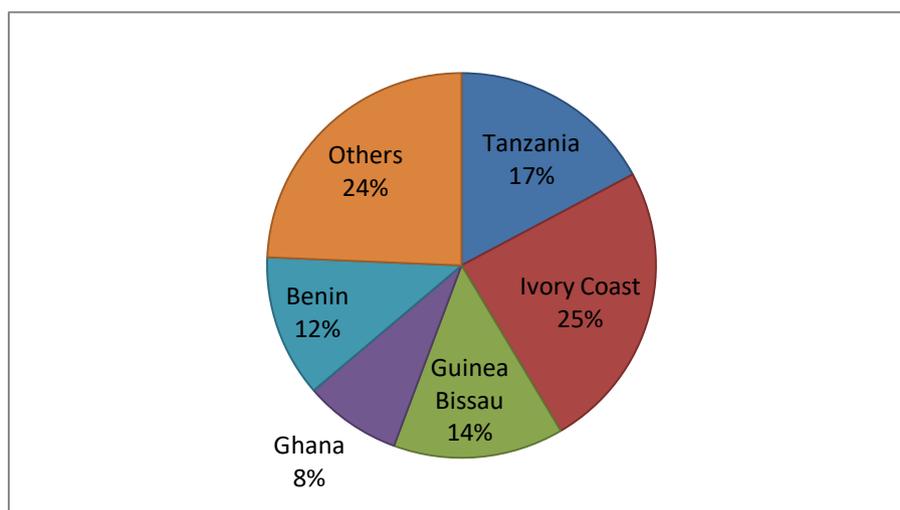


Figure 4.9 The percent market share of raw cashew nuts to India from major countries

The major markets in that India depended on raw cashew nuts were Ivory Coast, Tanzania, Guinea Bissau, Benin, and Ghana. It was evident from the figure that the Ivory

Coast (25%) followed by Tanzania (17%), Guinea Bissau (14%), Benin (12%) and Ghana (8%) were the countries importing raw cashew nuts to India. African countries especially the cashew growers started setting up cashew processing industries. This factor highly affected the import of raw cashew to India. As per the opinion of Cashew exporters in Kollam, within ten years India will run out of the cashew export market and Africa will take the premium position in the cashew industry.

#### **4.1.5 Pattern in country-wise cashew kernel export from India**

The cashew trade has an important contribution to India's international trade. Indian cashews are consumed globally in more than 60 countries. The major markets for cashew kernels are the USA, UAE, UK, Saudi Arabia, Netherlands and France. They were also taken for this analysis. India had a well established market for cashew kernels and consumption of cashew kernels was mainly the broken pieces that were widely used as ingredients in food items. It plays a vital role in contributing foreign exchange earnings and also plays a very important role in the development of the hilly region or rural areas. India has historical importance in this regard because it is the first country in the world that started the international trade in cashew (Shrikrishna *et al.*,2012). An attempt was made here to analyse the country wise exports from India to various countries in terms of volume and value.

**Table 4.8 Country-wise export of cashew kernel from India (Quantity in '000Mt)**

Years	USA		Netherlands		UAE		Japan		UK		Others		Total
	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	Quantity	Annual Growth rate	
2000-01	40	0	16	0	3	0	5	0	6	0	17	0	87
2001-02	44	10.0	13	-18.8	3	0.0	4	-20.0	6	0.0	19	11.8	89
2002-03	53	20.5	13	0.00	5	66.7	4	0.0	5	-16.7	22	15.8	102
2003-04	48	-9.40	12	-7.70	6	20.0	5	25.0	5	0.0	23	4.5	99
2004-05	46	-4.20	14	16.70	5	-16.7	4	-20.0	6	20.0	27	17.4	102
2005-06	43	-6.50	18	28.6	8	60.0	4	0.0	6	0.0	33	22.2	112
2006-07	39	-9.30	18	0.00	9	12.5	4	0.0	4	-33.3	34	3.0	108
2007-08	35	-10.3	12	-33.3	12	33.3	4	0.0	3	-25.0	35	2.9	101
2008-09	39	11.40	16	33.30	15	25.0	5	25.0	3	0.0	39	11.4	117
2009-10	30	-23.1	10	-37.5	19	26.7	5	0.0	5	66.7	42	7.7	111
2010-11	35	16.70	11	10.00	12	-36.8	5	0.0	2	-60.0	38	-9.5	103
2011-12	47	34.30	11	0.00	14	16.7	7	40.0	3	50.0	47	23.7	129
2012-13	29	-38.3	8	-27.30	13	-7.1	6	-14.3	2	-33.3	36	-23.4	94
2013-14	32	10.30	9	12.50	16	23.1	6	0.0	2	0.0	41	13.9	106
2014-15	29	-9.40	9	0.00	23	43.8	7	16.7	2	0.0	42	2.4	112
2015-16	22	-24.1	5	-44.4	18	-21.7	7	0.0	1	-50.0	36	-14.3	89
2016-17	17	-22.7	4	-20.0	18	0.00	6	-14.3	1	0.0	31	-13.9	77
2017-18	11	-35.3	7	75.0	17	-5.6	8	33.3	11	10.0	33	6.5	87
2018-19	14	27.30	7	0.0	13	-23.5	7	-12.5	8	-27.3	29	-12.1	78
2019-20	11	-21.4	10	42.9	14	7.7	7	0.0	6	-25.0	27	-6.9	75
<b>Total</b>	<b>664</b>		<b>223</b>		<b>243</b>		<b>110</b>		<b>87</b>		<b>651</b>		<b>1978</b>
<b>CAGR</b>	<b>-11.3</b>		<b>-2.2</b>		<b>7.55</b>		<b>1.78</b>		<b>-10.0</b>		<b>2.4</b>		<b>-1.6</b>

Source: Ministry of Commerce and Industry, Govt. of India.

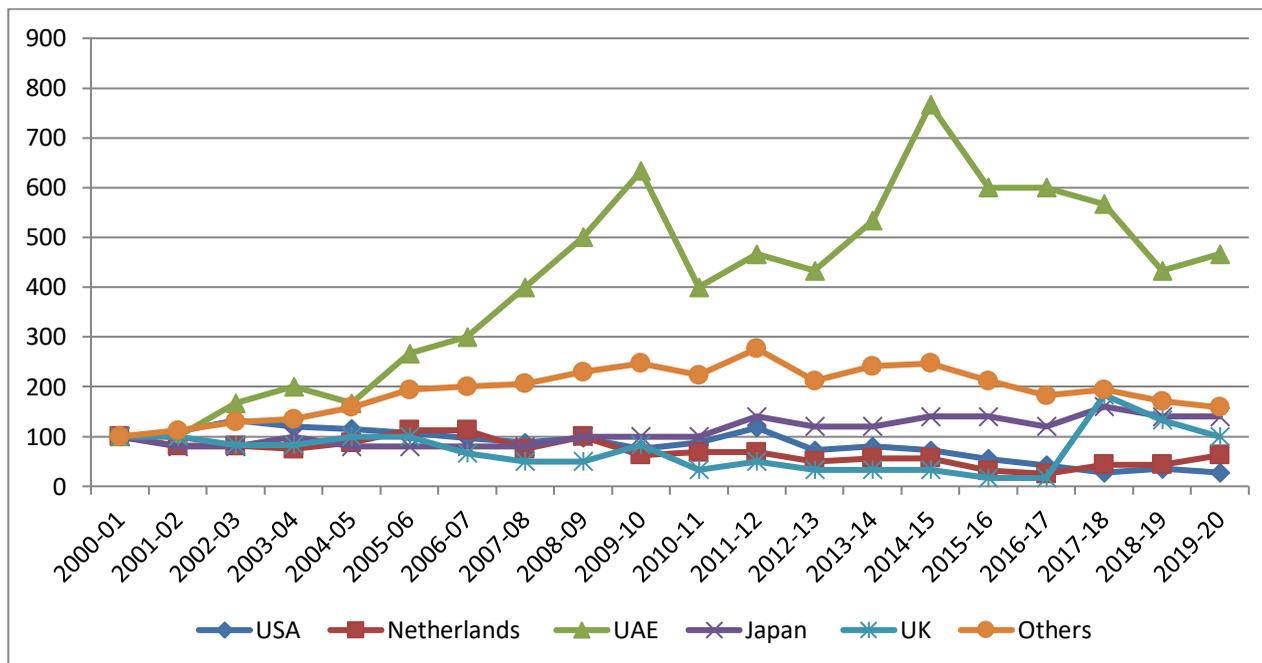


Figure 4.10 Country-wise cashew kernel export from India

Note: The values are indexed to 100 during the first year

Table 4.8 and Figure 4.10 shows the quantity and annual growth rate of exported cashew kernels to different countries from India. India is a significant exporter of cashew kernels, thus it must adhere to international standards of quality for cashew to maintain its position in the market and boost its export earnings in terms of quantity and desired quality. USA, Netherlands, UAE, Japan and UK are the leading countries that buy Indian cashew kernels. India exported a total of 78 thousand Mt of cashew kernels between 2000 and 2020. The country that exported the top ranking country in the export of cashews is USA, followed by UAE, Netherlands, Japan, and UK.

The leading consumer of cashew kernels from India was United States. In the years 2000 to 2020, 664 thousand Mt of cashew kernels were exported to the USA. The quantity of cashew kernels exported from India increased consistently in the early 2000s, growing at a rate of 20.5 percent till 2002–2003. This is due to the result of increased domestic production growth in the same year (Table 4.1). Cashew kernel exports to USA have decreased from 2003–2004 (-9.40%) to 2007–2008 (-10.30%). The unexpected increase in cashew exports from Germany and Russia decreased India's export share (Desai, 2013). The consumers in this country differ from those in other countries in that they are more concerned with the health benefits of cashew kernels (Desai, 2013). Due to the obvious rising domestic demand for cashew kernels, the amount shipped to the USA in 2012–13 indicates a negative growth rate (-38.30%). The percent of cashew exports to USA decreased from 2015 to 2017 (Jermi, 2018). The decline in export during this period was caused by low production and lower imports (Table 4.1 and 4.2). The growth rate of cashew kernel export to USA shows a negative in the year 2017-18 (-35.30%) due to the escalation of the price of cashew Kernel in the market (Jermi, 2018). Due to covid-19 restrictions across the world, affect the cashew export from India in 2019-20.

UAE was the second largest buyer of cashew kernels from India in the period 2000-20. The changes in buying behaviour of consumers in the UAE were the reason for the decline of shares from India in the year 2004-05 (Gupta, 2009). In 2012-13 showed a negative growth rate (-7.10%) in the quantity exported to UAE because it shifted its focus

on importing processed cashew kernels from India to Vietnam and Brazil due to the lower prices offered by them (Jan, 2014). During the year from 2015 to 2017 (Table 4.1 and 4.2) noticed less production and import of raw cashew nuts in India was the reason for the reduction of export to UAE. Due to covid-19 restrictions across the world, affect the share of cashew export from India in 2019.

Netherlands was an important buying country of cashew nuts in Europe. Among the total export of cashew kernel from India, 11.2 percent (223 thousand metric tonne) were exported to Netherlands during the period 2000-20. The cashew export from India exhibits a negative growth rate (-18.80%) for the year 2001-2002. Netherlands depends on the Philippines for cashew kernel at lower prices, which was the major reason for the fall of cashew export from India (Jethu, 2012). In the years 2003–2004, the export of cashew kernels to the Netherlands showed a negative growth rate (-7.70%). This due to the result of the sudden increase in cashew exports from Germany and Russia, which decreased India's export share (Jethu, 2012). The main reason for the decline in the share of cashew export in the 2007–2008 period that changes in the purchasing habits of consumers of cashew kernels in the Netherlands (-33.30%), (Jethu, 2012). During the year 2009-10, the export share of cashew kernel to the Netherlands has reduced to -37.5 percent, and this caused the emergence of foreign competitors like Vietnam and Brazil, they supplied all grades (W180, W210, W240, W320 and W450) of cashews at a lower rate throughout the year (Jan, 2014). Due to the rising domestic demand for cashew kernels, the volume exported to the Netherlands in 2012–13 exhibited a negative growth rate (-27.30%). The cashew export to Netherlands decreased from 2015 to 2017. There was a noticeable slow down in the growth rate of import volume and production (Table 4.1 and 4.2). This eventually led to a decrease in export.

Japan was also a leading buyer of cashew kernels from India. A total of 110 thousand Mt were exported by India in the year 2000-20. In the years 2001–2002, cashew nuts rose to prominence in Japan. Except for India, all other exporting countries may reduce the price of cashews before selling them to Japan. As a result, the percent of cashew exported from

India has decreased. The fall in India's share in 2004–05 was caused by changes in consumer purchasing behaviour (-20.00%), (Mamta, 2002). The quantity exported to Japan in 2012–13 had a negative growth rate (-14.30%), possibly this acts as a result of rising domestic demand for cashew kernels. The share of cashew exports to Japan decreased in the years 2016–17 as well. During this time, exports decreased due to low production and lower imports (Table 4.1 and 4.2). Due to the various flavours of value added cashew kernels offered by Vietnam at cheaper prices, the percent of cashew export indicates a negative growth rate of -12.5 percent for the year 2018–19 (Mahantesh, 2018).

The United Kingdom was the fifth largest buying country of cashew kernels from India. It can be seen that the quantity of cashew kernels exported from India grew steadily in the early 2000s and shows a negative growth rate of -16.7 percent in 2002-03. This is because Indian cashews are more expensive than those from other countries, which has reduced their export share (Padmanaban, 2010). The export of cashew kernel to United Kingdom shows a negative growth rate from 2006-07 (-33.30%) to 2007-08 (-25.30%). The sudden boost of Russia and Germany in cashew export reduced the export share of cashew from India (Mwonika, 2015). The export of cashew to United Kingdom shows a negative growth rate of -60.0 percent in the year 2010-11. Due to tough competition in the world market from other exporters like Vietnam and Brazil and lower prices of cashew kernel were reduced the share of cashew kernel from India (Padmanaban, 2013). In 2012-13 showed a negative growth rate (-33.30%) in the quantity exported to United Kingdom because, the increased domestic demand for cashew kernels may be affected the export (Padmanaban, 2013). In the years 2015–16, it was seen that both the volume of imports and the rate of production growth had decreased (Table 4. 1 and 4.2). This ultimately led to a decrease in export. The fluctuations in the buying pattern of cashew kernel were the major reason for the decline of the share of cashew export in the year 2018 -19 (-27.30%), (Binu, 2018). Covid-19 restrictions across the world, affect the share of cashew export from India in 2019.

It can be observed that a total of 651 thousand Mt of cashew kernels were exported to other countries in 2000-20; it is 33 percent of total cashew export from India. It can be seen that the quantity of cashew kernels exported from India grew steadily in the early 2000s with a growth rate of 7.7 percent till 2009-10. This might be due to the increased growth rate of production in that year (Table 4.1). In the years 2010–2011, there was a negative growth rate (-9.50%) in the export of cashew kernel to other nations. Due to the emergence of foreign competitors like Vietnam and Brazil, consistently offer all cashew grades at lower prices which reduced the export from India (Binu, 2018). In 2012-13 showed a negative growth rate (-23.40%) in the quantity exported to other countries because the increased domestic demand for cashew kernels may be affected the export. The year 2015 to 2017 also shows a decline in the share of cashew export to other countries. The decline in export during this period was caused by low production and lower imports of raw cashew nuts (Table 4.1 and 4.2). The growth rate of cashew kernel export to other countries shows a negative in the year 2018-19 (-12.10%). The main reason for the decline in cashew kernel export was slashing the export incentives (MEIS) from five percent to two percent (Binu, 2018).

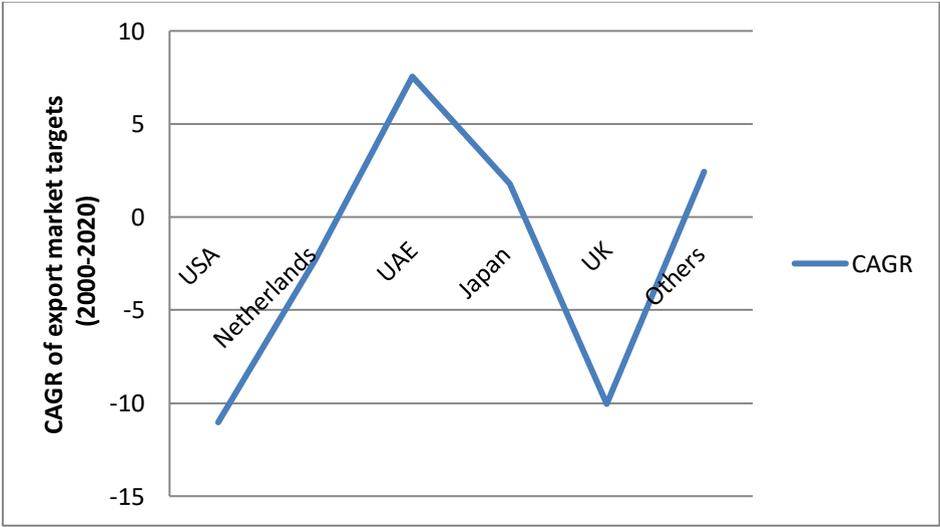


Figure 4.11 The CAGR of the percent market share of cashew Kernels in the major cashew export destinations

The export of cashew kernels to USA, Netherlands, and UK registered a negative incremental growth of -11.30 percent, -2.28 percent and -10.05 percent respectively. Whereas, cashew exports to UAE, Japan, and other Indian cashew-importing countries witnessed a positive incremental growth of 7.55 percent, 1.78 percent and 2.44 percent respectively (Figure 4.11).

The Table shows 4.9 the average percent share of raw cashew nut exports by country.

**Table 4.9 Export of cashew kernel to different countries**

<b>Years</b>	<b>USA</b>	<b>Netherlands</b>	<b>UAE</b>	<b>Japan</b>	<b>UK</b>	<b>Others</b>	<b>Total</b>
<b>2000-2005</b>	46.2 (48.23)	13.6 (14.20)	4.4 (4.59)	4.4 (4.59)	5.6 (5.85)	21.6 (22.55)	95.80 (100)
<b>2005-2010</b>	37.20 (33.88)	14.80 (13.48)	12.60 (11.48)	4.40 (4.01)	4.20 (3.83)	36.60 (33.33)	109.80 (100)
<b>2010-2015</b>	34.40 (31.62)	9.60 (8.82)	15.60 (14.34)	6.20 (5.70)	2.20 (2.02)	40.80 (37.50)	108.80 (100)
<b>2015-2020</b>	15.00 (18.47)	6.60 (8.13)	16.00 (19.70)	7.00 (8.62)	5.40 (6.65)	31.20 (38.42)	81.20 (100)

\*figures in parenthesis indicated percent to total

\*Average of each five years

Table 4.9 shows the average percent share of cashew kernels in various countries between 2000 and 2020. It can be seen that USA (48.23%) was the leading buyer and Japan (4.59%) and UAE (4.59%) shows the lowest percent of buying cashew kernels from India during the period 2000-2005. The changes in the buying behaviour of UAE and Japan had highly affected the share of cashew kernel exports from India (Chandrasekaran, 2014).

During the period from 2005 to 2015, USA was the leading buyer and UK was the least buyer of cashew kernel from India. Due to the tough competition in the world market, the

competitors like Vietnam and Brazil sell all grades of cashew kernel at a lower price which reduces the export from India (Jermi, 2018).

From 2015 to 2020 the highest buyer was UAE instead of USA. According to the Report of CEPCI, 2019, there was a fall in the export incentive to two percent from five percent and an increase in wages in states like Kerala, Karnataka, and Tamil Nadu has pushed up the cost of production for the cashew industry which automatically reduces the share from USA for the cashew kernel from India. UK had the lowest share of cashew kernel from India in 2015-20. The major reason for the reduction in exports was the escalation of the price of cashew Kernel in the market (CEPCI, 2020).

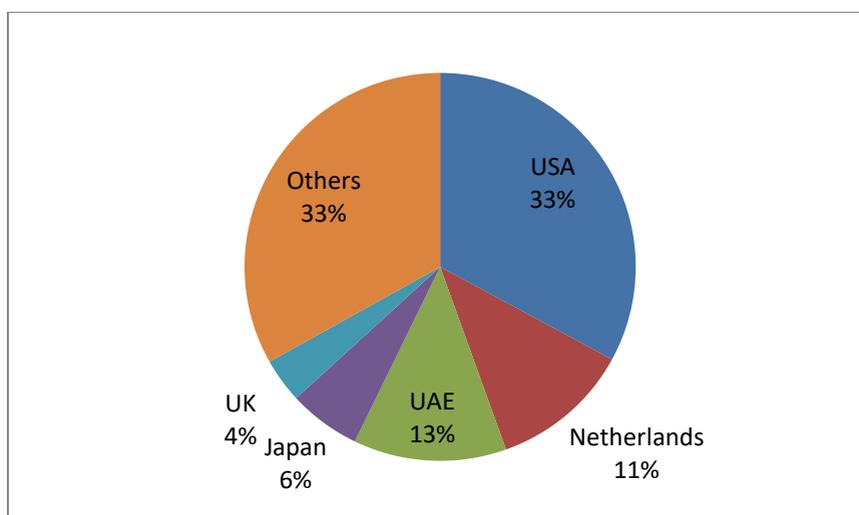


Figure 4.12 Market shares of cashew kernels from India to major countries

The major markets for Indian cashew kernels were USA, Netherlands, Japan, UAE, UK etc. It was evident from Figure 4.12 that the USA (33%) was one of the countries among the major importers of Indian cashew kernel. The food habits of the people were highly concentrated on diet and health-oriented and also the special odour and taste of Indian cashew had influenced the people there. The other highest shares of Indian cashew kernels were UAE (13%), Netherlands (11.04%), Japan (6 %) and UK (4%).

#### **4.1.6 Trend in area, production, and productivity of cashew in Kerala**

Cashew cultivation is mainly confined to peninsular India. In Kerala, cashew is grown in mostly poor soils, where no other crop can be profitably grown. A major part of the cashew plantations in the state is located in hill slopes, where the soil is largely lateritic. Even though cashew is grown in almost all districts; the major districts include Kannur, Kasargod, Thrissur, Kozhikode and Palakkad. Cashew production is relatively high in Kannur and Kasargod districts, where a prolonged dry spell is noticed from November to March coinciding with the reproductive phase of the crop. In the central part of Kerala, high wind speed during November to December and maximum surface air temperature beyond 35<sup>0</sup>C during summer may limit better yields. The lack of mild winter and occasional wet spells towards the south of Kerala may also hinder cashew production. The growth rate of area, production and productivity in Kerala is presented in Table 4.10.

**Table 4.10 Area, production, and productivity of cashew in Kerala**

<b>Years</b>	<b>Area (In'000 Hectare)</b>	<b>Annual growth rate of area (%)</b>	<b>Producti on (In'000 MT)</b>	<b>Annual growth rate of producti on (%)</b>	<b>Productiv ity (In MT/Hect are)</b>	<b>Annual growth rate of productiv ity (%)</b>
2000-01	120		76		0.6	
2001-02	120	0	87	14.47	0.7	16.67
2002-03	120	0	94	8.05	0.8	14.29
2003-04	101	-15.83	95	1.06	0.9	12.50
2004-05	102	0.99	64	-32.63	0.6	-33.33
2005-06	80	-21.56	67	4.69	0.8	33.33
2006-07	80	0.00	72	7.46	0.9	12.50
2007-08	84	5.00	78	8.33	0.9	0.00
2008-09	70	-16.66	75	-3.85	1.1	22.22
2009-10	72	2.85	66	-12.00	0.9	-18.18
2010-11	78	8.33	71	7.58	0.9	0.00
2011-12	82.9	6.28	74	4.23	0.9	0.00
2012-13	84.88	2.38	76.96	4.00	0.9	0.00
2013-14	84.9	0.02	80.1	4.08	0.9	0.00
2014-15	84.5	-0.47	80	-0.12	0.9	0.00
2015-16	87	2.95	72	-10.00	0.8	-11.11
2016-17	90.87	4.44	83.98	16.64	0.92	15.00
2017-18	92.81	2.13	88.18	5.00	0.95	3.26
2018-19	96.65	4.13	82.89	-6.00	0.85	-10.53
2019-20	90.65	-6.20	87.03	4.99	0.96	12.94
<b>AAGR</b>	-1.12		1.36		3.66	
<b>CAGR</b>	-1.46		0.71		2.50	

**Source:** Ministry of Agriculture and Farmers Welfare, Govt. of India.

From the table, it can be concluded that the compound annual growth rate of the area of cashew cultivation showed a negative growth of 1.12 percent. The CAGR of the production of cashew was 0.715 percent, and productivity was 2.50 percent whereas, the AAGR of production was 1.36 percent and productivity was 3.66 percent.

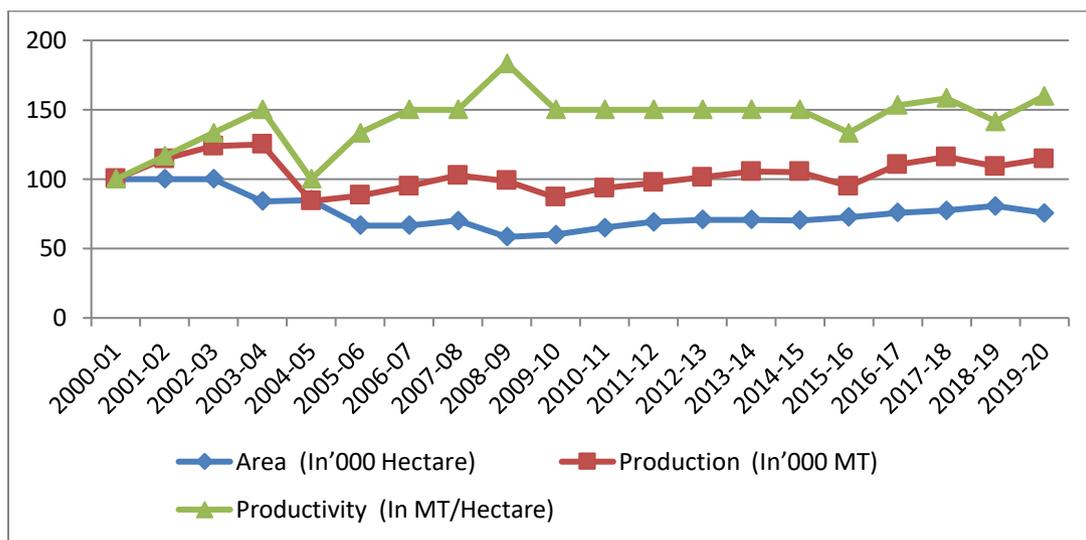


Figure 4.13 Trend in area, production, productivity of cashew in Kerala

Note: The values are indexed to 100 during the first year

Figure 4.13 depicts the area, production, and productivity of cashew in Kerala over the last 20 years and its growth rate. The area under cashew nut in Kerala shows a fluctuating trend from the year 2000 to 2020. From the table, it can be inferred that area under cultivation was the highest in Kerala during 2000 - 2003. In 2003 - 2007, the trend in the growth rate in area and productivity decreased from -15.83 percent to -21.56 percent. The decline in the area was might be attributed to the Kerala Land Reforms Act, 1963 which provided for the imposition of a ceiling on holdings, but it is exempted for the cashew. This act was amended in 2002, which is taken away the right of exemption granted for cashew from the ceiling limit of 10 acre. Hence farmers may allow cultivating the other crops (The Kerala Land Reforms (amendment) bill (Background Note), 2008).

Sisili (2018) stated that in the year 2008-09, the area showed a declining trend; due to cashew-cultivated farmers facing a lot of problems such as a lack of innovations to congregate the emerging demands and ineptitude to update the systematic and scientific development programs in the cashew sector. During 2009-2011 the area under cashew cultivation showed an increasing trend, due to the less investment cost in raising the cashew plantation (Gupta, 2014). In the year 2015- 2018 showed an increased trend in the area under cultivation due to the improved management practices adopted by the farmers in Kerala (Sisili, 2018). In 2019 - 20 the area showed a declining trend (-6.20%), because comparatively lower price of imported cashew led to increase the imports of raw cashew nuts and reduced the demand for domestic cashew which in turn resulted in a fall in the price of domestic cashew after 2018. Hence, many of the farmers have shifted their crops to other lucrative crops such as rubber and other plantations (CEPCI,2020).

During the study period, cashew production showed a fluctuating trend. The percent growth of the production in the year 2000 – 2005 showed a declining trend due to the lack of high-yielding variety seeds and unlike certain states like Maharashtra, where cashew was promoted with State Government support, in Kerala, there are no incentives given to this crop as other plantation crops (Sisily, 2018). This had also become a dissuading factor for farmers to cultivate cashew. As per the study by Sisily (2018), attack of pest and diseases and climate change has adversely affected cashew production in the year 2009 and 2016. From Table 4.10, it can be inferred that the growth of cashew production in 2018-2019 showed a negative growth rate of -6.0 percent due to natural calamities like floods and landslides (CEPCI, 2020).

The deviations in the growth rate of area and production were reflected in the productivity of cashew in Kerala.

#### **4.1.7 Trend in the price of the Raw Cashew Nut in Kerala**

The price of raw cashew nuts had been increasing over the years; different states had different price rates. Price rates were fixed based on the availability of raw materials and

the cost incurred in producing the raw nuts. The following Table 4.11 represents the price of raw cashew nuts in Kerala from 2000 to 2020.

**Table 4.11 Price of the Raw Cashew Nut (RCN) in Kerala (Rs / Kg)**

<b>Year</b>	<b>Price</b>	<b>Annual growth in Price (%)</b>
2000 – 01	42.00	0
2001 – 02	26.75	-36.30
2002 – 03	25.00	-6.50
2003 – 04	29.75	19.00
2004 – 05	28.50	-4.20
2005 – 06	37.88	32.90
2006 – 07	31.20	-17.60
2007 – 08	29.80	-4.50
2008 – 09	34.00	14.10
2009 – 10	42.15	24.00
2010 – 11	40.45	-4.00
2011 – 12	71.00	75.50
2012 – 13	59.59	-16.10
2013 – 14	51.80	-13.10
2014 – 15	61.32	18.40
2015 – 16	90.00	46.80
2016 – 17	99.68	10.80
2017 – 18	133.03	33.50
2018 – 19	158.87	19.40
2019 – 20	120.00	-24.50
<b>AAGR</b>		7.1
<b>CAGR</b>		-98.96

**Source:** Directorate of Cashew Nut and Cocoa Development Board

From Table 4.11 the compound annual growth rate of the price of the raw cashew nut in Kerala was -98.96 percent and the annual growth rate was 7.1 percent.

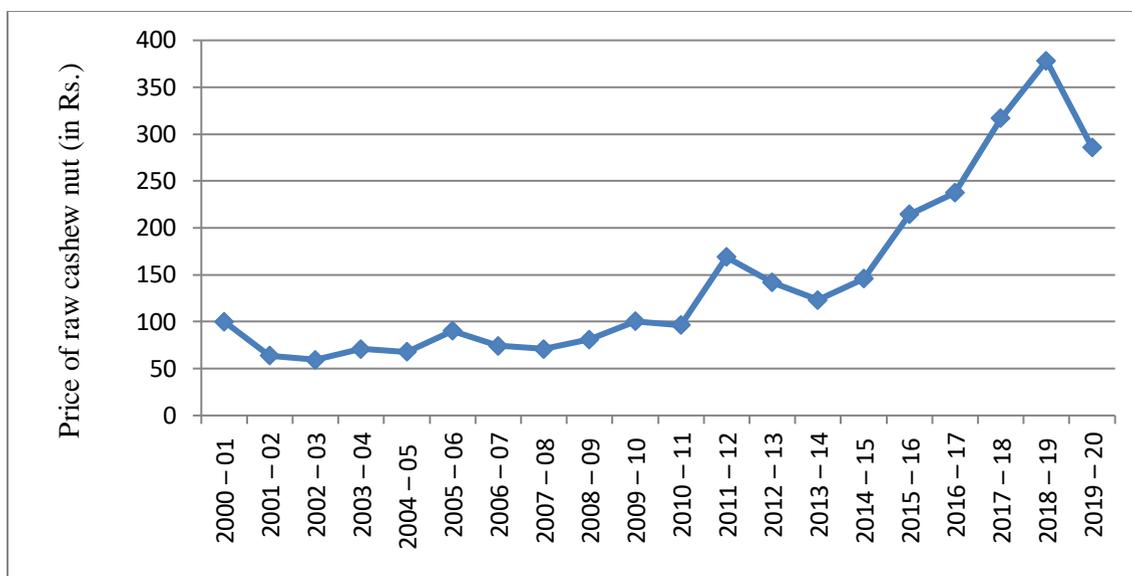


Figure 4.14 Price of raw cashew nut in Kerala (Rs./kg), (current price)

Note: The values are indexed to 100 during the first year

The trend in the price levels of raw cashew nuts during 2000-01 to 2019-20 is given in Table 4.11. Rajesh (2020) stated that prices of Raw Cashew Nuts (RCN) in Kerala went through three phases in the period 2000–01 to 2019-20. In the first phase (2000–2009), prices were volatile but cost, insurance, freight and import prices for raw cashew remained roughly within the range of \$4–6/kg. The second phase (2009–2013) was characterised by a steep increase in prices caused by strong competition for RCN in global markets due to rising demand and limited supply. The price spike in 2011 (75%) caused due to demand weakening, which corrected prices downwards to below \$1/kg in 2013 -14 (-13.10%). In the third phase, prices doubled from below \$1/kg in 2013 to around \$2/kg in 2017. This price spike was due to a sudden increase in demand for cashew nuts on account of the nutritional consciousness of the consumers and a crop shortfall in Vietnam, which gave rise to strong import demand for RCN. Prices dropped sharply in 2019 – 2020. The reason may be the reduction of import duty from 5 percent to 2.5 percent (Binu, 2018). The comparatively lower price of imported cashew increased the imports of raw cashew nuts and reduced the demand for domestic cashew which in turn resulted in a fall in the price of domestic cashew after 2018 (CEPCI, 2020).

Conclusively, attempts were made to analyse the trend and pattern of cashew export in India and Kerala, particularly the trends in production, exports, imports and price of RCN from 2000-01 to 2019-20. Accordingly, the present study concluded that the cashew sector witnessed a growth in production both in India and Kerala. The demand for cashew nuts is always increasing in India and also at the world level. On the other hand, in India, the cashew sector witnessed negative growth in export quantity / value throughout the study period due to the high competition from other countries and the slashing down of export incentives. Compared to export, imports showed an increasing trend, because the domestic production of cashew in India could not fulfill the requirement of the international market. Furthermore, based on country-wise export, USA, Netherlands, Japan, UAE and UK were found to be the most stable markets for Indian cashew. Ivory Coast, Tanzania, Guinea Bissau, Benin and Ghana were found as the major importing countries of raw cashew nuts to India. Additionally, the price paid to the cashew growers in Kerala showed positive growth till 2018. Comparatively lower prices of imported cashew increased the imports of raw cashew nuts and reduced the demand for domestic cashew which in turn resulted in the fall in the price of domestic cashew after 2018.

The instability in cashew exports is analysed using the Cuddy Valle Instability Index and the variables for analysing the instability such as the production of raw cashew nut in India, import of raw cashew nut to India, export of cashew kernel from India, production of raw cashew nut in Kerala and price raw of cashew nut in Kerala. The variability of the index for cashew export is presented in Table 4.12.

**Table 4.12 Variability of the index for cashew export**

<b>Variables</b>	<b>CDVI</b>	<b>Inference</b>
Production of raw cashew nuts in India	7.45	Low instability
Import of raw cashew nuts to India	16.19	Medium Instability

Export of cashew kernel from India	15.60	Medium Instability
Production of raw cashew nut in Kerala	10.28	Low instability
Price of raw cashew nut in Kerala	35.1	High instability

(Source: compiled from Secondary data)

(The detailed Instability analysis and converting the variables into stationarity are given in Annexure – III & IV)

The instability analysis of cashew export and probable reasons could be outlined below: the instability of cashew production in India is quite low (7.45%), which indicates that the persistence of volatility is lower. The production has enhanced due to the fertility of the soil and also many farmers started to use wasteland for planting cashew, which reduces the instability in cashew production in India during the period from 2000 to 2020. The import of raw cashew nut to India is medium instability (16.19%), which indicates that the persistence of volatility is medium. The major reason for the medium instability might be due to the imposition of duty on imported raw cashew nuts and the increase in raw nut prices. Analysis of cashew exports showed medium instability (15.60%) due to increasing international demand and domestic demand, price volatility, and global market changes. Cashew export suffered much due to the competition mainly from Vietnam. United Arab Emirates, European Union, United States, are the major importers of cashew. Europe moved from India to Vietnam as the leading supplier. In 2017, Vietnam accounted for 58 percent of all European imports, while India accounted for only 6 percent. The main reason for this shift from India to Vietnam was due to the high price of Indian cashew than Vietnam cashew. Indian prices tend to be higher than in Vietnam due to strong domestic demand and labour oriented processing (CBI, Ministry of Foreign Affairs, 2020). The instability of raw cashew nut production in Kerala is low (10.28%), which indicates that the persistence of volatility is low. Farmers started to use more wasteland for cashew cultivation with high yielding varieties which reduces the instability in the production of raw cashew nuts in Kerala during the period from 2000 – 2020. The instability analysis in the price of raw cashew nut shows a high (35.1%), which indicates that the persistence of volatility is higher. The main reason for the decline in the

price of RCN, imported raw cashew is available at a cheaper rate and better quality than domestic raw cashew nuts, which ignores costlier domestic raw cashew supplies.

Due to the high multicollinearity between the import of raw cashew nuts and domestic consumption, the latter has been dropped from the model. The correlation matrix between domestic consumption and other independent variable is present in Table 4.24.

**Table 4.13 Correlation between the import of raw cashew nuts and domestic consumption**

Variables		Quantity of Import
Domestic consumption	Pearson correlation	.937**
	Sig. (2-tailed)	.000
	N	21

\*\*Correlation is significant at the 0.01 level (2-tailed)

The quantity of import of raw cashew nuts and domestic consumption is significant with a positive correlation (.937\*\*) at a one percent level.

**Table 4.14 Compiled table of Production, Import, Export and International price in India**

<b>Years</b>	<b>Production (In'000 MT)</b>	<b>Quantity of Imports (in '000 MT)</b>	<b>Quantity of exports (in '000 MT)</b>	<b>International price (Price/ MT in US dollar)</b>
1990-91	295	82	49	4891
1991-92	534	106	50	5697
1992-93	349	134	53	4925
1993-94	348	191	69	4774
1994-95	322	228	70	5164
1995-96	418	232	72	5257
1996-97	430	236	74	5295
1997-98	360	240	76	4936
1998-99	460	247	86	5033
1999-2000	520	253	92	6185
2000-01	450	249	89	5352
2001-02	472	355	98	4074
2002-03	506	401	127	3453
2003-04	535	452	100	3849
2004-05	544	578	126	4427
2005-06	573	565	114	4747
2006-07	620	586	118	4503
2007-08	665	605	114	4756
2008-09	695	605	109	5436
2009-10	613	752	108	4506
2010-11	653	529	105	4964
2011-12	725	809	130	6669
2012-13	752	898	100	7516
2013-14	753	776	114	7235
2014-15	745	940	118	6897
2015-16	671	958	96	6423
2016-17	745	770	82	7968
2017-18	817	649	84	7134
2018-19	743	835	66	6598
2019-20	703	938	67	6345

(Source: Compiled from secondary data)

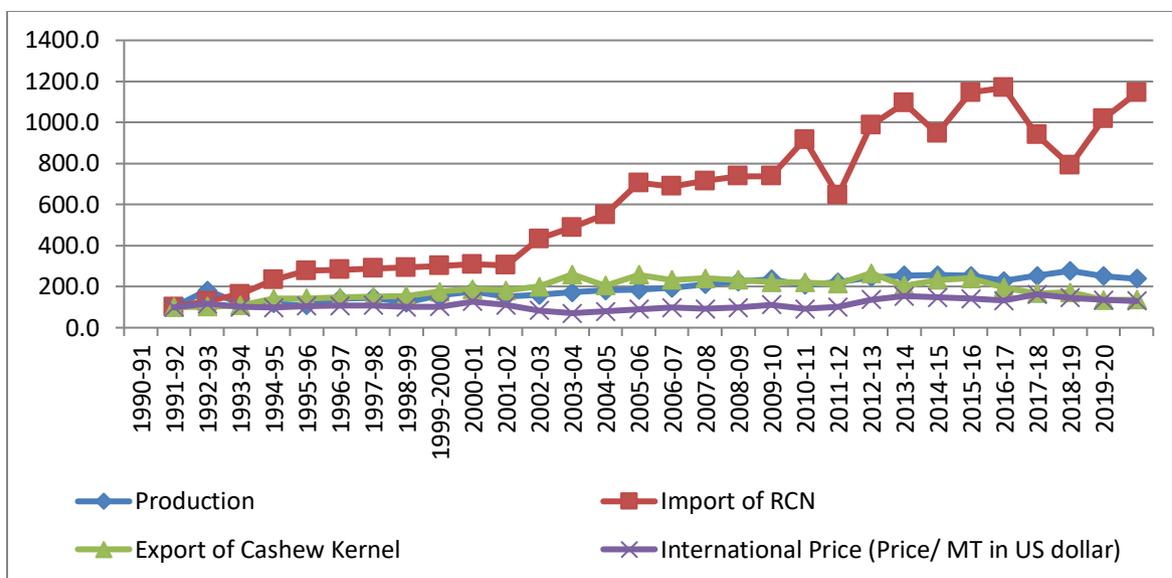


Figure 4.15 Production, import, export and international price of cashew in India

Note: The values are indexed to 100 during the first year

The variables were arrived at based on different literatures (Kumar (2007), Nalini (2008), Umesh (2009) and Wongnaa (2013)). The study tried to examine the variables that influence the export of cashew from the country. The exports of cashew are postulated as a function of import, production and international price of the product and government policy is taken as a dummy variable. The important policy change of the Standard Input Output Policy has taken place during the period 2018. The change in government policies showed from the year 2018 to 2020 given the value as “one” and the rest of the years given as “zero”.

The functional relationship is defined as:

$$\text{Export} = f(\text{IPc}, \text{Irc}, \text{Prc}, \text{Gc})$$

Where;

IPc is the International price of cashew kernel

Irc is the import of raw cashew nut

Prc is the production of raw cashew nut

Gc is the government policy which is represented by the dummy variable.

The export and import values are converted into the natural log. After these variables are fitted into the model linear regression, i.e. F-statistic value is: 28.88 and the p-value is 4.781e-09, which means the model is significant.

The model as residuals is tested by using the Durbin-Watson test and the result was less than two (1.68) which means there is no auto correlation. With the help of the Variation Inflation Factor (VIF), test multicollinearity between independent variables which is less than ten and there is no correlation between variables (value is 0.82). Hence these two assumptions are valid and fitted for regression analysis.

**Table 4.15 Regression result for production, import, export and international price of cashew in India**

	Estimate	std. Error	t value	prob.
C (Intercept)	2.976e+00	3.229	9.217	
	0.00000000162***			
Log(Import)	2.966e-02	7.267	4.081	0.000402***
Production	5.889e-04	3.959	1.488	0.149345
Int.Price	-1.038e-04	2.843	-3.650	0.001211**
Dummy	-4.331e-01	8.547	-5.067	0.0000313***

Fitted regression model equation is:

$$\mathbf{Ln_{ec} = \alpha_0 + \alpha_1 \ln_{Irc} + \alpha_2 \ln_{prc} - \alpha_3 \ln_{Ip}}$$

Where;

$\text{Ln}_{ec}$  = Export of cashew kernel

$\alpha_0$  = Intercept

$\alpha_1 \ln_{Irc}$  = Import of raw cashew nut

$\alpha_2 \ln_{prc}$  = Production of raw cashew nut

$\alpha_3 \ln_{IP}$  = International price of cashew kernel

Multiple R-squares of 0.82, the value indicated that 82 percent of the variability in export is explained by the model.

The independent variables like import, international price and government policy (dummy variable) which influence the export of cashew kernel from India are taken up for regression analysis. The results reveal that the government policies (Standard Input Output Norms, reduction of export incentives and imposition of import duty of cashew) affect the export of cashew from India.

Here the reference category was taken as years where government policies had changed *i.e* 2018, 2019 and 2020. The results showed that the logarithm of export is positively related to the logarithm of import and production but negatively related to international price and government policies. The co-efficient of the dummy variables is to be interpreted as differential values from the reference category. Thus, the co-efficient of the government policy variable taken as a dummy in the aforementioned table suggested that the export on average was less in the reference category years where the government policies had drastically changed.

## **OBJECTIVE II**

### **4.2 The export marketing strategies of cashew exporters**

According to Cavusgil and Zou (2015), export marketing strategy is how a firm responds to the interaction of internal and external pressures to accomplish the export venture's goal. It encompasses all aspects of a marketing strategy, such as product, promotion, pricing, and distribution. The activity of selling items or services to a foreign country is known as export marketing. Products are manufactured or distributed in the company's home country and sold to buyers in other countries. However, there is a distinction to be made between the marketing strategies for domestic buyers and especially targeted toward overseas buyers. This is where the relevance of the export marketing strategy for overseas buyers comes into play.

For analysing the export marketing strategies of cashew exporters, primary data was collected from cashew exporters in Kollam district of Kerala. A sample of 68 cashew exporters who have been continuously exporting cashew for the last five years were selected through stratified random sampling method. A pre-tested schedule was adopted to survey the cashew exporters owing to the small and finite size of the population. In addition, the survey participants have less than ten to twenty five years of experience in cashew processing and export. The objective 'export marketing strategies of cashew exporters' was analysed under the following heads:

#### **4.2.1 Basic information regarding cashew exporting companies**

#### **4.2.2 Export marketing strategies of cashew exporters in Kerala**

#### **4.2.1 Basic information regarding cashew exporting companies**

The surveyed respondents were analysed for different criteria such as the legal form of the company, sources of funds, activities of the company, number of employees, experience in cashew exports, type of exporter, volume of cashew export, quality

certification for cashew export, import volume, domestic sales and export volume to different countries were analysed by using percent and rank order scale.

#### 4.2.1.1 Legal form of the exporting companies

Emerging entrepreneurs can start a cashew processing business as an individual, ownership, partnership or joint-stock company. As per the survey, cashew firms that are under a sole proprietorship employed more cashew workers. Under partnership firms, the numbers of full-time and part time employees are lesser than that in a sole proprietorship. Table 4.16 shows the legal form of the cashew exporting companies in Kollam district.

**Table 4.16 Legal form of the exporters companies**

<b>Legal forms</b>	<b>Frequency (N=68)</b>	<b>Percent</b>
Sole proprietorship	49	72
Partnership	16	23
Government	2	4
Private Limited Company	1	1
<b>Total</b>	<b>68</b>	<b>100</b>

(Source: compiled from primary data)

It can be seen from Table (4.16) that 72 percent of the exporters are sole proprietorship, 23 percent are partnership firm, four percent are Government firm and one percent is a private limited company.

#### 4.2.1.2 Source of funds

Large capital is required for the establishment of any industry and its smooth functioning. The main source of capital is bank loans, and the majority of the industry relies on bank credits. Such units can be funded through any of the Scheduled Commercial Banks, Regional Rural Banks and Co-operative Banks.

From this survey, it can be revealed that all the respondents are using both own funds and borrowed funds from reputed institutions to start their business.

#### **4.2.1.3 Activities undertaken by the exporting company**

The main activities of an export company include local procurement, procurement from other states in India, import, processing, branding, packaging and export. Processing includes roasting, shelling, kernel drying and peeling, grading and packing.

The export companies participating in the survey have done all the work except procurement from other states in India. During the survey, the exporters pointed out those raw cashew nuts from other countries in the world are of relatively better quality than other states in India.

#### **4.2.1.4 Number of employees in exporting companies**

The cashew processing industry in Kerala is known to be highly labour intensive due to the various types of manual work. The proportion of temporary/casual workers is higher in supervision/office work and other jobs usually undertaken by men. In cutting, all workers engaged were in the permanent category. Peeling, this is the slowest activity in cashew processing, and shelling, the relatively unattractive job; require the maximum number of workers. The cashew processing sector in Kerala has not adopted any mechanised processing. As mentioned earlier (first chapter), raw nuts can only be cut if steamed. Only one percent of workers are involved in the cutting process. Grading and shelling require one-third of the required workforce. These activities - peeling, shelling, cutting and grading - involve 95 percent of the workforce (Binu, 2018). The number of employees in exporting companies is given in Table 4.17.

**Table 4.17 Number of employees in exporting companies**

<b>Number of employees</b>	<b>Frequency (N=68)</b>	<b>Percent</b>
Less than 5000	34	50
5000- 10000	32	47
Above 10000	2	3
<b>Total</b>	<b>68</b>	<b>100</b>

(Source: compiled from primary data)

The survey found that 50 percent of the companies have less than 5,000 employees. Forty-seven percent of companies now employ between 5,000 and 10,000 people. Only three percent have more than 10,000 employees from selected export companies. Binu (2018) stated that among the various types of management, the proportion of workers in the private sector is higher than in the government and co-operative sectors. During the survey, exporters opined that a striking feature of the workforce in the exporting companies is relatively lesser presence of the younger generation in the cashew sector. The unattractiveness of the job, low wages, higher education levels, changing aspirations of the younger generation, a version of employment in a not – so – modern industry and the availability of jobs in other sectors which provide a better working environment might have contributed to the failure of the sector in attracting young workers.

#### **4.2.1.5 Experience of exporters in cashew export**

The sample consisted of exporters with less than ten years to more than twenty five years of experience in the field. Further, the exporters were classified into three groups as per the normal norms in the industry viz. new entrants, medium level, and long levels. Exporters up to ten years of experience were classified as new entrants whereas those with 11 to 25 years of experience were classified into medium levels and those with more than 25 years of experience were classified into long levels (Bhoodes, 2012). The

experience level of surveyed exporters were classified as per the norms in the industry are shown in the Table 4.18.

**Table 4.18 Experience of exporters in cashew export**

Experience in cashew export	Sole proprietorship		Partnership		Government		Private Limited Company	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
New entrants (<10 years)	10	20	5	31	0	0	0	0
Medium Level (11 to 25 years)	37	76	11	69	0	0	1	100
Long level (> 25 years)	2	4	0	0	2	100	0	0
<b>Total (N=68)</b>	<b>49</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>2</b>	<b>100</b>	<b>1</b>	<b>100</b>

(Source: compiled from primary data)

The experience in cashew export are classified as per the legal structure of exporting business is shown in the Table 4.18. Out of the exporters surveyed, 76 percent of the sole proprietorship respondents, 69 percent of the partnership respondents and one private limited company have 11 to 25 years of experience at the medium level. While 20 percent of sole proprietorship respondents and 31 percent of those in partnership had less than ten years of experience in cashew export. The remaining respondents in sole proprietorship (4%) and government companies have more than 25 years of experience in cashew export. As mentioned in earlier table 4.28, majority of the respondents (72%) are doing

sole proprietorship. From this, it can be observed that most of the exporters run it as a sole proprietorship business. When their time is up it is taken over by their children.

#### 4.2.1.6 Types of cashew exporters

The cashew exporters were categorised into four i.e. casual, occasional, regular, and export oriented. The casual group normally concentrates on the domestic market and occasionally exports to meet the bank's requirement (as they avail the export finance from banks). The second group also concentrates on the domestic market but exports those grades which find a better price in the export market. This group is not much quality concerned, as they concentrate in the domestic market. The third group concentrates more on the export market and sells those grades which find a better price in the domestic markets. They are more quality conscious as they concentrate on the export market. The last group concentrates mainly on the export market and is quality oriented. They sell only the non – exportable grades (splits, butts, desserts pieces) in the domestic market (Bhoodes, 2012). The following Table 4.19 shows the different categories of cashew exporters.

**Table 4.19 Types of cashew exporters**

<b>Types of cashew exporters</b>	<b>Frequency (N=68)</b>	<b>Percent</b>
Regular exporter	7	10
Export oriented	61	90
<b>Total</b>	<b>68</b>	<b>100</b>

(Source: compiled from primary data)

Based on the survey, Table 4.19 shows various types of cashew exporters. The majority (90%) of the exporters surveyed were export oriented category. A few respondents (10%) were regular exporters in the cashew industry. None of the sample exporters are casual and occasional cashew exporters.

#### 4.2.1.7 The quality certification for cashew export

The cashew nut is an international food commodity and its trade is determined by global demands. The developed market economies in the world impose certain quality measures to buy kernels from developing countries like India. Therefore, the processors who wish to export cashew nuts from India should adhere to international quality standards. The United Nations Economic Commission for Europe (UNECE) stipulates many quality parameters related to appearance, size, moisture content, uniformity, hygiene, packaging, etc. The requirements of quality standards may vary from market to market and from country to country. Indian exporters currently possess international food quality certificates from the Food and Drug Administration (FDA), United States Department of Agriculture (USDA), Jewish Dietary Regulations like KOSHER, British Retail Consortium (BRC) Global Standards, International Organization for Standardization (ISO), Food Safety and Standards Authority of India (FSSAI) and Hazard Analysis Critical Control Point (HACCP). The CEPCI statistics, 2019 revealed that only 47 percent of the registered firms hold one or more global quality certificates. 18 percent of firms hold only one certification from a single agency and 19 percent hold multiple certifications from different countries. The details of exporters who are certified under these quality certification agencies are given in the below Table 4.20.

**Table 4.20 Number of companies that obtained certification for cashew export (N=68)**

<b>Countries</b>	<b>FDA</b>	<b>USDA</b>	<b>KOSHER</b>	<b>BRC</b>	<b>ISO</b>	<b>FSSAI</b>	<b>HACCP</b>
USA	25 (38)	10(40)	-	4 (28)	10(15)	8(12)	16(28)
UK	16 (3)	5(20)	-	10 (71)	8(12)	12(18)	10(17)
Dubai	-	5(20)	15 (60)	-	10(14)	8(11)	12(21)
Japan	20(29)	-	-	-	9(12)	14(21)	15(26)
Saudi	-	-	10(40)	-	7(11)	5(6)	-

Arabia							
South Korea	10(15)	-	-	-	7(9)	6(8)	-
Europe	5(6)	5 (20)	-	-	5(8)	9(14)	4(7)
Hong Kong	-	-	-	-	12(18)	6(9)	-
<b>Total</b>	<b>68 (100)</b>	<b>25 (100)</b>	<b>25 (100)</b>	<b>14 (100)</b>	<b>68 (100)</b>	<b>68 (100)</b>	<b>57 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

From the Table 4.20 it is clear that the sample respondents of cashew exporters in Kerala hold multiple certifications for different countries. All the surveyed respondents possess both ISO and FSSAI certificate, which is required by all importing countries like USA, UK, Dubai, Japan, Saudi Arabia, South Korea, Europe and Hong Kong. The FDA certificate is required by the countries like USA, UK, Japan, South Korea and Europe. It can be observed from the Table 4.32 that 37 percent respondents are certified with USDA and Kosher. The countries like USA, UK, Dubai, and European countries require the USDA, whereas kosher certificate is necessary for Dubai and Saudi Arabia. It may also note that only 21 percent of respondents could obtain BRC global standard; which is mere for USA and UK. Majority of the respondents (88%) are certified with HACCP, which is essential for the countries like USA, UK, Dubai, Japan and Europe. This shows Kerala's competitive edge in international quality certifications, which enables them to trade internationally.

#### 4.2.1.8 Import of raw cashew nut

Despite being the largest producer of raw cashew nuts in the world, India is the largest importer in the world also (Binu, 2018). In addition to the domestic production of raw cashew, a large quantity was imported to meet the demand for cashew kernels. As has already been discussed majority of cashew exporters sourced their raw cashew nuts domestically and from other countries.

#### 4.2.1.9 Reason for import of raw cashew nut stated by cashew exporters

The survey tried to elicit the important reasons for importing raw cashew nut. The following six statements are selected from the study by Bhooedes (2012) and also from pilot survey. The Table 4.21 shows the reasons are ranked based on their importance.

**Table 4.21 Reason for import of raw cashew nut as stated by cashew exporters**

No.	Statements	Score	Rank
(a)	Import of raw cashew nut ensures uninterrupted supply	260	3
(b)	Imported raw cashew nut is tax free	65	6
(c)	Raw cashew nut is available in bulk quantity	390	1
(d)	Reduce the risk of market price fluctuation	130	5
(e)	Production of cashew is seasonal and inadequate	325	2
(f)	Provide work to employees throughout year	195	4

(Source: compiled from primary data)

Table 4.21 reveals the reasons for importing raw cashew nut by the cashew exporters in Kerala. Exporters ranked “raw cashew nut is available in bulk quantity” as the first reason for importing cashew. Exporters said that due to the lack of availability of raw cashew nut in India, they could not meet the demand of cashew kernel buyers. Exporters depended on the imported raw cashew nut from the international market and which is

available in bulk quantity. “Production of cashew is seasonal and inadequate” was ranked as the second reason for the import of raw cashew nut. The exporters were compelled to import raw cashew nuts as the production in the country is seasonal and to meet the demand during the lean season, they are resorting to imports. The third reason for the import of raw cashew nut was “import of raw cashew nut ensures uninterrupted supply”. The exporters pointed out that the availability of domestic raw cashew is inadequate and limited to the local season only. The least ranked statements for import of cashew nut were “imported raw cashew nut is tax free” and “reduce the risk of market price fluctuation”. The raw cashew nut imported from the least developed countries like Gambia, Guinea Bissau etc. are only exempted from the import duty. The fluctuations in the price of raw cashew nut adversely affect the business. The import duty and price fluctuation is a hurdle for the smooth operation and providing assured employment to the cashew workers in the industry.

#### **4.2.1.10 Volume of raw cashew nut imported by the exporters to Kerala in 2019-2020**

India’s cashew processing capacity is much greater than the domestic availability of raw nuts and the country has to rely on imports to fill this gap. Since 1938, India started to import raw cashew nuts from Africa for processing. In 1965-66 the amount increased to 1.75 lakh tonnes. India's raw nut imports reached 0.22 lakh tonnes in 1985-86 and declined over the years (Annual report of CEPCI, 2014). But since then, despite the increase in domestic production of cashew nuts, imports have continued to increase over the years. As mentioned earlier, the processing industry is also growing rapidly, thereby increasing the demand for raw nuts. Imports during 2000-01 were 2.4 lakh MT. Until 2010, the annual import was 7.5 lakh MT. But in 2014-15, there was a sharp jump in imports, and since then it has been on the rise. In 2019-20, the country imported 9.3 lakh MT of raw nuts (Table 4.2).

Kerala accounts for 60 percent of India's imports for processing (Govt. of India, 2019-2020). Currently, cashew exporters mainly import raw cashew nuts from Ivory Coast,

Benin, Tanzania, Guinea Bissau, Ghana, Indonesia, Nigeria and Mozambique, Togo, Senegal, and Gambia. The total quantity and value of raw cashew nut imported from different countries by the cashew exporters are given in Table 4.22.

**Table 4.22 Volume of raw cashew nut imported by the exporters to Kerala in 2019-2020**

<b>Country</b>	<b>Quantity ( in ‘ ‘000 tonnes)</b>	<b>Price (US\$ for one kg / tonne)</b>	<b>Value (Million US\$)</b>
Ivory coast	84(11.7)	1.15 / 1149.8	9.998 (8.75)
Ghana	87(12.1)	1.20 / 1199.9	11.262 (9.86)
Guinea Bissau	94(13.1)	1.44 / 1439.9	14.097 (12.34)
Togo	61(8.45)	1.29 / 1289.8	8.521 (7.46)
Benin	80(11.1)	1.29 / 1289.8	11.489 (10.06)
Senegal	57(7.90)	1.34 / 1339.9	10.497 (9.19)
Tanzania	137 (19.1)	1.53 / 1529.9	36.485 (31.94)
Gambia	62(8.60)	1.38 / 1379.9	8.957 (7.84)
Indonesia	11(1.50)	1.16 / 1159.9	1.363 (1.19)
Mozambique	43(6.00)	1.06 / 1059.9	1.552 (1.35)
<b>Total</b>	<b>719(100)</b>		<b>114.20(100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

Table 4.22 shows the quantity and value of raw cashew nuts imported by the exporters. The price of raw cashew varies according to the quality. From the exporter’s point of view, cashew is imported in large quantities, from Tanzania (19.1%) and Guinea Bissau

(13.1%) followed by Ghana (12.1%), Ivory Coast (11.7%), and Benin (11.1%). India is the second largest importer of unprocessed cashews from Guinea Bissau after Tanzania. Both countries produce superior quality raw cashew nuts in terms of its process, taste, and texture amongst other African origin cashew Kernels, but the size of the cashew is relatively medium. The nuts are medium in size but are harder and thus can withstand the processing stress giving a higher yield of whole shelled nuts per unit volume of raw cashew kernels. Thus Tanzania and Guinea Bissau raw cashew are preferred by cashew exporters as the processing is done either manually or with less sophisticated equipment.

Conclusively, an attempt was made to analyse the total volume of raw cashew nut import to Kerala. In the year 2019 – 2020, a total of 761'000 tonnes of raw cashew nuts were imported by the exporters in Kerala. Among these, 41'000 tonnes of raw cashew nuts were purchased from Kerala; which is five percent of the total volume of import and the rest (95%) from other countries.

#### **4.2.1.11 Domestic sales of cashew kernels by exporters**

The cashew kernel is considered as the poor man's crop and the rich man's food. The expenditure of cashew is income elastic. Thus, when the income levels are better off, there would be more spending on non –essential and luxurious commodities. Cashew kernels, which were not affordable to the middle class before, is now a common item in the monthly purchase basket of many a middle class family. There is not much cashew promotion in India, and as such it cannot be assumed that the promotion of cashew kernels has contributed to the growth of cashew consumption in India.

**Table 4.23 Domestic sales of cashew kernels by exporters**

<b>Selling domestically</b>	<b>Frequency (N=68)</b>	<b>Percent</b>
Yes	65	95
No	3	5
<b>Total</b>	<b>68</b>	<b>100</b>

(Source: compiled from primary data)

From the Table 4.23 shows the extent of domestic sales by the exporters. It can be found that majority of the respondents (95%) are selling cashew in the domestic market and only five percent of the exporters are catering exclusively to external market. The consumption pattern in India was different from other regions in the sense that she consumed broken cashew kernels mainly as a food ingredient against other regions using whole cashew kernels mainly as snacks. It observed that surveyed exporters are not selling cashew kernels in Kerala; only selling to the other states and countries.

#### **4.2.1.12 Volume of domestic sales of cashew kernels by exporters in 2019- 2020**

The cashew exporters were mainly trading to the North Indian states like Delhi, Rajasthan, Andhra Pradesh, and Utter Pradesh. The domestic sales volume and price of the cashew are shown in Table 4.24.

**Table 4.24 Volume of domestic sales of cashew kernels by exporters in 2019-2020**

<b>States</b>	<b>Quantity (in '000 Kg)</b>	<b>Value (Crores in Rs.)</b>
Delhi	5280 (61)	386.57 (61.8)
Rajasthan	1720 (20)	125.75 (20.1)
Andhra Pradesh	1609 (18)	114.65 (18.3)
Utter Pradesh	50 (0.57)	4.10 (0.65)
<b>Total</b>	<b>8659 (100)</b>	<b>631.07 (100)</b>

(Source: compiled from primary data)  
\*figures in parenthesis indicated percent to total

Table 4.24 shows the total quantity sold in the northern states like Delhi, Rajasthan, Andhra Pradesh and Utter Pradesh. A total of 8659 thousand kg cashew kernels were sold in northern states, with an amount of ₹ 631.07 Crore. Among the total volume of sales, Delhi consumes 61 percent of domestic sales, followed by Rajasthan (20%), Andhra Pradesh (18%), and Utter Pradesh (0.57%). Delhi has a well established market for the consumption of cashew kernels, which were widely used as an ingredient in food items.

#### **4.2.1.13 Marketing channel used by the cashew exporters for domestic sales**

Exporters sell their cashew kernels in the domestic market through wholesalers only. The other possible channels like opening their outlets, retailers and local shops are not done by the traders, as revealed by the survey. The preference for wholesalers is mostly because of the less stringent conditions imposed by the wholesalers. The cashews supplied in these markets are packed in plastic pouches and tins. The packages contain whole kernels but of different sizes. Wholesalers do not pay much attention to the size of the nuts. However, they often defer payments. Most transactions in the domestic market are based on trust rather than legally binding contracts.

#### **4.2.1.14 Mode of transportation used by the cashew exporters for domestic sales**

Different modes of transportation are used for trading the cashew kernels, which are railways, water and air transportation. For the domestic sales of cashew kernels, the exporters used road transport, which was suitable for short or medium distances. The container truck was mainly used by the cashew exporters to North Indian states. Road transport is more flexible for domestic sales than the other three modes (train, ship and air). It is relatively easier to track goods, secure consignments, schedule the transport and pay the relevant fees. Nonetheless, transportation of large quantities through road transportation is expensive and costs around 3 to 7 US dollars. Custom documentation

and freight charges, as well as freight bill, are not required for road transportation. It is somehow cost-effective and doorstep delivery.

#### **4.2.1.15 Classification of volume of cashew exports exported in 2019-20**

Export scales were used as the criteria for classifying the volume of cashew export into small, medium and large exporters, according to industry norms. Generally, exporters who exported less than 100 containers (TFE - equivalent of twenty feet) in a year are considered as small exporters. Those with export between 100 to 200 TFE are considered as medium level exporters and those with export above 200 TFE are considered as large exporters (Bhoodes, 2012). Based on industry norms the volume of cashew exported by exporters in the year 2019 – 2020 is shown in the Table 4.25.

**Table 4.25 Classification of volume of cashew exported in 2019-20**

<b>Volume of cashew export</b>	<b>Frequency (N=68)</b>	<b>Percent</b>
Small quantity (<100 TFE)	56	82
Medium quantity (100 – 200 TFE)	12	18
Large quantity (> 200 TFE)	0	0
<b>Total</b>	<b>68</b>	<b>100</b>

(Source: compiled from primary data)

The Table 4.25 shows the distribution of exporters based on the volume of cashew exported by them in the year 2019-20. The majority of the exporters (82%) exported in small quantity, while 18 percent exported in medium quantity and no exporters who exported in large quantity were found during the survey period.

#### 4.2.1.16 Volume and value of cashew kernel exported by the exporters to different countries in 2019 – 2020

India imports raw cashew nuts for processing and marketing and exports substantial quantities of cashew kernels to various countries. Cashew kernels are exported to more than 60 countries in the world mainly to USA, Netherlands, Japan, Saudi Arabia, Dubai, etc. Different grades of cashew kernels were exported to different countries. The grades are W180, W210, W240, W320 and W450. The price of these grades for the international market is fixed by the New York market. Grade wise cashew and price were given in below Table 4.26.

**Table 4.26 Price of different grades of cashew in New York market as on 2019-2020**

<b>Grades of cashew</b>	<b>Price(US\$ for one Kg / Tonne)</b>
W180	11.90 / 11899.2
W210	10.60 / 10598.5
W240	8.80 / 8799.7
W320	8.22 / 8218.7
W450	8.00 / 7999.8

(Source: compiled from primary data)  
(Grades of cashew – Annexure – V)

The premium quality among the cashew is W 180, which is called the “King of Cashew” and they are large in size and expensive. The next quality is W 210 which is popularly known as “jumbo nuts”. Grade W 240 is an attractive grade and reasonable price. W 320 cashew kernels are the most popular and the most widely available in the world. The smallest and cheapest white whole kernel is W 450, which is the most preferred of all the cheaper whole grades (source: CEPCI, 2020).

Cashew exporters exported cashew to USA, UK, Dubai, UAE, Japan, Saudi Arabia, South Korea, Europe, and Hong Kong. The same value is followed for all the countries,

the quantity, grades and value of exported cashew kernels from Kerala to different countries are elucidated in the following Table 4.27.

**Table 4.27 Total volume and value of cashew kernel exported by the exporters to different countries in 2019 – 2020**

Country	W180		W 210		W 240		W 320		W 450		Total	
	quantity (tonnes)	Value (million USD)	quantity (tonnes)	Value (million USD)								
<b>USA</b>	3780 (84)	4.495 (84)	230 (43)	0.243 (43)	1320 (17)	1.162 (17)	730 (6)	0.604 (6.4)	500 (17)	0.400 (17)	<b>6560</b> <b>(24)</b>	<b>6.90</b> <b>(28)</b>
<b>UK</b>	500 (11)	0.600 (11)	75 (14)	.0800 (14)	2400 (31)	2.114 (31)	960 (8)	0.794 (8)	600 (20)	0.480 (20)	<b>4535</b> <b>(17)</b>	<b>4.06</b> <b>(17)</b>
<b>Dubai</b>	200 (4.4)	0.240 (4)	25 (5)	.0266 (5)	2070 (27)	1.823 (27)	1970 (18)	1.630 (17)	840 (28)	0.672 (28)	<b>5105</b> <b>(19)</b>	<b>4.39</b> <b>(18)</b>
<b>Japan</b>	-	-	-	-	520 (7)	0.458 (7)	5830 (52)	4.824 (52)	45 (2)	.0360 (1)	<b>6395</b> <b>(24)</b>	<b>5.31</b> <b>(22)</b>
<b>Saudi Arabia</b>	20 (0.4)	.0240 (4)	-	-	560 (7)	0.493 (7)	700 (6)	0.579 (6)	-	-	<b>1280</b> <b>(5)</b>	<b>1.09</b> <b>(4)</b>
<b>South Korea</b>	-	-	-	-	-	-	100 (0.8)	.0827 (9)	30 (1)	.0240 (1)	<b>130</b> <b>(0.4)</b>	<b>0.10</b> <b>(0.4)</b>
<b>Europe</b>	-	-	200 (38)	0.213 (38)	530 (7)	0.466 (7)	860 (8)	0.711 (8)	570 (19)	0.456 (19)	<b>2160</b> <b>(8)</b>	<b>1.84</b> <b>(8)</b>
<b>Hong</b>					230	0.202	100	.0827	360	0.288	<b>690</b>	<b>0.57</b>

<b>Kong</b>	-	-	-	-	(3)	(3)	(0.8)	(9)	(12)	(12)	(3)	(2)
<b>Total</b>	<b>4500</b>	<b>5.359</b>	<b>530</b>	<b>0.562</b>	<b>7630</b>	<b>6.718</b>	<b>11250</b>	<b>9.307</b>	<b>2945</b>	<b>2.356</b>	<b>26855</b>	<b>24.30</b>
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

(Country wise volume and value of cashew exporters presented in Annexure - VI)

Table 4.27 reveals the total volume and value of different grades of cashew exported to different countries by cashew exporters in 2019-20. Among the several cashew kernel grades, W 180 is the highest grade. Saudi Arabia was the least preferred country, buying only 0.4 percent of the entire volume of W 180, while the USA holds the highest position (84%) for preferring W180 from Kerala. Due to the high cost of cashew kernel from Kerala, nations like South Korea, Europe, Hong Kong, and Japan did not possess W 180 in 2019–20. W 210 is the next quality cashew kernel grade after W 180. In 2019–20, 530 tonnes of cashew kernels were exported to various nations. 43 percent of this total volume was purchased by USA. The smallest percent (5%) came from Dubai and had a value of 0.0266 million US dollars. During the year 2019–20, 7630 tonnes of W 240 cashew kernels were shipped to various nations. UK (31%) was the highest demanded country for W 240 whereas the least was Hong Kong (3%). All nations, including United States, United Kingdom, Dubai, Japan, Saudi Arabia, South Korea, Europe, and Hong Kong, imported the W 320 in 2019 - 20. Among them, South Korea and Hong Kong were the two least preferred nations, with Japan (52%) having the highest position of W320. The last premium quality grade was W 450. Dubai was the largest buyer of this grade (28%) while South Korea was the least preferred market for W 450 (one percent).

Conclusively, attempt was made to analyse the total volume of cashew kernel exported from Kerala. In 2019-2020, the surveyed respondents exported 26855 tonnes of cashew kernels to the different parts of the world, which is only meager portion (5%) of the total volume of import (Table 4.22). The high price of cashew kernels from Kerala is the major reason for the decline in the export business.

#### 4.2.1.17 Export of value added products by cashew exporters

Roasted and salted cashew, spice coated cashew, honey-coated cashew, garlic juice cashew and barbecue cashew flavours are the major value added products from cashew kernel. No exporter has been making any value added products of cashew for various reasons. The reasons were ranked based on the opinion of exporters.

**Table 4.28 Reasons for not exporting value added products by cashew exporters**

No.	Statements	Score	Rank
(a)	Low demand in international market	390	1
(b)	Lack of advanced production techniques	297	2
(c)	Processing reduces the quality	251	3
(d)	High cost of marketing abroad	232	4
(e)	Impact of duties and taxes	130	5
(f)	Difficult to complete the formalities (phyto sanitary certificate)	65	6

(Source: compiled from primary data)

Table 4.28 shows the ranked reasons for not exporting value added products. The most important reason for the abstinence from exporting value added products is the low demand for them in the international market which is evident from Table 4.28. Varying

taste preference from country to country, strong brand image and preferences for native brands in the consuming countries was extremely difficult to penetrate the value added products into the foreign market. Thus the cashew industry also lacks the state of the art technology in value addition. “Lack of advanced production techniques” was the second rank for not exporting value added products. Compared to cashew kernels, the advanced production techniques; labour cost is very high for cashew exporters in Kerala. “Processing reduces the quality” was ranked third by the exporters value added products. Any cashew exporter entering into value added production and marketing in the consumer country, would be looked as a competitor to the existing processors abroad, who are otherwise bulk purchasers of plain cashew kernel from Kerala. This may result in those buyers boycotting the produce of that exporter, which would result in the exporter losing his client abroad. The next reason ranked as “high cost of marketing abroad”. A normal 20 Ft. container could accommodate 15.8 MT of plain cashew kernel with proper packing, whereas in the case of value added packages, it would accommodate only 10 MT. This considerably increases the marketing cost by three times.

#### **4.2.1.18 Marketing channel used by the exporters for export of cashew kernel**

The cashew exporters have adopted different strategies for selling to overseas buyers. Some of them adopted direct sales to overseas buyers. Most of these exporters had special relations with foreign buyers who had provided advanced financing in trade. Others sell their products to foreign markets through an agent. Another strategy adopted is a combination of the two methods mentioned above, viz. direct sales and agent sales.

Direct sales to overseas buyers are adopted by all the respondents. No one sells cashew through agents. Direct sales seemed to be more profitable for them, as they can save agent commission. Moreover, in the digital world it is easy for them to establish personal contact with overseas buyers.

#### **4.2.1.19 Mode of transportation used by the exporters for the export of cashew kernel**

The mode of transport depends on the terms specified in the contract between the exporter and the importer. Transportation involves how the product moves, from the point of production or storage to the point of consent to be delivered to the buyer. The mode of transport for product delivery has a decisive influence on its price. This choice reflects directly on the product competitiveness and therefore must be well thought out. The four main modes of international transport are road, sea, rail and air. Each mode has its perks, drawbacks and conditions pertaining to the type of goods being exported or imported. Sometimes, there's a need to use more than one mode of transport, or exporters may contact freight forwarders to handle the logistics. The best mode of transport for export and import depends on a large number of factors including weight, value, size and various types of cargo. Transportation always determines a source and destination, and laws are important in accordance with the laws and regulations of the country.

Cashew exporters in Kollam district used sea transport for export of cashew kernels and import of raw cashew nuts. Globally, sea transport is the most widely used, especially container transport. About 90 per cent of the products are shipped by sea due to low cost. (Rajesh, 2015). Transportation costs vary according to freight characteristics, affecting weight, sensitivity; perish ability, value, distance, origin, and destination port pair selection. Freight rates can be based on weight or volume of the product and the type of container used. Typical rates for shipping by sea container for a 20ft container charges are USA – Canada (10000- 12000 USD), USA – China (10000-12000 USD), UK – Spain (10000-11000 USD), UK – Australia (12500-12800 USD). Compared to air cargo (20000 USD), sea transport allows large volumes to be shipped at a lower cost and also more than one container at a time.

#### 4.2.1.20 Awareness about freight cost for export

Freight cost is a legal term that is used in contracts for international trade. It specifies the seller of the goods is required to arrange for the carriage of goods by sea to a port of destination and provide the buyer with the necessary documents (bill of lading) to obtain the items from the carrier. All of the respondents were aware of the freight costs associated with exporting cashews to other nations. The freight charges vary depending on the country of import, which is charged by the port. The freight charges to different countries, before and after covid are revealed by the exporters and are depicted in Table 4.29.

**Table 4.29 Freight charges imposed for country wise (20 Ft container)**

<b>Country</b>	<b>Freight charges up to 2019</b>	<b>Freight charges after 2019</b>
Japan	500 USD	1000 USD
UAE	600 USD	1000 USD
Dubai	600 USD	1000 USD
Saudi Arabia	800 USD	3000 USD
USA	2000 USD	12000 USD
Hong Kong	600 USD	1000 USD
Europe (UK)	2000 USD	11000 USD

(Source: compiled from primary data)

The freight charges are the highest for USA whereas, Saudi Arabia, Japan, Dubai, and Hong Kong charge lower rates compared to other European countries. Based on the information elicited from the exporters, it is obvious that there is an escalation in the

prices due to covid -19. Exporters were of the opinion that the escalation of freight charges is a side effect of the pandemic.

#### **4.2.1.21 Packaging Norms at the time of cashew export**

Packaging is available in tins and pouches depending on the requirement of the buyer. Mainly the domestic, Middle East market like Dubai, Saudi Arabia and South Korea prefer tin cashews whereas, traditional overseas markets such as USA, UK, Europe, and Japan prefer cashew nuts packed in flexi bag /pouches. Final packing in two number of 25 Lbs pouch and the single pouch of 50 Lbs depending on the requirement of buyers.

#### **4.2.1.22 Payment terms used in cashew export**

The Terms of Payment are Letter of Credit (LC), Cash Against Document (CAD) and Telegraphic Transfer (TT) depending on the term of the contract. The countries like USA, UK, Dubai, South Korea and Europe have opted for the Cash Against Document (CAD) method. The rest of the countries, Japan, Saudi Arabia and Hong Kong, opted for Telegraphic Transfer (TT). Presently, no one uses the Letter of Credit, due to the possibility to defraud this method.

Conclusively, the basic information regarding cashew exporting companies could be outlined as below: regarding the legal form of the exporting companies, the majority (72%) of the respondents is sole proprietorship. The exporters are using both own fund and borrowed from reputed institutions as the source of funds. The exporters in Kerala doing all the activities like local procurement, import, processing, branding, packaging and export. During the survey, it observed that the presence of the younger generation is very less due to the unattractiveness of the job, low wages etc. The majority of the surveyed exporters (76%) have 11 to 25 years of experience in the cashew industry and also most of them are export oriented exporters (90%). The imported raw cashew nut available in bulk quantity is the major reason for the increase in importing the raw cashew nuts to Kerala. In 2019-20, a total of 761 thousand tonnes of raw cashew nuts

were imported. Among this 41 thousand tonnes of raw cashew nuts were purchased from Kerala, which is five percent of the total volume of import and the rest (95%) from other countries. Delhi is the major domestic market for cashew nuts from Kerala; cashew nuts were widely used as an ingredient in their food items. Exporters directly sell their cashew kernels in the domestic market through wholesalers by using container truck. In 2019-20, the majority of the exporters (82%) exported small quantity (<100 TFE) only. A total of 26855 tonnes of cashew nuts were sold in 2019-20, with a value of 243.01 million US\$. Among these, USA accounted for the largest share of cashew nuts from Kerala, followed by Japan, Dubai, UK, Hong Kong, Saudi Arabia and South Korea. Low demand in the international market is the major reason for abstinence from the export of value added products. The exporters marketed the cashew directly to overseas buyers using sea transport. Based on the information elicited from the exporters, it is obvious that there is an escalation in the freight charge due to covid -19. Mainly the domestic, Middle East markets like Dubai, Saudi Arabia and South Korea prefer tin cashews whereas, traditional overseas markets such as USA, UK, Europe, and Japan prefer cashew nuts packed in flexi bag /pouches. The countries like USA, UK, Dubai, South Korea and Europe have opted for the Cash Against Document (CAD) method. The rest of the countries Japan, Saudi Arabia and Hong Kong, opted for Telegraphic Transfer (TT). At present, no one uses the Letter of Credit, due to the possibility to defraud this method.

#### **4.2.2 Export marketing strategies of cashew exporters**

Preliminary information were collected from the exporters using pre-tested questionnaires to better understand and design the current and future export marketing strategies of the (Indian) cashew exporters in Kerala. The schedule is mainly designed to address the current and future cashew export marketing strategies in Kerala from four marketing mix dimensions (export product strategies, export pricing strategies, export place strategies and export promotion strategies). Variables selected from different studies (Shiferaw 2015, Bhooedes, 2012, James 2014) were identified after eliciting the expert's opinion. To figure out the types of export marketing strategies descriptive frequency of percent analysis was employed. They are being done, done but not now and

planning in future was used. The results are presented under the following six consecutive sub heads.

#### **4.2.2.1 Export product strategy**

Cashew is an agricultural product and the quality of the final product, i.e. the cashew kernel, its quality, may vary from origin to origin and the methods of processing. The selection of the right raw material from the right source, the techniques adopted in processing and the adherence to quality standards, all ensure the right quality of the end product. The general specifications of cashew kernels and the tolerance levels are mostly specified by Cashew Export Promotion Council of India (CEPCI), Kerala and Association of Food Industries (AFI), USA. Still, within the tolerance limits fixed by the above, the quality of cashew kernels varies and also the acceptance. There can be a general nature of cashew kernels, which are exported from a country, may vary from the produce of another country. The same applies to the produce of different exporters within the exporting country. The general quality of cashew kernel exported from a country will brand the product of the country, marking the level of acceptance/ preference of the produce of the country. The “Vision 2020” proposed the specific marketing of Indian cashew kernels under the common brand name “Indian cashew” (CEPCI, 2019).

For the purpose of analysing the export marketing strategies of cashew exporters, the major export product strategies were listed out and exporters were asked to list out the strategies followed by them. The product strategies followed by the exporters are as follows.

- **Offering certified cashew**

The exporters in Kerala, exported cashew with certifications like International Organisation for Standardization (ISO), Hazard Analysis Critical Control Point (HACCP) and British Retail Consortium (BRC). The certified cashew nuts are allowed for international trade.

- **Offering cashew in specified grades**

Wholes, Scorched Pieces, Butts, Splits and dessert pieces are the specific grades in cashew, among these grades of cashew; it is exported as per the requirement of the buyer.

- **Offering premium cashew**

W180, W210, W240, W320, W450 are the premium cashews. Colour is the first catching parameter for the product. The inherent colour of the cashew kernel is slight ivory to grey, which can be preserving as such in good processing. This would result in a golden hue after roasting, which is much accepted in the market. Also the removal of skin using knife and damaging the outer coating of the kernel will result in patch marks after roasting.

- **Offering crispier cashew**

Crispiness which is indicated that less moisture content in cashew. According to the CEPCI and AFI norms the acceptable level of moisture content in plain cashew is seven percent.

- **Following CEPCI nomenclature with respect to infestation level**

Infestation in cashew kernels leads to rejection of the kernels by the health authorities of the importing countries. Processing of cashew under the un- hygienic conditions, long exposure of cashew kernels and improper packing, lead to getting infestated.

- **Ensuring minimum broken percent as per the norms of CEPCI**

The cashew kernels subjected to breakage during handling and transit and also the lesser levels of moisture results in large breakage. The acceptable level of broken kernels is maximum five percent of the total weight.

- **Maintaining the odour of cashew**

Cashew turns sustainable to rancidity if not properly preserved. More levels of moisture, long storage and improper packing all leads to rancidity in the cashew kernels that results in unacceptable odour.

- **Offering high quality cashew better than other cashew exporter countries**

The taste and quality of cashew kernels depends more or less on the method and technique of processing. Kerala normally uses the drum roasting method, which is an oil expulsion process and as such the presence of Cashew Nut Shell liquid (CNSL) is almost nil in Indian cashew. Other exporter countries (competitors) use different types of processing that retain a portion of the CNS liquid in the kernels. As such the cashew kernels may not be that sweet as that of drum roasted. Taste and quality of the cashew kernel is an important parameter in its acceptance in the international market, especially when used as a snack/confectionary items.

- **Supply of sufficient capacity demanded by importing countries**

Exporters always meet the requirement of the buyers as per their CEPCI/ AFI specification (infestation level, breakage percent etc.).

From the survey it was found that all the above mentioned strategies are presently done by all the respondents irrespective of its category. No specific strategies have been designed for future by any of the exporting firms.

#### **4.2.2.2 Export packaging strategy**

The Indian cashew industry is an export-oriented industry. Hence it is important that the Indian cashew industry adopts the necessary changes to match the requirements of the buying countries. Product-specific, market-specific considerations have to become the basis for identifying a suitable packaging system for the export of the cashew. The CBI's packaging manual defines packaging as the "means of providing protection, containment, presentation, identification, information and convenience" to the product or commodity

packed. It further states that packaging has to be “for the full life of a product during storage, transport, display and use”. Cashew consuming markets are located far away from the producing or processing countries. The climatic and the temperature differences, the humidity conditions are too wide to be ignored. The packaging should be able to withstand these stresses and be able to protect this high value product from the vagaries of vastly divergent climatic conditions. Cashew is a high value commodity and needs extra care in packaging. Packaging does play an important role in cashew exports. “The product may be excellent, but it will not achieve customer acceptance unless it is well packed” (James, 2014). If proper care is not taken, it becomes prone to fast infestation. Presence of oxygen and moisture accelerates infestation. The moisture level is a critically important factor. As such, the packaging material chosen should have good barrier properties against oxygen and moisture.

The respondents were asked to express their opinions towards the export packaging strategies of cashew exporters. The whole respondents confirmed that the variables given to assess the export packaging strategies of cashew exporters were found as strategies that are already in place. The packaging strategies followed by the exporters are as follows.

- **Flexi bag packaging**

The flexi packs being flexible, cartons plays an important in the total packaging. The paper quality, floating direction, compression strength, type of adhesive all are important factors that affect the quality of flexi bag packaging. Today 750 cartons 50 lbs can be loaded into a 20-ft container. Vaccumisation and gas flushing will do in the packaging process to avoid infestation. Vaccumised using electric pumps, filled with CO<sub>2</sub> gas. CO<sub>2</sub> and nitrogen will prevent infestation and clumping. The higher the moisture and CO<sub>2</sub>, there is a chance of clumping; and higher the presence of oxygen and moisture content, higher the chance for infestation. Hence the vacuum level, oxygen and moisture levels are very crucial in flexi bag packaging. This is the most rational choice because; “flexible

packaging materials are less energy consuming compared to the traditional wooden and tin materials. Cost saving both in terms of material and conversion costs contributes to the reduction of transport and storage costs”.

- **Tin pouch packaging**

Tin packaging was developed more than half a-century ago and has undergone only minor modifications. During that period, in the cashew buying countries, there have been colossal changes in their socio-economic conditions; industrial growth and wage rates; income expenditure patterns; health, safety and environmental awareness levels and the like. The most important one is that it is rodent proof. Since the tin container is rigid the product inside is saved from the impact of various external stresses during transit. The rigid tin walls provide extra stacking strength to the cartons. The conventional and extensively used packing system is the four gallon tin system, where one tin with a net weight of 11.34 kg (25 Lbs). Two such tins of the same grade are packed in a carton for export. The net weight of each carton is thus 22.68 kg (50 Lbs). Some exporters also pack in tins 10 kg net to suit the requirements of buyers. The filled tins are vacuumised and filled with carbon – di- oxide gas and sealed.

- **Wooden packaging**

A wooden box is a container made of wood for storage or as a shipping container. Wooden boxes have been used from several years for storage needs. It is the best way to give protection for the products that are being stored as these boxes can't easily be broken. This packaging is renewable. Resource – friendly raw material that behaves completely CO<sub>2</sub> neutrally in the value added chain and can be easily disposed of. The wooden packing contains can easily become contaminated with fungi and bacteria and it requires a lot of human labour and time to unpack, which makes unpacking expensive.

To figure out the export packaging strategies which are being done, done but not now, planning in future, are analysed in the below Table 4.30.

**Table 4.30 Export packaging strategies of cashew exporters**

Packaging strategies	Frequency (N = 68)		
	Being done (%)	Done but not now (%)	Planning in future (%)
Following flexi bag packaging	100	0	0
Following tin pouch packaging	100	0	0
Following wooden box packaging	0	100	0

(Source: Compiled from primary data)

With respect to export packaging strategies, 100 percent of the respondents followed flexi bag and tin pouch packaging. Types of packaging are decided by the importing countries. Many of the cashew kernel buyers from Dubai, Saudi Arabia and South Korea advise the cashew kernel exporters in Kerala to opt for tin pouch packaging because these countries are not allowing plastic materials into their country. The cashew Kernel buyers in USA, Europe and Japan have been advising the cashew kernel exporters in Kerala to opt for flexible packaging. None of the respondents are following the wooden packaging method; because it is not convenient to transit. Currently, competitors such as Brazil and Vietnam are required to use cashew that are packed in eco- friendly packing materials and are packed in hygienic conditions based on the culture and taste of the consumers.

#### **4.2.2.3 Export pricing Strategy**

Cashew kernels are priced at \$ per lb in the international trade. Cashew traders and buyers often look at the difference between the grades, as these can make an impact on purchasing decisions. Trends and dynamics of cashew trade and prices of both the in-shell cashew and cashew kernels are responding primarily to the tightness of the supply - demand balance influenced by unpredictable factors such as weather, economic and social crisis and small farmers' behaviour. In addition to the supply/demand position, prices have been driven by rising costs at origin. This renders the market highly speculative, with long term price evolution hard to predict and short term prices

volatility. Frequent misbalances between the availability of cashew supplies and the demand lead to strong price swings, market volatility and stimulate speculation and cartel trading. Indian and Vietnamese packers, in particular, have seen price rises in packing material, energy and labour costs. The Indian industry, in particular, has been impacted by higher labour costs and labour shortages, because new industries in southern India offer the cashew industry's traditionally female workforce better paid work for themselves or other family members. It seems likely that in time of supply disruption, high prices will occur. Reliable market information is difficult to get by in order to re-establish the market equilibrium, where from the critical impact of hearsay, rumors and speculation on cashew pricing. In-shell cashew market in particular is largely speculative and short-term oriented; the few large traders dominating the market can influence the price movements.

Respondents were asked to indicate the export pricing strategies followed by them. All the respondents affirmed that they are following premium pricing strategy and competitive pricing method as the major pricing strategies of cashew exporters. The pricing strategies followed by the exporters are as follows.

- **Competitive pricing method**

Competitive pricing is the process of selecting strategic price points to take best advantage of a product or service based market relative to competition. This pricing method is used more often by businesses selling similar products since services can vary from business to business, while the attributes of a product remain similar. This type of pricing strategy is generally used once a price for a product or service has reached a level of equilibrium, which occurs when a product has been on the market for a long time and there are many substitutes for the product.

- **Premium pricing method**

Premium pricing is a strategy that involves tactically pricing your company's product higher than your immediate competition. The purpose of pricing your product at a premium is to cultivate a sense in the market of your product being just that bit higher in quality than the rest. It works best alongside a coordinated marketing strategy designed to enhance that perception.

From the survey, it was found that 100 percent of respondents follow both the premium price and competitive pricing methods. The price of in shell cashew is directly related to cashew kernel price, is based on kernel quality and efficiency. The price of cashews, based on different grades, is determined by the New York market internationally and domestically at CEPCI. Fluctuations in cashew prices weaken the confidence of buyers in the market and hamper their commitment to buy forward. Banks, traders and entrepreneurs are reluctant to invest in domestic cashew processing due to the volatility of prices. None of the exporters exported cashew nuts for credit. There are large numbers of buyers to purchase cashew for spot payment.

#### **4.2.2.4 Export payment Strategy**

To succeed in today's global marketplace and win sales against foreign competitors, exporters must offer their customers attractive sales terms supported by the appropriate payment methods. Because getting paid in full and on time is the ultimate goal for each export sale, an appropriate payment method must be chosen carefully to minimize the payment risk while also accommodating the needs of the buyer. There are three primary methods used for the payment for international transactions of cashew. They are Cash against Documents (CAD), Telegraphic Transfer (TT) and Letter of Credit (LC). During or before contract negotiations, both the parties of this trade selected the method in mutually. For exporters, sale is a gift until payment is received. Therefore, exporters want to receive payment as soon as possible, preferable as soon as an order is placed or before the goods are sent to the importer.

The respondents were asked to express their opinions towards the export payment strategies of cashew exporters. The whole respondents confirmed that all the variables given to assess the export payment strategies of cashew exporters were found as strategies which are already in place. The payment strategies followed by the exporters are as follows.

- **Cash Against Document (CAD)**

The cash against documents is a payment tool or method used in international transactions between a seller and buyer. It is a process where an importer pays for the ordered goods before they are received. Before the export, exporter present invoice and the shipping documents (Customs Clearance Certificate, Shipping bill, Bill of lading, export license, warehouse receipt) through its bank to be dispatched to importers bank. After collecting all these documents by the importer, fund is transferred to the exporter's bank.

- **Telegraphic Transfer (TT)**

Telegraphic Transfer is primarily employed for overseas wire transactions. It may take two to four days to transfer the money, depending on the destination of the transfer. TT is more secure and safe mode of transfer, the chances of getting affected by exchange rate fluctuations are very less.

- **Letter of Credit (LC)**

A Letter of Credit (LC) is a document that guarantees the buyer's payment to the sellers. It is issued by a bank and ensures timely and full payment to the seller. If the buyer is unable to make such a payment, the bank covers the full or the remaining amount on behalf of the buyer. A letter of credit is issued against a pledge of securities or cash. Banks typically collect a fee, i.e, a percent of the size/amount of the letter of credit.

To figure out the export payment strategies which are being done, done but not now, planning in future, are analysed in the below Table 4.31.

**Table 4.31 Export payment strategies of cashew exporters**

Payment strategies	Frequency (N = 68)		
	Being done (%)	Done but not now (%)	Planning in future (V)
Cash against Documents (CAD)	100	0	0
Telegraphic Transfer (TT)	100	0	0
Letter of Credit (LC)	0	100	0

(Source: Compiled from primary data)

The all (100%) respondents currently implemented by both Cash against Document (CAD) and Telegraphic Transfer (TT) as export payment strategy. These payment methods are transferring fund through electronically. Most countries in the USA, UK, Dubai, South Korea and Europe have opted for the Cash against Document (CAD) method whereas Japan, Saudi Arabia and Hong Kong have opted for Telegraphic Transfer (TT). 100 percent of exporters do not follow the payment method, Letter of Credit as export payment strategy. This is because the risk of fraud in Letter of Credit is very high compared to other payment methods.

#### **4.2.2.5 Export distribution strategy**

Exports can open up new opportunities, fuel growth and dramatically boost the takings and profits. Selling cashew and service abroad can massively increase the customer base and company profits. A good distribution strategy will identify the best selling channels of the cashew exporting company and how to exploit them. In all countries, distribution represents a large share of domestic economic activity and employment. The sector is highly dynamic and changing rapidly, with a trend towards the rapid development of new forms of supply. The distribution sector provides the necessary link between processors and consumers, within and across borders. The efficiency of the sector is crucial for ensuring that consumers have extensive access to a wide variety of cashew at competitive

prices. But successful exporting relies on understanding where good sales opportunities lie and how best to take advantage of them.

The exporters were asked to express their opinion on different export distribution strategies of Indian cashew exporters. The distribution strategies followed by the exporters are as follows.

- **Reaching customers via their contact mail/ WhatsApp**

In this digital world the buyers and sellers can contact them through Email, WhatsApp or any other social media platforms.

- **Shipping mode**

The exporters were used shipping mode for cashew export to the different parts of the world. It carries bulk quantity and cheaper cost compared to other transportation modes.

- **Timely delivery**

At the time of signing the consignment, the delivery time also mentioned. Timely delivery is a good distribution strategy for the exporters; it leads to increases the export business.

- **Products are distributed as per the packaging norms of importing countries**

Two packaging norms are mainly followed by the exporters for cashew export. They are flexi bag packaging and tin pouch packaging. The packaging model are opted by the buyers at the time of consignment. Dubai, Saudi Arabia and South Korea opted the tin pouch packaging whereas USA, Europe and Japan were preferred flexible packaging.

From the survey it was found that all the above mentioned distribution strategies are presently done by all the respondents irrespective of its category. No specific strategies have been designed for future by any of the exporting firms.

#### **4.2.2.6 Export promotion strategy**

Export promotion is sometimes seen as a complementary development strategy to import protection. While import protection usually allows infant industry to develop, export promotion allows access to external markets. Foreign demand is often required by the limited size of domestic markets and the need to achieve economies of scale, essential in many productive activities. Subsidies, trade fairs, advertisements and special credit lines are the main tools for promoting exports. List of the export promotion strategy used by cashew exporters are explained as follows.

- **Offering cashew for new customers for use as a trial**

Exporters were sent to the required quantity to the new buyer of cashew kernel and given a free trial.

- **Participating the trade fairs conducted by CEPCI (Kaju India)**

The selected respondents are members of CEPCI, and hence everyone is participated in the trade fair like 'Kaju India' organised by CEPCI. Exporters get a chance to represent their company and taking initiative to arrange extra ordinary events to promote Indian cashew at the international market.

- **Participating in BSM (Business sellers Meet)**

Participating in Business Sellers Meet (BSM) conducted by the different countries around the world like gulf food, Japan foodex, Riga food, INC, Korean promotion etc.

- **Publish advertisements in CEPCI directory**

Exporters publish their company advertisements in CEPCI directory and on the CEPCI website. It gives all the information related to the particular company like the registration date of the company, different grades of cashew nuts and the picture of their factory.

- **Buyers visit in exporters company**

As per the buyer's request, exporters were allowed the buyers to visit their company before the consignment. They visit the premises and take pictures of their work, if they liked the experience in cashew industry; they would sign the contract.

- **Attracting tourists to purchase cashew from Kerala**

Tourists play an important part in promoting cashew in Kerala because of their visits.

- **Maintaining a good relation with multi-national companies**

Exporters had good relation with multi-national companies such as Toyota, Sony Food Company, Reliance etc.

- **Sending brochures, photographs, price lists via mail / online mode**

Exporters were sending brochures, photographs, and price lists via, online mode as per the requirement of the buyer.

- **Appointing a PRO who knows foreign languages during the trade show, to translate for customers**

Exporters hired a Public Relation Officer (PRO) for translating the languages during the trade shows earlier.

To figure out the export payment strategies which are being done, done but not now, planning in future, are analysed in the below Table 4.32.

**Table 4.32 Export promotion strategies of cashew exporters**

<b>Promotion strategies</b>	<b>Frequency (N = 68)</b>		
	<b>Being done (Percent)</b>	<b>Done but not now (Percent)</b>	<b>Planning in future (Percent)</b>
Offering cashew for new customers for use as a trial	100	0	0
Participating the trade fairs conducted by CEPCI (Kaju India)	100	0	0
Participating in BSM (Business sellers Meet)	100	0	0
Publish advertisements in CEPCI directory	100	0	0
Permitting buyers to visit exporters company	100	0	0
By attracting tourists to purchase cashew from Kerala	0	100	0
Maintaining a good relation with multi-national companies	0	100	0
Sending brochures, photographs, price lists via mail / online mode	100	0	0
Appointing a PRO who knows foreign languages during the trade show, to translate for customers	0	100	0

(Source: Compiled from primary data)

The export promotion strategies of cashew exporters in Kerala are presented in Table 4.32. In respect of export promotional strategies, the all respondents (100%) currently

implemented the strategies like that offering cashew for new customers for use as a trial, participating the trade fairs conducted by CEPCI (Kaju India), participating in BSM (Business sellers Meet), advertisements in CEPCI directory, buyers visit in exporters company, sending brochures, photographs, price lists via mail / online mode. These are the current export promotional strategies used by cashew exporters in Kerala.

The strategies like attracting tourists to purchase cashew from Kerala, maintaining a good relation with multi-national companies and hired a Public Relation Officer (PRO) for translating the languages during the trade shows were followed earlier; but not currently. Even though, tourists used to play an important part in promoting cashew in Kerala during the past years, now it doesn't shows any relevance as it is already demanded by all over the world. Exporters had a good relation with multi – national companies like Toyota, Sony Food Company, Reliance etc. but now they do not promote business with these companies; because they will take sixty to ninety days credit for the payment. English is now used as a common language around the world, and there is no need for a Public Relation Officer (PRO) /translator during this trade show.

Conclusively, the surveyed cashew exporters were following CEPCI nomenclature for cashew export strategies with regards to product, packaging, price, payment, promotion, and distribution. The export product strategies mainly followed by the exporters such as offering certified cashew, specified grades of cashew, premium cashew, crispier cashew, level of infestation, minimum broken percent of cashew, maintain odour and high quality cashew. All the exporters adopting premium and competitive pricing as a pricing strategies and also focusing on the distribution strategies like reaching customers via their mail order / WhatsApp/ online modes, exporting through shipping mode and ensuring timely delivery. The promotion of the cashew is ensured by giving samples to new customers for experiencing taste, attending trade fairs organised by CEPCI (Kaju India) and BSM (Business Sellers Meet), publish advertisements in the CEPCI Directory; visitors to the exporting company, sending brochures, photographs and price lists by postal / online mode to their clients. Certain strategies are not currently followed by the

exporters such as wooden box packaging, letter of credit, attracting tourists to purchase cashew from Kerala, maintaining good relation with multinational companies and appointing PRO for translating languages to customers.

## **OBJECTIVE III**

### **4.3 The determinants of the cashew export**

In order to identify the major determinants of cashew exports in Kerala, primary data were collected from Kerala cashew exporters through pretested questionnaire. Accordingly, the legal and political, socio-cultural, geographical, economic, export and import policy of the country, international trade agreements, market logistic, competitive and cost factors were taken into consideration to identify the major determinants of cashew export marketing in Kerala. Data were collected in five point scale (5- high contribution, 4- good contribution, 3- average contribution, 2- less contribution, 1- unfavourable) and non – parametric test of the inferential statistical test – Kendall’s W Test (co-efficient of concordance) were fitted to measure the determinants of cashew export market in Kerala. The results are presented in the following subsequent nine tables.

#### **4.3.1 Legal political factors determining export marketing of cashew in Kerala**

The legal/political aspect is very important in global marketing. The international business is a subject to political decrees made by governments both in "home" and "host" countries. Companies intending to establish business in overseas destination markets need to acquire thorough knowledge on the functioning of the government, stability in international and domestic commerce policies, and embedded political philosophy in the country.

As a part of analysing, the legal / political factors towards cashew export were studied. The nine statements were selected for the study. The weights are assigned and scores were calculated as per the methodology given in chapter three and mean rank were arranged to identify the major determinants in cashew export. The details are presented in Table 4.33.

**Table 4.33 Legal political factors determining export marketing of cashew in Kerala**

<b>Legal political factors</b>	<b>Score</b>	<b>Mean Rank</b>
The trade agreements between India with different countries	111	1.70
Export and import duty protection imposed by the government of India	90	1.38
Government support system to promote exporters	121	1.80
<b>The export regulation and procedure in the international market</b>	<b>241</b>	<b>3.70</b>
<b>The existing export marketing supply chain</b>	<b>225</b>	<b>3.46</b>
<b>Fair trade certification of cashew</b>	<b>217</b>	<b>3.33</b>
<b>Barriers to entry</b>	<b>243</b>	<b>3.73</b>
Trade union issue	93	1.43

(Source: compiled from primary data)

Kendall's  $W = 0.805$ , Asymp. Sig. = 0.000

Null Hypothesis (H<sub>0</sub>): There is no agreement among exporters regarding factors

Alternate Hypothesis (H<sub>1</sub>): There is an agreement among exporters regarding factors

Among the legal and political factors determining the success of cashew exporters in Kerala, the barriers to entry ranked as the highest (3.73) followed by the export regulation and procedure in the international market (3.70), the existing export marketing supply chain (3.46) and fair trade certification of cashew (3.33).

There are no barriers to entry for exporting the cashew to the different parts of the world, except Pakistan, which does not permit imports directly from India.

The procedures for the export of cashew are: proforma invoice, customs packing list, country of origin, commercial invoice, shipping bill, bill of lading, payment terms, export license, warehouse receipt, and health certificate. As per Table 4.18 exporters' experience in the export of cashews has made all these procedures and regulations routine, making it simple for them to handle. According to the views of exporters, the fair trade cashew certificate is still in its infancy. The fair trade federation in the UK first identified this issue in 2006. The cashew fair trade certificate does not permit price discrimination between different grades of cashew, which would otherwise have a significant difference between the grades. Although there is not much certified organic farming or processing, only a small part of cashew production is certified. The main causes cited for the absence of fair trade certification of cashew are the lack of organically certified cashews, which vary from country to country, the difficult certification process, high certification fee, and improper organic cashew marketing. But it is beneficial to cashew exporters. Buyers require quality wise and graded cashew than a fair trade certificate. These three elements contribute to the success of cashew exports from Kerala for the aforementioned reasons.

The export and import duty protection imposed by the Government of India (1.38) ranked as the least influential factor followed by the trade union issue (1.43), trade agreements between India with different countries (1.7) and government support system to promote exporters (1.8).

Under the Mid-Term Review of Foreign Trade Policy (FTP), the Government of India increased the export and import duties of cashews from three percent to five percent for the kernel and from five percent to seven percent for salted/roasted cashews, respectively. The Standard Input Output Norms (SION) is revised to 1 kg kernel from 5.04 kg of raw cashew nuts as against earlier norms of 1 kg from 4 kg of raw cashew nut for export of Cashew Kernel, from imported raw cashew nut under Advance Authorization Scheme. This again is not practically attainable for cashew exporters. Basic Custom Duty on import of raw cashew nut has been reduced from five percent to 2.5 percent from 1<sup>st</sup> February 2018 (CEPCI, 2019). Goods and Service Tax (GST) has been reduced to five

percent from 12 percent for Cashew nuts. Duty free import of raw cashew nuts is allowed under Duty Free Tariff Preference (DFTP) Scheme from Least Developed Countries (LDCs). The exporters faced labour strikes as a part of trade union issue in Cochin seaport.

The trade agreements between India with different countries were ranked the least influencing factor for the success of cashew export. From the exporter's point of view, in recent years, the consumption of cashew kernels in Korea, Japan, China, and Australia has registered a considerable increase. However, for market penetration, the major hurdle is the prevailing import duty for trading between India and Australia, China, Korea, and Japan via Vietnam. The Government of India has Free Trade Agreement with Australia, China, Korea and Japan. Since these countries do not grow cashew, and also do not have cashew processing units, CEPCI recommends including cashew kernel as an item qualified for duty free import into these countries. Considering the large processing capacity and possible additional employment generation of the India cashew industry, CEPCI requested the Government of India to consider the inclusion of cashew kernel and allied products under Free Trade Agreements with these countries. The government has not taken any action against the request of CEPCI. During the survey, exporters opined that, in the case of China, they are not giving any import duty for products imported to India. But India has to pay the import and export duty for cashew to China.

The support from the government to promote the exporters was found as the least ranked factor for the success of cashew export. The cashew kernels were provided with a five percent Merchandise Export from India Scheme (MEIS) under the Free Trade Agreement (FTA). This scheme was introduced by the Government in 2015. Initially, the cashew kernel was provided with a two percent incentive and later it increased by three percent (shipment base) from 29<sup>th</sup> October 2015 onwards and again it increased to five percent on 5<sup>th</sup> December 2017, during the Midterm reviews of Free Trade Agreement 2015-2020. These incentives were stopped by the Government of India on December 2020, according to the WTO compliance tax. To this end, the financial year 2020-2021, Department of

Commerce has announced the Remission of Duty and Taxes on Exported products (RODTEP) scheme for cashew exporters effective from 1<sup>st</sup> January 2021, which replaces MEIS. Rates and conditions for the new scheme are not yet announced. The exporters opined that competitive countries (Vietnam and Brazil) getting a high percent of export incentives for cashew export. But in India, the percent of export incentive is very less and also this incentive is only allowed for the exporters who are not using Advance Authorisation License for import and export. This will turn into a dissuading factor for cashew export.

From the table above it can be inferred that there is 0.805 degree of agreement among exporters with regards to legal and political factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.2 Socio - cultural factors determining the export marketing of cashew in Kerala**

Society and culture have an impact on every aspect of the overseas business of multinational companies. Although society and culture are not directly included in business operations, they indirectly appear as key elements in shaping how the business is managed, from what goods are produced, and how and through what means they will be sold, to the establishment of managerial and operational patterns and the determination of the success or failure of foreign subsidiaries. Consequently, multinational companies should be aware of predominant attitudes, values, and beliefs in each host country to which they have decided to expand their business activities. Differences in attitudes and values among management of a parent company and expatriate managers at the subsidiary level, on the one hand, and managers and employees in host countries, on the other, can contribute to serious functional problems (Ajami, 2006).

In international trade, it is essential that companies take into account the lifestyles and culture of countries to which they are considered for export. This information can be used to determine whether a product or service would be considered essential, useful, a luxury or even undesirable in a target country. Some products and services might even be found

culturally unacceptable. Research into culture and lifestyle can also identify potential problems with translation, marketing and advertising. Package colours, sizes and styles, and product functions can all require adaptation because of cultural requirements. Exporters of consumer products will be affected by a country's culture more than exporters of industrial goods or components because consumer products must be designed to meet needs, values and beliefs. The influence of socio- cultural factors towards cashew export are analysed and presented in the Table 4.34.

**Table 4.34 Socio - cultural factors determining the export marketing of cashew in Kerala**

<b>Socio - cultural factors</b>	<b>Score</b>	<b>Mean Rank</b>
<b>The language and communication of the product package.</b>	<b>321</b>	<b>4.93</b>
<b>Specifications in packing (Quality, Quantity)</b>	<b>321</b>	<b>4.93</b>
<b>The religious and social compliance of the company products packaging and layout to the international customers.</b>	<b>319</b>	<b>4.90</b>

(Source: compiled from primary data)

Kendall's W = 0.980, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

The factors are among those mentioned under the socio-cultural factors that affect Kerala's export marketing of cashews. The mean rank for specifications in packing ranked 4.93, the language and communication of product package ranked 4.93, and the religious and social compliance of your company products packaging and layout to the international customers ranked 4.90 as leading success factors for cashew export marketing in Kerala.

Languages may differ by area within a country, and some countries have many official languages. There is no need for a Public Relations Officer (PRO) or translator between the buyer and seller because English is the common language spoken all over the world. The grade, quantity, net weight, gross weight, name of exporting company, and name of importing country were written on each carton or tin based on the buyers' requirements, both in English and the native language of the importing country (Arabic, Japanese, etc). Halal and Kosher certificates are necessary for Jewish individuals in Middle Eastern nations such as Dubai and Saudi Arabia (Israel). The socio-cultural factors are important and significantly affect the economic activity as well as the performance of the exporting companies like culture, language, communication, specification of the packing, and religions of the society. Now, the exporters are graduates and there is no need for an outsider for communicating between the buyer and seller. Due to this reason, all these factors become the success of cashew export.

From the table above it can be inferred that there is no degree of agreement (0.980) among exporters with regards to socio- cultural factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.3 Geographical factors determining the export marketing of cashew in Kerala**

The geographical factors also affect the growth of international trade. Location of the product is grown, where it is processed, the proximity of major ports and the proximity of the international buyers affect companies by its decision to trade internationally. The influence of geographical factors towards cashew export is being analysed and presented in the Table 4.35.

**Table 4.35 Geographical factors determining the export marketing of cashew in Kerala**

<b>Geographical factors</b>	<b>Score</b>	<b>Mean Rank</b>
Location where cashew is grown.	240	3.69
<b>Location where cashew is processed.</b>	<b>244</b>	<b>3.75</b>
The proximity of the export firm to major ports.	239	3.67
<b>The proximity of the international buyers to India.</b>	<b>244</b>	<b>3.79</b>

(Source: compiled from primary data)

Kendall's W = 0.30, Asymp. Sig. = 0.098

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

Among the different geographic variables identified to examine the geographic determinants of export marketing of cashew in Kerala, both the proximity of the international buyers to India and the location where cashew is processed ranked high with a mean rank of 3.79 and 3.75 respectively. The exporters opined that in this digital world it is easy to establish personal contact with overseas buyers. The overseas buyer needs the cashew which is processed in Kerala, because of the drum roasting method. These methods will maintain the taste and quality of cashew kernel and also maintain the breakage and infestation level as per the CEPCI norms. This will be more attractive to the buyers. Due to these reasons, these two factors become the success of cashew export.

The exporters opined that the location where cashew is grown (3.69) and the proximity of the export firm to major ports (3.67) were ranked as the least in determining export marketing of cashew in Kerala. Importers certify the country where the cashew is grown. The factor is not given much importance for cashew export than where cashew is

processed. There is no direct relation between the export firm and major ports; Cochin Seaport is a small one compared to the Colombo Sea port (major port). Only the feeder vessel (small ship) may reach the Cochin Sea port because the depth of the sea is 5.5 meter. The feeder vessel unloads the cashew at the Colombo sea port (depth is 9.5 meter), where they are collected by the mother vessel and sent to the importing countries. So, these two factors were not given much importance for the success of cashew export.

From the table above it can be inferred that there is .0.30 degree of agreement among exporters with regards to geographical factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.4 Economic factors determining export marketing of cashew in Kerala**

One of the major issues the exporters face is that fluctuations in the exchange rate of local currency with the currency of foreign trade currency equivalent of US\$ 1.5 trillions of different currencies are trades on a daily basis in the world market (Bhoodes, 2012). Currency risk is the most managed risk in any international trade. If the currency of the exporting country appreciates against that of the currency of transaction, the exporter stars loosing which upsets his very existence in the trade. On the other hand, the depreciation of local currency makes him more benefited. Almost all exports of cashew kernels are in US Dollars. The time of the exchange rate fluctuation has also of prime importance to the industry. Since the industry is involved in both imports of raw cashew nut and export of finished kernels both invoiced in US Dollars, a weakening Indian Rupee at the time of peak export will be advantageous to the industry and vice versa. The influence of economic factors towards cashew export are analysed and presented in the Table 4.36.

**Table 4.36 Economic factors determining export marketing of cashew in Kerala**

<b>Economic factors</b>	<b>Score</b>	<b>Mean Rank</b>
Fluctuations in the currency rate	66	1.01
Market Development Scheme (MDS)	171	2.63
<b>Demand and supply of the product</b>	<b>239</b>	<b>3.67</b>

(Source: compiled from primary data)

Kendall's W = 0.969, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

Among the variables computed in identifying the economic factors determining cashew export marketing in Kerala, demand and supply of the product is ranked as the highest (3.67). This might be due to the fact that cashew kernels are primarily produced in India and are marketed both domestically and internationally. It is consumed as snacks and there is also a growing demand for cashew kernels from confectioneries, hotels and ice cream manufacturers. However, cashew competes with almonds, walnuts, pistachios, peanuts and other edible nuts, due to its high value.

The opinion of the cashew exporters about Market Development Scheme (MDS) was assigned a mean rank of 2.63. Marketing Development Schemes measures to stimulate and diversify the country's export trade. It provides financial assistance to individual exporters and Export Promotion Council to undertake marketing of the cashew abroad. Such expenses including travel expenses are pay back in full to the exporter. However, it takes time and is only refunded for the shortest routes. These two factors which affect the success of cashew export adversely.

The fluctuation in the currency rate was ranked as the least (1.01) factor. Currency risk is a major hurdle factor for both importers and exporters. From the perspective of exporters,

they prefer taking a chance that they normally go for buying and selling at current exchange rates. The exporters were involved in the import of raw cashew nuts, they saw less risk in exporting/importing at the current rates because the losses/gains may even out in the long term. The inflation leads to reduction in exports as cashew prove more costly in international market, as in the case of any product that is exported and obviously it becomes more expensive in the market. It automatically reduces the consumption of buying country. Exporters opined that, fluctuation in the currency rate seemed to a dissuading factor for cashew export.

From the table above it can be inferred that there is 0.969 degree of agreement among exporters with regards to economic factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.5 Export and import policy factors determining export marketing of cashew in Kerala**

In the contemporary world of value chains, where the focus has shifted from nations to firms in global trade and commerce, the formulation of trade policies has become increasingly complex. The Department of Commerce and Industry has the mandate to make India a major player in global trade and assume a role of leadership in international trade organisations commensurate with India's growing importance. The Department devises commodity and country-specific strategy in the medium term and strategic plan / vision and India's Foreign Trade Policy (FTP) in the long run. It provides the basic framework of policy and strategy for promoting exports and trade. It is periodically reviewed to adapt to the changing domestic and international scenario. India's Foreign Trade Policy envisages helping exporters leverage benefits of GST, closely monitoring export performances, improving ease of trading across borders, increasing realisation from India's agriculture based exports and promoting exports from MSMEs and labour intensive sectors. As a consequence, state governments are now actively developing export strategies based on the strengths of their respective sectors. The government is looking to focus on promoting exports of high value added products, where India has a

strong domestic manufacturing base, including agriculture, engineering goods, electronics, drugs and pharmaceuticals, and textiles. Thus, significant changes and refinements are needed to make the new FTP suitable at the policy level as well as for Export - Import operations. The influence of export and import policy factors towards cashew export are analysed and presented in the Table 4.37.

**Table 4.37 Export and import policy factors determining export marketing of cashew in Kerala**

<b>Export and import policy factors</b>	<b>Score</b>	<b>Mean Rank</b>
<b>VAT refund on export</b>	<b>260</b>	<b>4</b>
Marketing policies	197	3.02
Standard Input Output Norms (SION)	130	2
Export incentives	130	2
Advance license / Advance Authorisation(duty free imports of raw nuts)	130	2

(Source: compiled from primary data)

Kendall's W = 0.980, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

From the variables listed under the export and import policy factors determining the export marketing of Cashews in Kerala, VAT refund on export ranked high (4.00). The basic principle of foreign trade is that no duties or taxes are imposed on cashews that are exported or imported. When cashews are exported, the Value Added Tax is returned to the exporters. As a result, there is no value added tax on the exports. This factor leads to the success of cashew export.

The Standard Input Output Norms (SION), (2.00), export incentives (2.00) and Advance license (2.00) were ranked least by the respondents. The current SION is 1:5.04 as per the request of CEPCI, which again is not practically attainable for the exporters because the Indian cashew exporting industry is labour oriented; not mechanised one.

The Government of India has introduced Merchandise Exports from India Scheme (MEIS) through the Foreign Trade Policy (FTP) 2015-20 w.e.f. April 1, 2015. It seeks to promote the export of notified goods manufactured/ produced in India. MEIS is a major export promotion scheme of GOI implemented by the Ministry of Commerce and Industry. Initially, the cashew kernel was provided with a two percent incentive and later it increased by three percent (shipment base) from 29<sup>th</sup> October 2015 onwards and again it increased to five percent on 5<sup>th</sup> December 2017, during the Midterm reviews of Free Trade Agreement 2015-2020. These incentives were stopped by the Government of India from December 2020, onwards in tune with the WTO compliance tax (in 2018, the scheme was the subject of a complaint under the dispute settlement mechanism of the World Trade Organisation; the decision of the dispute panel to recommend the withdrawal of export subsidies under the scheme was appealed by India in 2019). To this end, the government has announced the Remission of Duty and Taxes on Export products (RODTEP) scheme for cashew exporters effective from January 1, 2021, which replaces MEIS. Rates and conditions for the new scheme are not yet announced. This incentive is allowed for the exporters who are not using Advance Authorisation License (AA) / Advance License scheme for import and export.

Under Advance Authorisation (AA)/ Advance License scheme, all import duties on inputs, such as Basic Customs Duty, Integrated Goods and Services Tax (IGST), cesses, anti-dumping duty etc., are out rightly exempted. When an exporter employs Advance Authorization, the cashew is imported first, and then the imported inputs are utilised for the exports. It allowed inputs to be imported without paying the basic customs charge. The license is provided as soon as the export obligation is fulfilled (the required quantity

of inputs is calculated based on Standard Input Output Norms (SION)). These factors are adversely affecting the success of cashew export from Kerala.

From the table above it can be inferred that there is no degree of agreement (0.980) among exporters with regards to export and import policy factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.6 International trade agreement factors determining the export marketing of cashew in Kerala**

International trade is the exchange of commodities, products, services, capital between people and companies in different countries. This trade has existed for a long time, but trade has increased hugely in the past few hundred years and has a major impact on the economies of many countries (James, 2014). Political policies and other government concerns, such as the relationships between trading nations, are highly important to the growth of international trade. A politically stable nation with few policies restricting international trade will likely be able to expand its worldwide trade rapidly. Political instability, however, particularly when it leads to violence, can be a major barrier to trade growth many nations place steep tariffs on exports or imports from certain nations or industries for such reasons. While such tariffs can be used to protect fledgling industries or to place political pressure on some nations, their overall effect on international trade is often negative. One of the biggest stories of the past 20 years has been the successful integration of many developing countries into the global economy and their emergence as key players in international trade. Developing countries are diverse in the quality of their political and economic institutions but there are strong reasons to believe that “better” institutions give countries a competitive advantage and produce better trade outcomes. As part of the analysis, the factors related to international trade agreements towards cashew export were studied. The listed factors are given in Table 4.38.

**Table 4.38 International trade agreement factors determining the export marketing of cashew in Kerala**

<b>International trade agreement factors</b>	<b>Score</b>	<b>Mean Rank</b>
Trade restrictions	124	2.4
Trade competitions	74	1.1
<b>Food quality standards (Sanitary and Phyto sanitary)</b>	<b>255</b>	<b>3.9</b>

(Source: compiled from primary data)

Kendall's W = 0.990, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

Among the variables computed in identifying the international trade agreement factors determining cashew export factors marketing in Kerala, food quality standards (3.92) ranked as higher by the respondents. Each country specifies their requirements and specifications while signing the contract. The requirements of food quality standards may vary by market to market and from country to country. The cashew exporters in Kerala hold multiple certifications from different countries. They were currently possess international food quality certificates from the Food and Drug Administration (FDA), United States Department of Agriculture (USDA), Jewish Dietary Regulations like KOSHER, Food Safety Standard Certification (FSSC), British Retail Consortium (BRC) Global Standards, International Organization for Standardization (ISO), and Food Safety and Standards Authority of India (FSSAI).The exporters maintain the food quality standards for export of cashew; it will satisfy for the overseas buyer. So this factor will become the success of cashew export.

The Sanitary and Phyto sanitary (SPS) agreement under the WTO specifies that a country can reject their import if it finds any kind of harmful impacts on their flora and fauna. During the survey it was found that the cashew exporter in Kerala doesn't find any kind

of return as such. One of the main reasons for this trend is that the exporters were able to meet the safety and quality requirements of their counter parts.

The trade competition (1.13) was least ranked factor in cashew export market. Exporters opined that they face tough competition from Vietnam and Brazil. Between the discussions with exporters, they said that world needs ten lakh MT cashew kernels for a year. Among that India contributes only 50,000 MT cashew kernels; but Vietnam contributes six lakh MT cashew kernels to the world's share. This poses huge competition for India; because the processing technology used by Vietnam is fully mechanised. Though it reduces the quality of cashew nut, the price would be less and form a major hurdle for Indian exporters. Majority of consuming countries consider takes into consideration the price of cashew, more than quality. Therefore they prefer Vietnam cashew over Indians. It affected the future of Indian cashew industry adversely.

From the table above it can be inferred that there is 0.990 degree of agreement among exporters with regards to international trade agreement factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.7 Market logistics factors determining export marketing of cashew in Kerala**

In international trade, market logistics is very important. The logistics management starts with a customer need till its fulfillment through product supplies and, during this process of supplies; it considers all aspects of performance which include arranging the inputs, manufacturing the goods and the physical distribution of the products. It lies in the fact that it leads to ultimate consummation of the sales contract. According to the contract, delivery is essential for fulfilling the commercial and legal requirements. Similarly, better and/or timely delivery helps in getting repeat orders through creation of goodwill for the supplier. The factors regarding market logistics are given in Table 4.39.

**Table 4.39 Market logistics factors determining export marketing of cashew in Kerala**

<b>Market logistics factors</b>	<b>Score</b>	<b>Mean Rank</b>
<b>Image of cashew exporting companies</b>	<b>274</b>	<b>4.21</b>
<b>Up-to-date market information</b>	<b>272</b>	<b>4.18</b>
Processing technology	236	1.90
<b>Communication facility</b>	<b>304</b>	<b>4.67</b>
<b>Transportation facilities</b>	<b>265</b>	<b>4.07</b>
<b>Products handling</b>	<b>268</b>	<b>4.00</b>
<b>Warehousing</b>	<b>261</b>	<b>4.01</b>

(Source: compiled from primary data)

Kendall's W = 0.360, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

From the variable given to rank market logistics determining export marketing of cashew, communication facility scored the highest (4.67) rank, followed by image of cashew exporting companies (4.21), up-to-date market information (4.18), Transportation facility (4.07), ware housing (4.01) and product handling (4.0) .

At present, the exporters directly contact their customer at any time; *via* their mail / WhatsApp/any other online modes. Export companies have a good image in the international market because; companies always maintain the good quality for cashew. Every day, exporters get up to date market information regarding cashew market from International Nut and Dried Fruit (INC). This allows exporters to learn more about cashew kernel prices, raw cashew nut prices, and so on.

Transportation seeks to move goods from points of production and sale to points of consumption in the quantities required at times needed and at a reasonable cost. The transportation system adds time and place utilities to the goods handled and thus, increase their economic value. Compared to earlier years, both domestic and international transportation is made simple with the help of logistics. The cashew kernel is a handle with care product, because of its dryness. If it not properly cared for, it will break and turn to be dust and it reduces the demand in the international market. Cashew is always taken care of by the labourers till it is transported. From the perspective of the exporters; a warehouse is solely required for the storage of imported raw cashew nuts. They go straight to the container for shipping after turning raw cashew nuts to cashew kernels. Due to these reasons, the above factor will turn to become the success factors for cashew export.

While, the processing technology in the cashew market is ranked least (1.9) importance in determining export marketing of cashew in Kerala, the Indian cashew industry always followed drum roasting technology which was more acceptable in the market for their taste and long shelf life. Earlier, India was enjoying a monopoly in the international market and she used to get a price for her product at par with her production costs. But with more and more countries entering the market with steam roasting or oil bath roasting technology, the competition that began highly reflected Indian cashew industry. Also, the processing cost which is high compared to competing countries like Vietnam and Brazil. The change in cashew processing technology which harmfully affected the exporting companies and it is a dissuading factor for cashew export.

From the table above it can be inferred that there is 0.360 degree of agreement among exporters with regards to market logistic factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### 4.3.8 Competitive factors determining export marketing of cashew in Kerala

In current environment, with growing interdependence between the markets and in increasing competition, it is more difficult to maintain current enterprise market position (Svarova and Vrchota, 2014). Competitiveness is a measure of the relative ability of different countries to provide different products or services. Competitiveness takes into account the efficiency, costs of employment, level of government regulation and the ease of doing business. Competitiveness affects international trade because the more competitive countries will tend to attain a higher level of global trade (James, 2014). When entering into a contract to purchase cashew kernel from a processing country, the decision of the overseas importer is influenced by different competitive criteria. The decision to purchase from a particular country / supplier is knowingly or unknowingly influenced by such factors that are perceived by the importer based on his experience or general thinking. The influence of competitive factors towards cashew export are analysed and presented in the Table 4.40.

**Table 4.40 Competitive factors determining export marketing of cashew in Kerala**

<b>Competitive factors</b>	<b>Score</b>	<b>Mean Rank</b>
Pricing of the product	196	3.01
<b>Promptness in shipment</b>	<b>307</b>	<b>4.72</b>
<b>Packing of the product</b>	<b>265</b>	<b>4.07</b>
<b>Quality of the product</b>	<b>282</b>	<b>4.33</b>
<b>Rapport with suppliers</b>	<b>281</b>	<b>4.32</b>
After sales support	230	3.50
<b>Payment terms</b>	<b>278</b>	<b>4.20</b>
<b>Trade norms (Terms and Conditions of sale)</b>	<b>263</b>	<b>4.06</b>

Honouring of contractual obligations	215	3.30
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(Source: compiled from primary data)

Kendall's W = 0.584, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

From the variables listed under the competitive factors determining the export marketing of cashew in Kerala, promptness in shipment ranked high (4.72) followed by quality of the product (4.33), rapport with suppliers (4.32), payment terms (4.20), packing of the product (4.07) and trade norms (4.06) by the respondents.

The cashew kernels are purchased by the value adders on a forward basis on the basis of the production plan of the value added processing. Therefore if the shipments schedules are not strictly adhered to the production schedules are affected and the exporter will be made to compensate the losses.

The product quality is strictly followed as per the norms of CEPCI / AFI. Also Export Inspection Council of India (EIC), (who is responsible for enforcement of quality control and pre-shipment inspection of various commodities meant for export) is to ensure the quality and safety of products exported, in order to meet the requirements of the importing countries. This assurance is provided through either a consignment-wise inspection system or quality assurance/food safety management system-based certification.

Rapport with supplier provides an added comfort zone for the exporter. A longstanding relationship with the stakeholders in the industry and the experience and expertise of the supplier will be an added advantage in the trade. Further, this would add flexibility on the part of the supplier to support the exporter in case of any emergency or unexpected circumstances.

The cost of the material and flexibility of operation depends largely on the payment terms offered by the seller. Letter of credit requires sufficient backing by a financial institution and involves additional costs. Cash against document (CAD) and Telegraphic transfer (TT) offers flexibility in operations.

By the time the cashew kernel reaches the destination after multiple handling and a quite long transit time, the retention of the original characteristics including the shape and crispiness of the kernel is gone that would find less acceptable to the value adders. The strength of the packing material, its permeability, bursting strength, purity and quantity of gases flushed etc. counts high compared to appearance.

The trade norms is mutual agreement between buyer and seller, it includes the payment relaxations, flexibility in conditions, government imposed restrictions in trade, willingness of the supplier to supply as per the requirement of the importer, furnishing of different certifications etc. Due to these reasons, the above factor will turn to become the success factor for cashew export.

Whereas, the pricing of the product (3.01), honouring the contractual obligations (3.3) and after sales support (3.50) ranked least by the respondents.

In international market, the price is fixed by New York market; while in domestic market it is CEPCI. The price quoted for the cashew kernel is converted in CIF (cost, insurance and freight) landed terms is important criteria. The market is very sensitive and the competitive pricing determine the profit margins as in cashew trade.

Most of the contracts are on forward basis, the prices at the time of actual shipment may vary from the contracted rates. Some suppliers may default if the contracted rates are lower than the prevailing prices at the time of shipment. Also, certain suppliers may sell forward without ensuring the supply of materials and may try to mobilise the same at the time of shipment, which may result in non availability of materials for shipment. This will upset the production schedules of the importers and also his supply schedules.

Cashew being an agricultural product, the quality and physical parameters may change from product to product. Also there can be deviations in the specifications due to transit damages or in transit infestation. Mostly the payments are effected much before the consignment is received by the importer. In case of any defects in the material received, the importer will be at risk unless a proper after sales support extended by the seller. So these factors were considered as the dissuading factor for the success of cashew export.

From the table above it can be inferred that there is 0.584 degree of agreement among exporters with regards to market competitive factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

#### **4.3.9 Cost factors determining export marketing of cashew in Kerala**

The cost of the cashew industry showed in terms of different factors of production and processing. This would help to understand the expensive factors related to the cashew processing industry. Trade costs interact with comparative advantage to produce the pattern of specialisation and trade that observe across countries. They affect the production and consumption decisions of economic agents all around the world, including poor people in developing countries. Among cashew exporters, they reported that the imported raw nuts, access to processing technology and access to skilled labour are expensive for them (Rajesh, 2015). The influence of cost factors on cashew export are analysed and presented in the Table 4.41.

**Table 4.41 Cost factors determining export marketing of cashew in Kerala**

<b>Cost factors</b>	<b>Score</b>	<b>Mean Rank</b>
<b>Cost of raw material</b>	<b>220</b>	<b>3.87</b>
Processing cost	130	2.00
<b>Packaging cost</b>	<b>220</b>	<b>3.87</b>
Freight charges / shipping charge	130	2.00
Labour cost	128	1.90
<b>Transportation cost</b>	<b>220</b>	<b>3.87</b>
<b>Port charges (Custom House Agents)</b>	<b>220</b>	<b>3.87</b>
GST	126	1.87
Import duty	126	1.87
Export duty	126	1.87

(Source: compiled from primary data)

Kendall's W = 0.785, Asymp. Sig. = 0.000

Null Hypothesis (H0): There is no agreement among exporters regarding factors

Alternate Hypothesis (H1): There is an agreement among exporters regarding factors

From the variables given to rank the cost factors for determining the success of export marketing of cashew in Kerala, the cost of raw material scored in highest (3.87) rank followed by packaging cost (3.87), transportation cost (3.87) and port charges (3.87).

The cost of raw material is varying from country to country. Among that Tanzanian cashew gets a high price of cashew because of its quality. During the survey, exporters opined that the cost of packaging is affordable for them, and without proper packaging, they will not accept it. For a transit of a 20 ft container from Kollam to Cochin sea port they charged ₹17,000 and to Tuticorin Sea port ₹22,000 by road. Compared to other costs like processing cost; transportation cost is reasonable for exporters. For a 20 ft

container port charge ₹ 4000, this rate is fixed for all importing countries it is also an inexpensive cost for the exporters. Due to these reasons, the above factors become success of cashew export.

While, in GST in cashew export ranked least mean rank (1.87), followed by import duty (1.87), export duty (1.87), labour cost (1.90), freight charge (2.00) and processing cost (2.00).

Five percent of GST is imposed on export and import. The GST cost is expensive for cashew exporters and it's not refunded for them. Cashew processing in Kerala is a manual work. Minimum five labourers are required to process an 80 kg bag. To process an 80 kg bag they get only 1/4<sup>th</sup> of cashew nut (i.e. from 1 kg raw cashew; 250g is cashew nut and 750 g is shell). The labour cost varies for different states and countries; in Tamil Nadu - Rs. 2000, Andhra Pradesh – Rs. 1500, and Japan Rs. 500. High labour cost is also a burden for cashew exporters.

An amount of 2.5 percent import duty is imposed by the country while importing. The exporters have been exempted from import duty that has with Advance License and imported from least developed countries.

In India, to process a bag (80kg) of raw cashew converted to cashew kernels they requires more than ₹ 24, 000; but in Vietnam, the processing cost is only ₹ 800 for an 80 kg bag. Freight charges varying depends on importing country. After 2019, the freight cost highly affected the whole exporters in Kerala; to Japan- 1000 USD, UAE – 1000 USD, Dubai – 1000 USD, Saudi Arabia – 3000 USD, USA – 12000 USD, Hong Kong - 1000 USD, Europe – 11000 USD. Freight charges are very expensive in USA and other European countries (Table 4.29). Importing countries like Saudi Arabia. Japan, Dubai, and Hong Kong impose the least charges compared to other European countries. The exporters say that escalation of freight charges is a side effect of Covid -19 pandemic. These reasons affected the cashew export and became the dissuading factors for cashew export.

From the table above it can be inferred that there is 0.785 degree of agreement among exporters with regards to cost factors determining the success of export marketing of cashew in Kerala, which accepted the alternate hypothesis.

**Table 4.42 Factor analysis for identifying the successful factors in cashew export market**

<b>Variables</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>	<b>Factor 5</b>	<b>Communalities</b>
The trade agreements between India with different countries		-.265				.124
Export and import duty protection imposed by the government of India			-.321			.245
Government support system to promote exporters					.302	.225
The export regulation and procedure in the international market	<b>.545</b>					.760
The existing export marketing supply chain	<b>.501</b>					.550
Fair trade certification of cashew		.487		-.267		.398
Barriers to entry	.420		<b>.539</b>			.459
Trade union issue		-.245			.365	.445
The language and communication of the product package.		<b>.847</b>				.726
Specifications in packing (Quality, Quantity)	<b>.785</b>					.694
The religious and social compliance of the company products packaging and layout to the international customers.		.459		<b>.740</b>		.523
Location where cashew is grown.				-.567		.473
Location where cashew is processed.					<b>.738</b>	.697
The proximity of the export firm to major ports.		-.323			.238	.421
The proximity of the international buyers to India.			<b>.688</b>			.534

Fluctuations in the currency rate		-236			.218	.437
Market Development Scheme (MDS)			.358			.431
Demand and supply of the product	<b>.735</b>					.788
VAT refund on export				<b>.827</b>		.659
Marketing policies			.498	-.444		.760
Standard Input Output Norms (SION)	-.604		-.539			.706
Export incentives	-.384	-.510				.550
Advance license / Advance Authorisation (duty free imports of raw nuts)	-.382	.465	-.475			.701
Trade restrictions				-.578		.539
Trade competitions	-.510				.473	.568
Food quality standards		.465		<b>.887</b>		.701
Image of cashew exporting companies		<b>.740</b>				.678
Up-to-date market information	-.529			<b>.618</b>		.691
Processing technology			-.765			.658
Communication facility			<b>.647</b>			.534
Transportation facilities		<b>.784</b>				.781
Products handling				<b>.687</b>		.726
Warehousing		<b>.675</b>				.661
Pricing of the product		-.598			.495	.687
Promptness in shipment				<b>.525</b>		.760
Packing of the product				<b>.551</b>		.550
Quality of the product	<b>.897</b>				.398	.769
Rapport with suppliers		<b>.569</b>				.614
After sales support	.435			-.664		.560
Payment terms		<b>.670</b>				.642
Trade norms (Terms and Conditions of sale)				<b>.728</b>		.679
Honouring of contractual obligations	-.321				.461	.568
Cost of raw material		<b>.721</b>		.214		.671
Processing cost			-.536			.660
Packaging cost					<b>.645</b>	.510
Freight charges / shipping charge		-.357			.381	.564
Labour cost			-.354		-.777	.678

Transportation cost		<b>.798</b>				.694
Port charges (Custom House Agents)		<b>.673</b>				.546
GST	-.726			.429		.735
Import duty			-.567		.473	.585
Export duty			-.539			.478

### **Factor 1 (F<sub>1</sub>)**

The first factor is consisted of variables like “The export regulation and procedure in the international market (.545), the existing export marketing supply chain (.501), Specifications in packing (Quality, Quantity) (.785), Demand and supply of the product (.735). The former had the highest significant positive loadings. Hence factor one was characterised as “demand and supply factors”.

### **Factor 2 (F<sub>2</sub>)**

The second factor consisted of variables like “the language and communication of the product package (.847), transportation facilities (.784), image of cashew exporting companies (.740), rapport with suppliers (.569), payment terms (.670), cost of raw material (.71), port charges (.673), warehousing (.675) had significant positive loadings. Hence factor two was characterised as “market logistics factors”.

### **Factor 3 (F<sub>3</sub>)**

The third factor consisted of variables like “barriers to entry (.539), the proximity of the international buyers to India (.688), communication facilities (.647) had significant positive loadings. Hence factor three was characterised as “markets entry and exit factors”.

### **Factor 4 (F<sub>4</sub>)**

The fourth factor consisted of variables like “up-to-date market information (.618), food quality standards (.887), products handling (.687), promptness in shipments (.525), packing of the product (.551), trade norms (.728) had significant positive loadings. Hence factor four was characterised as “competitive factors”.

### Factor 5 (F<sub>5</sub>)

The fifth factor consisted of variables like “location where cashew is processed (.738), packaging cost (.645) had significant positive loadings. Hence factor five was characterised as “location of processing”.

### Factor loadings

From the factor matrix the critical success factors of cashew export were identified and given Table 4.43 with factor loading.

**Table. 4.43 Factor loadings**

Sl.no	Variable	Statements	Factor loading
1	Demand and supply factors	Quality of the product	<b>.897</b>
2	Market logistics factors	The language and communication of the product package	<b>.847</b>
3	Market entry and exit factors	The proximity of the international buyers to India	<b>.688</b>
4	Competitive factors	Food quality standards	<b>.887</b>
5	Location of processing	Location where cashew is processed	<b>.738</b>

This section identified the major determinants of cashew exports in Kerala. It is found that quality of the product (.897), the language and communication of the product package (.847), the proximity of the international buyers to India (.688), food quality standards (.887) and location where cashew is processed (.738) are the major critical success factors of cashew export market. The competitive and demand factors are the highest loading factors among them.

## OBJECTIVE IV

### 4.4 Problems faced by the cashew exporters in Kerala

India was the largest producer, processor, and consumer of cashew in the world. For years together, India was enjoying an unparallel and unchallenged monopoly in the production, processing and marketing of cashew in the world. But with more and more producing countries acquiring the knowhow of processing and entering the international market, the premium position enjoyed by India started shaky with the result that her share in the international market started declining from 65 percent from 25 years ago to 29 percent as of now (Bhoodes, 2012). On the other hand, the domestic consumption had gone up beyond imagination, that today she is the largest consumer in the world. But this position she achieved was at the cost of her lowering the share in the international market.

Had India geared up to the changing world scenario in the world cashew, she could have still enjoying the commanding position in the industry. Heavy dependence on imported raw materials, unutilised processing capacities, high cost of processing, lack of mechanisation, modernisation and innovation all dragged India in the race. Lack of man power is another problem facing the processing sector, which mostly adopts the traditional ways of processing that uses seven to nine man days to process a bag of cashew weighing 80 kg. As a result, her processing costs are among the highest in the world. In addition, India would face competitions from other countries in her own domestic market, as other processing countries would explore the ever domestic market. Domestic production of raw nuts in India already faces stiff competition from other crops like rubber, spices etc. Such other cash crops yield better returns to the farmers. Ageing of trees and low productivity would be another concern for the low growth rate of raw nut production in India (Bhoodes, 2012). The ever increasing domestic consumption and huge demand of kernels in the international market would still another problem to address with.

In Kerala, the cashew industry also faces many problems which make them hard to regain the lost dominance over the past decades. The main problems can be categorised as the external and internal. Here issues of both private and public sectors of cashew industry are considered. In this session, the researcher identified various problems faced by cashew exporters in Kerala. The respondents were ranked and analysed their problems using Garrett ranking method.

#### 4.4.1 Internal problems faced by the cashew exporters

The internal problems include challenges that can be solved through internal institutional changes. Internal are anything that can adversely affect business. The Table 4.44 depicts the internal challenges of cashew exporters.

**Table 4.44 Internal problems faced by the cashew exporters in Kerala**

<b>Internal problems</b>	<b>Average Score</b>	<b>Rank</b>
Shortage of quality raw cashew nuts	24.71	12
<b>High processing cost</b>	<b>76.22</b>	<b>1</b>
Non-availability of cashew to meet the requirement	18.05	13
Problems related to online transactions/ documents	30.25	11
<b>High penalty charges for the damage of the product during transit</b>	<b>58.49</b>	<b>5</b>
<b>Outdated shelling method</b>	<b>58.60</b>	<b>4</b>
Inability to provide continuous and smooth supply	42.54	9
Inadequate and unreliable transportation, communication facilities	55.63	6

Non availability to keep prompt track of business information overseas	54.97	7
Lack of active export promotion	42.00	10
<b>High wage rate of workers</b>	<b>60.45</b>	<b>3</b>
High dependency on import	49.22	8
<b>Continuous strike of labours in seaport</b>	<b>72.89</b>	<b>2</b>

(Source: compiled from primary data)

From Table 4.44 based on ranks, it can be seen that the major internal problems faced by the cashew exporters in Kerala are high processing cost, followed by continuous labour strikes. The processing cost in Kerala is higher than other competitive countries because of its labour intensive method and countries like Vietnam and Brazil followed the mechanised method which is cost effective.

Continuous strike of labours in seaport is found as the second problem for cashew exporters. During the survey, exporters said that in Kerala the labour strike is higher than other countries. Labours take strikes for increasing their wage, due to this reason they will not do any work in port, which makes delay in exporting cashew to other countries.

High wage rate of workers ranked as the third problem of exporters. The average cost of processing in India varies from ₹ 25,000 to ₹40,000 a ton compares to USD 150 (₹ 9750) per MT in Vietnam. India still practices drum roasting for cashew processing and its time consuming. If mechanised in this way, the taste and quality will be lost and the demand for cashew in the market will decrease.

The outdated shelling method was the next problem for exporters. Labours are de-shelling the cashew kernels by using mallets. Due to this, there is a possibility of damage to cashew kernels, and it is a time consuming process. Unless the labours are not properly trained, it will make a huge loss for the exporters.

A high penalty charge for the damage of the product during transit is also a problem for the exporters. The buyers found any problems inside the container (like any insects) the exporter is liable for paying an amount of minimum ₹ 4, 00000.

Inadequate and unreliable transportation, communication facilities and non availability to keep prompt track of business information overseas are not a serious problem for them. Due to advanced technologies like WhatsApp, and Gmail they can communicate with buyers at any time. Presently, they use bullet ceiling (with barcode) to track business information through overseas.

Shortage of quality raw cashew nut was least ranked problem for cashew exporters. It is due to the fact that, Export Inspection Council of India (EIC) checks the quality of raw cashew nuts or obtains a certificate from the importing country, before unloading the product.

Exporters were not much concerned about the non availability of raw cashew. The raw cashew nut is available throughout in a year from different parts of the world due to the different harvesting seasons.

#### **4.4.2 External problems faced by the cashew exporters**

The problems that are beyond the control of the company are external. This affects the cashew industry externally and could not be solved by institutions like fluctuations in the international markets, price changes, import and export issues etc. The external problems of cashew exporters are depicted in the Table 4.45.

**Table 4.45 External problems faced by the cashew exporters in Kerala**

<b>External problems</b>	<b>Average Score</b>	<b>Rank</b>
<b>Impact of import duty on raw cashew nut price</b>	<b>67.09</b>	<b>3</b>
<b>Penalty for late clearance of cargo</b>	<b>56.45</b>	<b>5</b>
Unattainable global food quality standards	16.00	12
<b>Low level of export incentives compared to competing countries</b>	<b>64.98</b>	<b>4</b>
Fluctuation in exchange rate	48.95	8
Recession in the world market	41.88	9
Problems of sea pirates attacks	40.29	11
High port charges	40.43	10
<b>Competition from other producing countries</b>	<b>78.11</b>	<b>2</b>
High price of imported raw cashew nut	55.32	6
<b>Unattainable SION (Standard Input Output Norms)</b>	<b>83.00</b>	<b>1</b>
Non refund of GST paid on exports	50.22	7

(Source: compiled from primary data)

From Table 4.45 based on ranks, it can be seen that the main problems faced by the cashew exporters are unattainable of Standard Input Output Norms (SION), followed by facing competition from other producing countries (second). The foreign Trade Policy (FTP) provides duty free imports of raw cashew nuts meant for processing and export under Advance Authorisation Scheme (AAS). According to SION standards, 1 kg of finished goods should be exported in the ratio of 1: 4 for every 4 kg of raw cashew nuts.

Simply put, exporters import 100 tonnes of raw cashew nuts; Within 18 months, exporters are required to export 20 percent of their imports of raw cashew nuts. But this was practically not achievable and a uniform ratio cannot be fixed for raw nuts of all origins that widely vary on the outturn. The SION was fixed much earlier, when India was the sole importer of high quality raw cashew nuts from the selected markets. Now, with the high demand for raw cashew nuts from all processing countries, the import of graded quality raw nuts is not possible, and what is being offered is platter of mix quality nuts. But now (from 2018) SION is revised to 1:5.04 from 1:4 ratios; which again are not practically attainable for the exporters.

Competition from other countries was found as a major problem for exporters. High level of competition from Vietnam has completely deprived the cashew industry of Kerala as it affects both supply side and demand side of the cashew industry. Vietnam, which was earlier a major source of import of raw cashew nuts, has been using there domestic production to make cashew kernels and other value added products from their highly mechanised units at a low price. With the mechanisation and automation in cashew processing, the raw nut producing countries started processing directly and the products are sold in the international market. This is highly affected the Indian cashew exporters via; the raw nuts supplies are reduced and the supplying countries of raw cashew nut turned to be the competitors in the international market. Moreover, the development of substitute products like almond, walnut in the international setup has affected the demand for the cashew industry of Kerala.

Impact of import duty on raw cashew nut price (third) ranked as another external problem for cashew exporters. Indian cashew industry is highly depended on imported raw cashew nuts (about 50% of requirement) for fulfilling domestic and export demanded for cashew kernels. The basic import duty was five percent; now it is reduced to 2.5 percent (1<sup>st</sup> February 2018) which is a huge amount for exporters.

Another problem for exporters is that export incentives are low compared to competing countries. During the survey exporters said that, in competing countries, the processing of raw cashew nuts are highly promoted by the respective governments, offering high incentives for cashew exports. In India the export incentives were given from 1<sup>st</sup> April 2015 for cashew export. Currently, this incentive promotion is discontinued from December 2020, based on WTO compliance. This greatly affects the exporters of cashew nuts.

Penalty for late clearance cargo was another problem faced by the cashew exporters. The imported cargo has to be cleared within three days from the date of arrival in the port, otherwise a heavy penalty is imposed on daily basis. Most of the raw cashew nut cargo is sourced from African region often the importers are experiencing delay in receiving the document for clearance. A fine of ₹ 5,000 for one to three days, ₹ 10,000 for three to six days and a fine of more than six days will have to be paid, based on the order of customs.

Exporters are not concerned about the problems like unattainable of global food quality standards, problems of sea pirates' attacks, and high port charges. The exporters have to meet the food quality standards as per CEPCI/ AFI norms. Earlier, the attacks of sea pirates were burden for them; now it's not affected. Charges imposed by the port are not a problem for exporters; actually it's expensive, but compared to other modes of transportation; port charge is not a burden for them.

Covid -19 has not much affected the exporters. During the survey they said that, this pandemic is affected all over the world. So they requested an extension with their buyers for exporting the cashew Kernel.

Conclusively, an examination of the problems of cashew exporters in Kerala was attempted in this session. High processing cost, political issues, high wage rate of workers, outdated shelling method, and liability damage paid by the exporter during export period were found as the major internal problem for cashew exporters. The external problems like unattainable of Standard Input Output Norms (SION), competition

from other producing countries, impact of import duty on raw cashew nut, low level of export incentives compared to competing countries, and penalty for late clearance cargo are the major problem for cashew exporters in Kerala.

Based on the detailed study of the four objectives of a SWOC matrix of cashew export was constructed and given below.

**Table 4.46 SWOC analysis of cashew exporters in Kerala**

<b>Strengths</b>	<b>Weakness</b>
<p>S1. Following product specific/country specific strategies</p> <p>S2. Highest number of exporting units</p> <p>S3. Offering premium cashew</p> <p>S4. High domestic market potential for broken cashew nuts.</p> <p>S5. Ability to provide continuous and smooth supply.</p> <p>S6. Capability to keep prompt track of business information overseas.</p> <p>S7. Strong presence of Research and Development cashew research institutions.</p> <p>S8. Offering certified cashew for specific grades</p> <p>S9. Quality products compared to competitors.</p> <p>S10. Tradition of trust built up over years.</p>	<p>W1. Labour intensive method</p> <p>W2. Inadequate value addition and branding</p> <p>W3. Low level of mechanisation</p> <p>W4. No specific strategies for tourists</p> <p>W5. No strategies for maintaining a good relation with multi-national companies</p> <p>W6. Lack of availability of youth in the labour force.</p>
<b>Opportunities</b>	<b>Challenges</b>

<p>O1. Increasing awareness of nutritional value of cashew nuts.</p> <p>O2. Scope for establishing an “Indian Brand” of cashew in the international market.</p> <p>O3. Demand for value added products in the market.</p> <p>O4. Increasing demand for premium cashew</p> <p>O5. Increasing consumer preference for low priced cashew kernel</p> <p>O6. High demand for cashew kernels in the international market</p> <p>O7. High demand of premium cashew kernels exported from Kerala</p> <p>O8. Strict observance of international terms and conditions</p> <p>O9. Long presence in the international market.</p>	<p>C1. Unattainable of Standard Input Output Norms.</p> <p>C2. Entry of more competitors in to market</p> <p>C3. Impact of import duty on raw cashew nut price.</p> <p>C4. Penalty for late clearance cargo.</p> <p>C5. Availability of low priced cashew kernels in the international market.</p> <p>C6. High penalty charges for the damage of the product during transit.</p> <p>C7. Continuous strikes of labours in seaport.</p> <p>C8. Lack of subsidy from Government</p> <p>C9. Constant decline in the area under cashew cultivation</p> <p>C10. Low productivity</p> <p>C11. High dependence of imports</p> <p>C12. Increasing wage rate of workers</p> <p>C13. New entry of African countries in the export of cashew kernels</p>
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### SWOC matrix

Factors		Strength	Weakness
		Internal factors	
		S1, S2, S3, S4, S5, S6, S7, S8, S9 & S10	W1,W2, W3,W4, W5 & W6
External factors	<b>Opportunities (O)</b> O1, O2, O3, O4, O5, O6, O7, O8 & O9	S O (Max- Max) Strategy (Maximise strength and opportunities)	W O (Min – Max) Strategy (Minimise weakness and Maximise Opportunities)
	<b>Challenges (C)</b> C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12 & C13	S C (Max – Min) Strategy (Maximise strength and minimise challenges)	W C (Min- Min) Strategy (Minimise weakness and minimise challenges)

The SWOC matrix clearly showed the strength, weakness, opportunities and challenges of the cashew export market strategies in Kerala. The matrix showed the strength in the market like following the product specific strategies, highest number of export units, provide continuous and smooth supply, capability to keep prompt track of business information overseas, offering certified cashew for specific grades etc.

Weaknesses of the cashew export market are showing labour intensive, low level of mechanisation, no specific strategies for tourists, no specific public relation officer, lack of availability of youth in the labour force and so on.

In cashew export market, the external factors are opportunities and challenges. The major opportunities were quality products compared to competitors, tradition of trust built up over years, increasing awareness of nutritional value of cashew nuts, scope for establishing “Indian Brand” of cashew in the international market, high demand for cashew kernels in the international market, high demand of premium cashew kernels exported from Kerala and strict observance of international terms and conditions.

Besides these opportunities, the major challenges like unattainable of Standard Input Output Norms, entry of more competitors in to market, impact of import duty on raw cashew nuts, penalty for late clearance cargo, constant decline in the area under cashew cultivation, low productivity and high dependence on imports.

Based on the analysis, the study suggested strategies for the improvements of cashew export market as featuring “Indian Cashew” promoting as a brand in films, television programmes, offering free gifts to regular customers and also suggested to explore the market of value added products and export are some of the possible suggestions to regain the lead position in the cashew export market.

The summary of the results, findings and conclusions of the study is presented in the next chapter V.

## **SUMMARY OF FINDINGS AND CONCLUSION**

## **Chapter V**

### **Summary of findings and conclusion**

The present study entitled marketing strategies for export of cashew in Kerala focused on the objectives viz; to analyse the trend and pattern in cashew exports, to analyse the export marketing strategies of cashew exporters, to identify the major determinants of cashew exports, and to examine the problems faced by the cashew exporters. Both primary and secondary sources of data were used for the present study to meet the above objectives. Primary data were collected using a pre-tested schedule from cashew exporters. Primary data were collected from the exporters of Kollam district in Kerala. A sample of 68 cashew exporters who have been continuously exporting cashew for the last five years were selected through stratified random sampling method. Besides, time-series data were collected from different authenticated sources like Cashew Export Promotion Council of India (CEPCI), Ministry of Commerce, Directorate of Cashew and Cocoa Development Board (DCCD), United Nations Conference on Trade and Development (UNCTAD), Ministry of Economics and Statistics, Ministry of Agriculture and Farmers Welfare. For analysing the trend in cashew exports, area, production, productivity of cashew nut in India, import of raw cashew nut to India, export of cashew kernel from India, area, production, productivity of cashew nut in Kerala and price of raw cashew nut in Kerala variables were taken for the study. The time series data were collected during the period from 2000-01 to 2019-20 (20 years) for variables like area, production, productivity of cashew nut in India, area, production, productivity of cashew nut in Kerala and price of raw cashew nut in Kerala, country wise export and country wise import. The variables like import of raw cashew nut to India and export of cashew kernel from India, the data were collected during the period from 1990-91 to 2019-20 (30 years).

The objectives were analysed by using such as Annual Growth Rate (AGR), Compound Annual Growth Rate (CAGR), Cuddy Della Valle Instability Index (CDVI), Augmented Dickey Fuller test, Generalised Auto-Regressive Conditional Heteroscedasticity

(GARCH), Kinked Exponential method, Market Share and Market Growth Model, Descriptive Frequency, Percent method, Kendall's Co-efficient of Concordance and Garette Ranking Method.

## **5.1 Findings**

**The major findings of the study are as follows:**

### **5.1.1 The trend and pattern in cashew exports**

#### **5.1.1.1 Trend in area, production, productivity of cashew in India**

- The compound annual growth rate of the area of cashew showed a positive growth of 2.41 percent, which indicated positive growth in the area from 2000 to till 2020.
- The CAGR of the production of cashew is 2.38 percent. Whereas, the AAGR of cashew production is 2.61 percent and that of productivity is 0.65 percent respectively, which shows a positive growth rate during the period 2000-01 to 2019-20. The reason was, contributed to more wasteland being brought under cultivation by the farmers in Bihar, Jharkhand and Orissa.

#### **5.1.1.2 Trend in import of Raw Cashew Nut (RCN) to India**

- The average annual growth rate of the volume and value of imported raw cashew nut showed a positive growth of 10.27 percent and 20.23 percent respectively. The CAGR of imported volume (8.77%) and value (15.55%) also shows a positive growth.
- The kinked exponential model shows the growth rate of imported raw cashew nut was 92 percent during the period 1990 to 2010, whereas -28.82 percent in 2011 to 2020. The African Government banned the export of Raw Cashew Nut (RCN) since 2009 by land transportation to avoid smuggling and to ensure the collection of the export tax at seaports, however they lifted the ban for 90 days in 2010 as the domestic processing industry could not absorb the full yield of Raw Cashew Nut (RCN).Subsequently they started to improve their processing capacity which

reduced the share of import of Raw Cashew Nut (RCN) to India (UNCTAD, 2019).

- The trend analysis has revealed a statistically significant growth differential in import of raw cashew nut to India after 2010-11 to 2019-20.

### **5.1.1.3 Trend in export of cashew kernel from India**

- India's cashew nut export varied from 49 thousand tonnes in 1990 to 67 thousand tonnes in 2019–20, which represented an average annual growth of 2.12 percent.
- The kinked exponential model shows the growth rate of exported cashew nut was 79 percent during the period 1990 to 2003, whereas -47.27 percent in 2004 to 2020. With the stoppage of five percent export subsidy exporters preferred to park their products in the domestic market rather than sending it abroad. The subsidy, which had been announced as per Vishesh Krishi Upaj Yojana (VKUY), had given a big boost to exports in 2004-05. The scheme was only limited for a period from 4<sup>th</sup> January to 26<sup>th</sup> April, 2004. After the expiry of this short term subsidy scheme, the exporters started to face financial challenges and the stiff competition from Vietnam has also affected adversely (UNCTAD, 2019). This was primarily owing to the set back faced by Vietnam, India's main opponent in the world market during that period. Due to these reasons many of the exporting firms were shutting down and migration of the firms from Kerala to other states. This reduces the share of export from India. It is seen that the growth rates are statistically significant in the case of export of cashew kernel from India after 2004 -05.
- The trend analysis has revealed that the growth rates are statistically significant in the case of export of cashew kernel from India after 2004 -05.

#### **5.1.1.4 Pattern in country wise cashew import by India**

- India imports raw cashew nut from Tanzania, Ivory Coast, Guinea Bissau, Ghana, and Benin during these 20 years.
- Guinea Bissau, Ghana, Benin, Tanzania and Ivory Coast showed positive incremental growth in import of raw cashew nut to India with 24.6 percent, 22.23 percent, 19.4 percent, 19.35 percent, 18.5 percent and 13.2 percent respectively.
- Tanzania had the highest percent of raw cashew nut imports to India from 2000 to 2005 (22.07%), while Ghana had the lowest percent (2.84%).
- Ivory Coast was the leading seller of raw cashew nut from 2005 to 2020, whereas Ghana was the least seller of raw cashew nut to India during this period.
- The highest market share of raw cashew nuts to India from major countries like Ivory Coast (25%) followed by Tanzania (17%), Guinea Bissau (14%), Benin (12%) and Ghana (8%).

#### **5.1.1.5 Pattern in country wise cashew kernel export from India**

- The major markets for Indian cashew kernels were USA, Netherlands, Japan, UAE, and UK during the year 2000-01 to 2019-20.
- The export of cashew kernels to USA, Netherlands, and UK registered a negative incremental growth of -11.30 percent, -2.28 percent and -10.05 percent respectively. Whereas, cashew exports to UAE, Japan, and other Indian cashew importing countries witnessed a positive incremental growth of 7.55 percent, 1.78 percent and 2.44 percent respectively.
- USA (48.23 percent) was the leading buyer and Japan (4.59%) and UAE (4.59%) shows lowest percent of buying of cashew kernels from India during the period 2000-2005.
- During the period from 2005 to 2015, USA was the leading buyer and UK was least buyer of cashew kernel from India.

- The year 2015 to 2020 the highest buyer was UAE instead of USA whereas UK had the lowest share of cashew kernel from India.
- The premier market share of cashew kernels from India to different countries like USA (33%), UAE (13%), Netherlands (11.04%), Japan (6%) and UK (4%).

#### **5.1.1.6 Trend in area, production, productivity of cashew in Kerala**

- The area under cashew nut in Kerala shows a fluctuating trend from the year 2000 to 2020.
- The compound annual growth rate of the area of cashew cultivation showed a negative growth of 1.12 percent.
- The CAGR of the production of cashew was 0.715 percent, and productivity was 2.50 percent whereas, the AAGR of production was 1.36 percent and productivity was 3.66 percent.

#### **5.1.1.7 Trend in price of the Raw Cashew Nut in Kerala**

- The compound annual growth rates of the price of the raw cashew nut in Kerala was -98.96 percent and annual growth rate was 7.1 percent.
- Prices of Raw Cashew Nut in Kerala went through three phases in the period 2000–2020. In the first phase (2000–2009), prices were volatile but cost, insurance, freight and import prices for raw cashew remained roughly within the range of \$4–6/kg.
- The second phase (2009–2013) was characterised by a steep increase in prices caused by strong competition for Raw Cashew Nut in global markets due to rising demand and limited supply. The price spike in 2011 (75%) caused due to demand weakening, which corrected prices downwards to below \$1/kg in 2013–14 (-13.1%).
- In the third phase, prices doubled from below \$1/kg in 2013 to around \$2/kg in 2017. This price spike was due to a sudden increase in demand for cashew nuts on

account of the nutritional consciousness of the consumers and a crop shortfall in Vietnam, which gave rise to strong import demand for RCN.

- Prices dropped sharply in 2019 – 2020. The reason may be the reduction of import duty from 5 percent to 2.5 percent. Comparatively lower price of imported cashew increased the imports of raw cashew nut and reduced the demand for domestic cashew this in turn resulted in fall in the price of the domestic cashew after 2018.

#### **5.1.1.8 Instability analysis of cashew exports**

- The instability analysis of cashew export and probable reasons could be outlined as below: the instability of cashew production in India is quite low (7.45%), which indicates that the persistence of volatility is lower. The production has enhanced due to the fertility of the soil and also many farmers started to use wasteland for planting cashew, of which the reduces the instability in cashew production in India during the period from 2000 to 2020.
- The import of raw cashew nut to India is medium instability (16.19%), which indicates that the persistence of volatility is medium. The major reason for the medium instability might be due to the imposition of duty on imported raw cashew nut and increase in raw nut prices.
- Analysis of cashew exports which showed medium instability (15.60%) due to increasing international demand and domestic demand, price volatility, and global market changes. Cashew export suffered much due to the competition mainly from Vietnam. The United Arab Emirates, the European Union, United States, are the major importers of cashew. Europe moved from India to Vietnam as the leading supplier. In 2017, Vietnam accounted for 58 percent of all European imports, while India accounted for only 6 percent. The main reason for this shift from India to Vietnam was due to the high price of Indian cashew than Vietnam cashew. Indian prices tend to be higher than in Vietnam due to strong domestic demand and labour oriented processing (CBI, Ministry of Foreign Affairs, 2020).

- The instability of raw cashew nut production in Kerala is low (10.28%), which indicates that, the persistence of volatility is low. Farmers started to use more waste land for cashew cultivation with high yielding varieties which reduces the instability in production of raw cashew nut in Kerala during the period from 2000 – 2020.
- The instability analysis in price of raw cashew nut shows high (35.1%), which indicates that the persistence of volatility is higher. The main reason for the decline in the price of RCN, imported raw cashew is better quality than the domestic raw cashew nuts. Whereas the imported raw cashew available at a cheaper rate, which ignoring costlier domestic raw cashew supplies.

#### **5.1.1.9 Compiled production, import, export and international price of cashew in India**

- The quantity of import of raw cashew nut and domestic consumption is significant with positive correlation (.937\*\*) at one percent level. Due to the high multicollinearity between import of raw cashew nut and domestic consumption, the latter has been dropped from the model.
- The study tried to examine the variables that influence the export of cashew from the country.
- The exports of cashew are postulated as a function of import, production and international price of the product and government policy has taken as a dummy variable. The important policy change of Standard Input Output Policy has taken place during the period 2018. The change of government policies shows from the year 2018 to 2020 given the value as “one” and rest of the years given as “zero”.
- The export and import values are converted into natural log. After these variables fitted into the model liner regression, i.e. F-statistic value is: 28.88 and the p value are 4.781e-09, which means the model significant.
- The model as residuals which is tested by using Durbin Watson test and the result was less than two (1.68) which means there is no auto correlation. With the help

of Variation Inflation Factor (VIF), test multi collinearity between independent variables which is less than ten and there is no correlation between variables (value is 0.82). Hence these two assumptions are valid and fitted for regression analysis.

- Multiple R-squares of 0.82, the value indicated that the 82 percent of the variability in export is explained by the model.
- The independent variables like import, international price and government policy (dummy variable) which influence the export of cashew kernel from India are taken up for regression analysis. The results reveal that the government policies (Standard Input Output Norms, reduction of export incentives and imposition of import duty of cashew) affect the export of cashew from India.

## **5.1.2 The export marketing strategy of cashew exporters**

### **5.1.2.1 Basic information regarding cashew exporting companies**

- Majority (72%) of the cashew exporting companies are sole proprietorship.
- The exporters are using both own fund and borrowed fund as their source of fund.
- The exporters in Kerala doing all the activities like local procurement, import, processing, branding, packaging and export.
- During the survey, exporters opined that the presence of younger workforce is very less in cashew industry due to the unattractiveness of the job, low wages, higher education levels and changing aspirations of the younger generation.
- The majority of the surveyed exporters (76%) have 11 to 25 years of experience in cashew industry and also most of them (90%) are export oriented exporters.
- The surveyed respondents possess both ISO and FSSAI certificate, which is required by all importing countries like USA, UK, Dubai, Japan, Saudi Arabia, South Korea, Europe and Hong Kong.
- The respondents sourced their raw cashew nut from domestically and from the other countries.

- The imported raw cashew nuts available in bulk quantity, is the major reason for increase in the import of raw cashew nuts to Kerala.
- Delhi is the major domestic market for cashew nuts from Kerala. They were widely used as ingredient in the food items.
- Exporters sell their cashew kernels in the domestic market through wholesalers by using container truck.
- In 2019-20, the majority of the exporters (82%) were exported small quantity (<100 TFE) only.
- Kerala exported 6560 tonnes of cashew kernel to USA with a value of 6.904 million US\$ in 2019-2020. W 180 (57.6%) was the most preferred grade for Americans with a value of 4.495 million US\$.
- In 2019-20, 4535 tonnes of cashew kernels were exported to UK with a value of 4.068 million US\$ in W 240 was favoured grade.
- Dubai purchased 5105 tonnes of cashew kernels from Kerala with a value of 4.391 million US\$ in 2019-2020 and W 240 (40.5%) was the preferred grade during that period.
- A total of 6395 tonnes cashew kernels were exported to Japan in 2019-20 with a value of 5.318 million US\$ and W 320 (91.1%) was the preferred grade.
- Kerala exported 1280 tonnes of cashew kernels to Saudi Arabia with a value of 1.096 million US\$ in 2019-2020.
- In 2019-20, South Korea purchased 130 tonnes of cashew kernels from Kerala.
- A total of 2160 tonnes of cashew kernels were exported to Europe in the year 2019-20 with a value of 1.846 million US\$.
- In 2019-2020, the surveyed respondents exported 26855 tonnes of cashew kernels to the different parts of the world, with a value of 243.01 million US\$.
- The most important reason for the abstinence from exporting value added products is the low demand for it in the international market.

- The exporters marketed the cashew directly to the overseas buyers using sea transport. Based on the information elicited from the exporters, it is obvious that there is an escalation in the freight charge due to covid -19.
- Mainly the domestic, Middle East market like Dubai, Saudi Arabia and South Korea prefer tin cashews whereas, traditional overseas markets such as USA, UK, Europe, and Japan prefer cashew nuts packed in flexi bag /pouches.
- The countries like USA, UK, Dubai, South Korea and Europe have opted for the Cash Against Document (CAD) method for payment.
- The rest of the countries like Japan, Saudi Arabia and Hong Kong, opted for Telegraphic Transfer (TT). At present, no one uses the Letter of Credit, due to the possibility to defraud this method.

#### **5.1.2.2 The export marketing strategies of cashew exporters**

- Regarding export product strategies, offering certified cashew, offers cashew in specified grades, offers premium cashew, offers crispier cashew, the exporters are following CEPCI nomenclature with respect to infestation level, ensuring minimum broken percent, maintaining the odour of cashew, offering high quality cashew better than other cashew exporters countries and to supply sufficient capacity demanded by importing countries were found as the current export product marketing strategies of cashew exporters in Kerala. No strategies designed for future by any of the exporting firms. There is no difference in the strategies followed by the different categories of exporters of cashew.
- The flexi bag and tin pouch packaging using as the current packaging strategies of cashew exporters in Kerala. Cashew kernel buyers from Dubai, Saudi Arabia and South Korea advising the cashew kernel exporters in Kerala to opt for tin pouch packaging because these countries are not allowed plastic materials into their country. The cashew Kernel buyers in USA, Europe and Japan have been advising the cashew kernel exporters in Kerala to opt for flexible packaging. None of the

respondents are following the wooden packaging method; because it is not convenient to transit.

- The premium pricing and competitive pricing using as the current exporting pricing strategies of cashew exporters in Kerala. Cashew kernel price is fixed based on kernel quality and efficiency. The price of cashews, based on different grades, is determined by the New York market internationally and domestically at CEPCI. None of the exporters exported cashew nuts for credit. There are large numbers of buyers to purchase cashew for spot payment.
- Cashew exporters using both Cash against Document (CAD) and Telegraphic Transfer (TT) as export payment strategy. Countries like USA, UK, Dubai, South Korea and Europe have opted for the Cash against Document (CAD) method whereas Japan, Saudi Arabia and Hong Kong have opted for Telegraphic Transfer (TT). At present, none of the exporters followed Letter of Credit.
- Reaching customers via their mail order / WhatsApp/ online modes, exporting cashew through shipping mode, ensuring timely delivery and products are distributed as per the packing norms of importing country were found as the cashew distribution strategies for cashew exporters in Kerala. No strategies designed for future by any of the exporting firms.
- Offering cashew for new customers as a trail, attending the trade fairs organised by CEPCI (Kaju India) and attend BSM (Business Sellers Meet), publish advertisements in the CEPCI Directory; visitors to the exporting company, brochures, photographs and sending of price lists by postal / online mode are found as the existing promotional strategies used by the exporters.
- The strategies like attracting tourists to purchase cashew from Kerala, maintaining a good relation with multinational companies and appointing a PRO who knows

foreign languages during the trade show, to translate for customers was used earlier, but not currently.

### **5.1.3 The determinants of export marketing of cashew in Kerala**

- Among the legal and political factors, the barriers to entry ranked as the highest, followed by the export regulation and procedure in the international market, the existing export marketing supply chain and fair trade certification of cashew were found as the success determining factors for cashew export.
- The factors in socio- cultural, the mean rank for specifications in packing ranked 4.93, the language and communication of product package ranked 4.93, and the religious and social compliance of your company products packaging and layout to the international customers ranked 4.90 as leading success factors for cashew export in Kerala.
- The proximity of the international buyers to India (3.79) and the location where cashew is processed (3.75) were identified from geographic variables as the success factors for cashew export.
- Along with economic factors, demand and supply of the product and Market development scheme were found as the success factors in cashew export.
- Among the export and import policy factors, VAT refund on export (4.00) was determining the success factor in cashew export.
- The factors in international trade agreements, food quality standard (3.92) were the success factor in cashew export.
- Among the market logistics factors, communication facility (4.67), image of cashew exporting companies (4.21), up-to-date market information (4.18), Transportation facility (4.07), ware housing (4.01) and product handling (4.0) were found as the success factors in cashew export.
- Amongst the competitive factors, promptness in shipment (4.72) quality of the product (4.33), rapport with suppliers (4.32), payment terms (4.20), packing of the

product (4.07) and trade norms (3.5) were identified as the success factors in cashew export.

- Cost of raw material (3.87), packaging cost (3.87), transportation cost (3.87) and port charges (3.87) were considered as the success factors in cashew export.
- Quality of the product (.897), the language and communication of the product package (.847), the proximity of the international buyers to India (.688), food quality standards (.887) and location where cashew is processed (.738) are the major critical success factors of cashew export market. The competitive and demand factors are the highest loading factors among them.

#### **5.1.4 Problems faced by the cashew exporters in Kerala**

##### **5.1.4.1 Internal problems faced by the cashew exporters**

- The major internal problem faced by the cashew exporters in Kerala are high processing cost. The processing cost in Kerala is higher than other competitive countries because of its labour intensive method and countries like Vietnam and Brazil followed the mechanised method which is cost effective.
- Continuous strike of labours in seaport was found as the second problem for cashew exporters. During the survey, exporters said that, in Kerala the labour strike is higher than other countries. Labours take strikes for increasing their wage, due to this reason they will not do any work in port, which makes delay in exporting cashew to other countries.
- High wage rate of workers ranked as the third problem of exporters. The average cost of processing in India varies from ₹ 25,000 to ₹40,000; a ton compares to USD 150 (₹ 9750) per MT in Vietnam.
- Outdated shelling method was the next problem of exporters. Due to this there is a possibility of damage to cashew kernels, and it is a time consuming process.

- A high penalty charge for the damage of the product during transit (the buyers found any problems inside the container (like any insects) the exporter is liable for paying an amount of minimum ₹ 4, 00000) is also a problem for the exporters.
- Inadequate and unreliable transportation, communication facilities and non availability to keep prompt track of business information overseas are not serious problems for them. Due to the advanced technologies like WhatsApp, and Gmail communication becomes easy for them.
- Shortage of quality raw cashew nut was least ranked problem for cashew exporters as Export Inspection Council of India (EIC) inspect quality of raw cashew nut before unloading to the country.
- Exporters were not much concerned about the non availability of raw cashew. As the raw cashew nut is available throughout in a year from different parts of the world due to the different harvesting season.

#### **5.1.4.2 External problems faced by the cashew exporters**

- The major problem faced by the cashew exporters is unattainable of Standard Input Output Norms (SION). The SION was fixed much earlier, when India was the sole importer of high quality raw cashew nuts from selected market. Now, with high demand for raw cashew nuts from all processing countries, the import of graded quality raw nuts is not possible, and what is being offered is platter of mix quality nuts. But now (from 2018) SION is revised to 1:5.04 from 1:4 ratios; which again are not practically attainable for the exporters.
- Competition from other countries ranked as second by exporters. High level of competition from Vietnam has completely deprived the cashew industry of Kerala as it affects both supply side and demand side of the cashew industry.
- Impact of import duty on raw cashew nut ranked as third external problem for cashew exporters. Indian cashew industry is highly depended on imported raw cashew nuts (about 50% of requirement) for fulfilling domestic and export demanded for cashew kernels.

- Another problem for exporters is that export incentives are low compared to competing countries. In competing countries, the processing of raw cashew nuts is highly promoted by the respective governments, offering high incentives for exports.
- Penalty for late clearance cargo was another problem faced by the cashew exporters. The imported cargo has to be cleared within three days from the date of arrival in the port, otherwise a heavy penalty is imposed on daily basis.
- Exporters are not concerned about the problems like unattainable of global food quality standards, problems of sea pirates' attacks, and high port charges.
- Covid -19 as not much affected the exporters. During the survey they said that, this pandemic which is affected all over the world. So they requested an extension with their buyers for exporting the cashew Kernel.
- The strength in the market like high demand for cashew kernels in the international market, high demand of premium cashew kernels exported from Kerala, strict observance of international terms and conditions, highest number of export units, provide continuous and smooth supply etc. strong presence in the international market is also strength of the cashew exporters.
- Weakness of the cashew export market are showing constant decline in the area under cashew cultivation, low productivity, labour intensive, high dependence on imports, low level of mechanization.
- The major opportunities were quality products compared to competitors, tradition of trust built up over years, increasing awareness of nutritional value of cashew nuts, scope for establishing "Indian Brand" of cashew in the international market.
- Besides these opportunities, the major challenges like unattainable of Standard Input Output Norms, entry of more competitors in to market, impact of import duty on raw cashew nuts, penalty for late clearance cargo.

## **5.2 Conclusion**

To conclude, the present study analysed the trend and pattern of cashew exports and the export marketing strategies of cashew exporters in Kerala. The study also identified the major determinants of cashew exports and examined the problems faced by exporters. Due to intense competition from other nations and the reduction of export incentives, India's cashew sector had negative growth in terms of export quantity and value throughout the research period. As India's local cashew production is insufficient to meet the demand for cashew kernels on an international market, imports of raw cashew nuts have increased relatively to exports. The study identified that all the selected exporters were following the same marketing strategies as they are strictly following the specification of the importers with respect to product characteristics, channel of distribution and pricing (as per New York market). All of them are following CEPCI norms with respect to quality and quantity of export of cashews. Moreover CEPCI is taking initiatives for promoting cashew kernels in international market and individual exporters have no role to play in this respect. The major determinants for the success of the export market of cashew in Kerala include no barriers to entry, the language and communication of the product package, location where cashew is processed, demand and supply, up-to-date market information, packaging cost, transportation cost and port charges. The exporters faced the problems such as high processing cost, Continuous strike of labours in seaport, high wage rate of workers, outdated shelling method, unattainable of Standard Input Output Norms (SION), competition from other countries, impact of import duty on raw cashew nut, low incentives and penalty of late clearance cargo.

### **5.3 Strategy implications**

Based on the analysis of various objectives of the study following recommendations having certain strategy implications are given below.

- Drum roasting method (labour intensive) of processing of raw cashew nuts to cashew kernels to be replaced with machineries in a phased manner without affecting the premium label of cashew kernels from Kerala. This will help to reduce the cost of processing and there by reduction in the price of cashew kernels in the export market. Further the reduced price will attract the sensitive customers in the international market help to boost up our export position.
- Effective marketing strategies like featuring of “Indian Cashew” (like almonds, pistachio) promoting as a brand in films, or television programmes, offering free gift to regular importers at certain intervals may be implemented to increase the quantity of export of cashew kernels in the existing markets and to attract more countries.
- Abolishment of Merchandise Export from India Scheme (MEIS) negatively affected exporting firms of cashew kernels. Recently announced Remission of Duty and Taxes on Export Products (RODTEP) scheme has to be implemented at the earliest so as to help the exporters.
- Presently, state of Kerala is exporting only cashew kernels. If the exporters can explore the market of value added products of cashew which could help to improve their income generation and premier position in the export. In this regard, promotion and support from the cashew regulatory authorities is essential.

### **5.4 Thrust in future study**

- Study on domestic consumption and domestic trade of cashew kernels in India.
- Traceability of the cashew and its influence on export.
- Comparison of competitive advantage of India, Vietnam and Brazil in the cashew production, processing and marketing.

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**MARKETING STRATEGIES FOR EXPORT OF CASHEW**

**IN KERALA**

**By**

**Haritha Paul**

**(2019-25-001)**

**ABSTRACT OF THE THESIS**

**Submitted in partial fulfillment of the requirement  
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**Kerala Agricultural University**



**Department of Rural Marketing Management**

**COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT**

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## **ABSTRACT**

Cashew (*Anacardium occidentale* L) often referred to as ‘wonder nut’ is one of the most valuable processed nuts traded on the global commodity markets and also an important cash crop. In 2021, the global cashew nut production was 39 lakh tonnes, led by Vietnam and India with a combined 39 percent of the world total (FAOSTAT, 2021). Vietnam (20%) is the largest producer of cashew and the major competitor for India (19%) in cashew export. Vietnam exports 54.24 percent of the total cashew traded in the world compared to India’s share of 16.32 percent (Rajesh, 2019). India is the second-largest exporter of cashew in the world. India’s export of cashew was 67647 metric tonne valued at ₹ 3867.16 crore in 2021. The major markets for Indian cashew during 2021 were the UAE, Netherlands, Japan and USA (GoI). India is the largest importer of raw cashew nuts from African nations.

The Cashew Export Promotion Council of India (CEPCI) is an agency to promote the export of cashews and acts as an intermediary between global importers and Indian exporters of cashew. Even though Kerala stands 5<sup>th</sup> position in the production of the cashew in India, it is ranked first in the processing and exporting followed by Tamil Nadu, Karnataka and Andhra Pradesh (GoI, 2021). However, currently, there is a continuous decline in both the area and production of cashews in Kerala from 2013 onwards (Annual Report of CEPCI, 2020). The cashew processing industry in Kerala which has been facing lot of problems due to increased wage rate, trade union issues, continuous use of traditional methods of processing (labour intensive), stiff international competition, fluctuations in international markets etc. The cost of production in Kerala is too high compared to other states. It is around ₹. 3400 for a bag in Kerala compared to ₹ 1000 to ₹ 1800 in other states. Besides in other states the industry was able to improve the productivity by mechanisation and automation processes as a result it was multiplied by two or three times. In Kerala due to high resistance from the labour force this could not be materialised. More over high dependence on imports and price fluctuation affected our cashew exports. Cashew export processing unit also face supply crunch amid low

domestic output. The above listed problems are serious export marketing problems faced by the cashew export industry. Though there are lot of literature related to the trend and pattern and problems of cashew exporters, the study related to export marketing strategies and the determinants of cashew exports is very limited. In this context a study of “Marketing strategies for export of cashew in Kerala” is highly imperative. The study will help to contribute to this research gap. Moreover, the findings of the study will help to identify the existing export strategies and the problems faced by cashew exporters which will in turn help to improve the existing status of cashew exports and find a solution to the problems of cashew exporters.

The objectives of the study are: to analyse the trend and pattern in cashew exports, to analyse the export marketing strategies for export of cashew in Kerala, to identify the major determinants of cashew exports in Kerala and to examine the problems faced by the cashew exporters in Kerala.

The study used both primary and secondary sources for the collection of data. Secondary data were collected for analysing the trend and pattern in cashew exports from authenticated sources like Cashew Export Promotion Council of India (CEPCI), Directorate of Cashew nut and Cocoa Development Board (DCCD), Department of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Directorate General of Commercial Intelligence and Statistics (DGCIS), Agricultural and Processed Food Products Export Development Authority (APEDA) and UN Trade Statistics.

Primary data were collected from the cashew exporters of Kollam district in Kerala. A sample of 68 exporters who were continuously exporting cashew for the last five years were selected through stratified random sampling method. To analyse the trend and pattern in cashew exports, variables like area, production, productivity of cashew nuts in India and Kerala, price of raw cashew nuts in Kerala, country wise export and country-wise import during the period from 1990-91 to 2019-20 (30 years), and the variables like import of raw cashew nut to India and export of cashew kernel from India were measured. The collected data were analysed with Annual Growth Rate (AGR),

Compound Annual Growth Rate (CAGR), Instability Index, Regression Analysis and Kinked Exponential Method. To analyse the export marketing strategies of cashew exporters in Kerala, export marketing mix strategies (product, packaging, pricing, payment, distribution and promotion) were taken and analysed by using percentage method. The major determinants of cashew exports were identified by using variables such as legal and political factors, socio-cultural, geographic, economic, export and import policy, international trade agreement, market logistics, competitive and cost factors. Indices method and factor analysis were used to identify the major determinants in cashew export. Internal and external factors were taken into account for identifying the problems of cashew exporters. Garrett ranking method was employed to examine the problems faced by the exporters in Kerala.

The trend in production of cashew in India and Kerala state has witnessed a positive growth. The demand for cashew nuts is always increasing in India and also at the world level. On the other hand, in India, the cashew export sector witnessed a negative growth in terms of quantity/value of export throughout the study period due to high competition from other countries and the slashing of the export incentives. Compared to export, import of raw cashew nut showed an increasing trend, because the domestic production of cashew in India is not sufficient enough to fulfill the requirement of the international demand of cashew kernels. The study on pattern of cashew export showed that USA, Netherlands, Japan, UAE and UK were found the most stable markets for Indian cashew. Ivory Coast, Tanzania, Guinea Bissau, Benin and Ghana were found as the major importing countries of raw cashew nuts to India. Additionally, the price of raw cashew nuts in Kerala showed positive growth till 2018. The comparatively lower price of imported raw cashew nuts increased the imports of raw cashew nuts and reduced the demand for domestic raw cashew nuts which in turn resulted in a fall in the price of the domestic cashew after 2018.

With respect to the export marketing strategies, the strategies related to product, price, distribution and promotion were analysed. All the exporters are following only the

strategies directed by CEPCI nomenclature. The major export product strategies followed by the exporters are offering certified cashew, specified grades of cashew, premium cashew, crispier cashew, level of infestation, minimum broken percent of cashew and high-quality cashew. All the exporters were following premium and competitive pricing as pricing strategies. Further they focus on the distribution strategies like reaching customers via their mail order / WhatsApp/ online modes, exporting through shipping mode and ensuring timely delivery. The promotion of the cashew is ensured by giving samples to new customers, attending trade fairs organised by CEPCI (Kaju India) and BSM (Business Sellers Meet), publishing advertisements in the CEPCI Directory; permitting visitors to the exporting company, sending brochures, photographs and price lists by postal/online mode to their clients.

From the factor analysis, quality of the product, the language and communication of the product package, the proximity of the international buyers to India, food quality standards and location where cashew is processed were found as the major critical success factors of cashew export market.

After examining the problems faced by the exporters of cashew it is found that they were facing both internal and external problems. Exporters were confronted with internal problems such as high processing costs, Continuous strike of labours in seaport, high wage rates of workers, outdated shelling methods and high penalty charges for the damage of the product during transit. Unattainable Standard Input Output Norms (SION), competition from other countries, the impact of import duty on raw cashew nuts, export incentives are low compared to competing countries and penalties for late clearance cargo were the major external problems faced by the cashew exporters in Kerala.

The study put forward some suggestions to improve the cashew export sector in Kerala. Drum roasting method (labour intensive) of processing of raw cashew nuts to cashew kernels to be replaced with machineries in a phased manner without affecting the premium label of cashew kernels from Kerala. This will help to reduce the cost of processing and there by reduction in the price of cashew kernels in the export market.

Further the reduced price will attract the price sensitive customers in the international market and will help to boost up export position of India. Effective marketing strategies like featuring of “Indian Cashew” (like brands of almonds, pistachio) as a brand and promoting through films, or television programmes, offering free gift to regular importers at certain intervals etc may be implemented to increase the quantity of export of cashew kernels in the existing markets and to attract more countries to export from India. Abolishment of Merchandise Export from India Scheme (MEIS) negatively affected exporting firms of cashew kernels. Recently announced Remission of Duty and Taxes on Export Products (RODTEP) scheme has to be implemented at the earliest so as to help the exporters. Based on the study, it is suggested that, as state of Kerala is exporting only cashew kernels at present, if the exporters can explore the market of value added products of cashew which could help to improve their income generation and premier position in the export. In this regard, promotion and support from the cashew regulatory authorities is essential.

## APPENDIX

## Appendix

**Kerala Agricultural University  
College of Co-operation, Banking and Management  
Department of Rural Marketing Management**

### Questionnaire for cashew exporters

**For partial fulfillment of Doctorate Degree in Rural Marketing Management**

(Academic purpose only)

**Title of the Thesis:** Marketing strategies for export of cashew in Kerala.

**Profile of the company:**

1. Name of the Company:
2. Name of the Respondent:
3. Designation:
4. Source of funds:
  - Owned funds
  - Borrowed funds
  - Both
5. The actual number of employees:
  - Less than 5000
  - 5000 – 10000
  - Above 10000
6. Legal form of the company:

Single proprietorship

Partnership

xix

Co-operative

Government

Private Limited company

Public Limited company

7. Duration of the company engaged in cashew exports (Actual) :

New entrants (<10 years)

Medium Level (11 to 25 years)

Long Level (>25 years)

8. Activities of the company:

Local procurement

Procurement from other states of India

Importing

Processing

Branding and Packaging

Exporting

9. Volume of cashew kernels exported in a year (actual number Twenty Feet (TF)

container size):

Small Quantity (<100 containers)

Medium Quantity (101 to 200 containers)

Large Quantity (>200 containers)

10. Whether you are aware about the certification needed for cashew export?

Yes

No

11. Agencies in which certified?

- Food and Drug Administration (FDA)
- United States Department of Agriculture (USDA)
  
- KOSHER
- Food Safety Standard Certification (FSSC)
- Food Safety & Standards Authority of India (FSSAI)
- British Retail Consortium (BRC)
- International Organization for Standardization (ISO)
- Hazard Analysis Critical Control Point (HACCP)

12. Which type of exporter you are:

- Casual exporter
- Occasional exporter
- Regular exporter
- Export oriented

13. How do you export cashew kernels:

- Direct sales
- Through Agents
- Others.....

14. Mode of trade:

- Ship
-

Air cargo

Others .....

15. Do you import raw cashew nuts for processing:

Yes

No

(a) If yes, from where:

Domestic

International

Both

(a.1) Volume of raw cashew imported in a year (2020-2021):

Country	Quantity (Kg/ Tonne)	Price (Rs./ US\$)
Ivory coast		
Ghana		
Guinea Bissau		
Togo		
Benin		
Senegal		
Tanzania		
Gambia		
Indonesia		
Mozambique		

(b) The reason for the import of cashew nut by the exporter?

Rank the reasons:

No.	Statements	Rank
(a)	Import of raw cashew nut ensures uninterrupted supply	
(b)	Imported raw cashew nut is tax free.	
(c)	Raw cashew nut is available in bulk quantity.	
(d)	Reduce the risk of market price fluctuation	
(e)	Production of cashew is seasonal and inadequate	
(f)	Provide work to employees throughout year	

16. Are you doing domestic sales (2020-2021):

Yes  No

If yes, please specify

States	Grade	Quantity (Kg/ Tonne)	Price (Rs.)

17. Mode of domestic sale:

Container Truck

Ship

Air cargo

Train

18. Channel of domestic sales:

Through own outlets

Wholesalers

Retailers

Local shops

19. Does your company have adequate knowledge in shipping its product overseas, such as identifying and selecting international freight forwarders and freight costing?

Yes

No

20. . Are you exporting plain cashews:

Yes

No

If Yes, Volume of export in last year (2020 -2021):

<b>Country</b>	<b>Grade</b>	<b>Quantity (Kg/ Tonne)</b>	<b>Price (Rs./ US\$)</b>
USA			
UK			
Dubai			
UAE			
Japan			
Saudi Arabia			
South Korea			
Europe			
Hong Kong			

21. Are you exporting any value added products:

Yes

No

(a) If yes, what type of value added products you export?

Country	R&S		SC		HC		GF		BF		Others	
	Qty	Price	Qty	price								
USA												
UK												
Dubai												
UAE												
Japan												
Saudi Arabia												
South Korea												
Europe												
Hong Kong												

(R&S - Roasted and salted, SC - Spice coated, HC - Honey coated, GF - Garlic flavour, BF- Barbeque flavour)

(b) If No, rank the reasons for not exporting value added products

No.	Statements	Rank
(a)	Low demand in international market	
(b)	Lack of advanced production techniques	

(c)	Processing reduces the quality	
(d)	High cost of marketing abroad	
(e)	Impact of duties and taxes	
(f)	Difficult to complete the formalities (phyto sanitary certificate)	

22. Does the company have adequate knowledge about export payment mechanisms?

Yes  No

23. Payment terms used in exporting:

Letter of credit (LC)

Cash Against Documents (CAD)

Telegraphic Transfer (TT)

Please specify

Country	CAD	TT	LC
USA			
UK			
Dubai			
UAE			
Japan			
Saudi Arabia			
South Korea			
Europe			
Hong Kong			


24. Packaging norms at the time of exporting:

Flexi bag

Tin Pouch

Wooden Box

Others .....

Country	Flexi bag	Tin pouch	Wooden box	Others
USA				
UK				
Dubai				
UAE				
Japan				
Saudi Arabia				
South Korea				
Europe				
Hong Kong				

**Export marketing strategies of cashew exporters**

Which marketing mix strategy is being implemented by your company:- (3- being done, 2- done but not now, 1- planning in future)					
<b>(1) Product strategy</b>			<b>3</b>	<b>2</b>	<b>1</b>
<b>1.</b>	Offering certified cashew				
<b>2.</b>	Offering cashew in specified grades				
<b>3.</b>	Offering premium cashew				

4.	Offering crispier cashew			
5.	Following CEPCI nomenclature with respect to infestation level			
6.	Ensuring minimum broken percentage as per the norms of CEPCI			
7.	Maintaining the odour of cashew			
8.	Offering high quality cashew better than other cashew exporter countries			
9.	Supply sufficient capacity demanded by importing countries			
<b>(1.a) Packaging strategy</b>				
1.	Following flexi bag packing			
2.	Following tin pouch packing			
3.	Following wooden box packing			
<b>(2) Pricing strategy</b>		<b>3</b>	<b>2</b>	<b>1</b>
1.	Competitive pricing method			
2.	Premium pricing method			
<b>(2.a) Payment strategy</b>				
1.	Cash Against documents (CAD)			
2.	Telegraphic Transfer (TT)			
3.	Letter of Credit (LC)			
<b>(3) Distribution (Place) strategy</b>		<b>3</b>	<b>2</b>	<b>1</b>

1	Reaching customers via their contract mail / WhatsApp/ online modes			
2	Through shipping mode			
3.	Ensuring timely delivery			
4.	Products are distributed as per the packaging norms of importing country			
<b>(4) Promotion strategy</b>		<b>3</b>	<b>2</b>	<b>1</b>
1.	Offering cashew for new customers for use as a trail			
2.	Participating the trade fairs conducted by CEPCI (Kaju India)			
3.	Participating in BSM (Business sellers Meet)			
4.	Through advertisements in CEPCI directory			
5.	Buyers visit in exporters company			
6.	By attracting tourists to purchase cashew from Kerala			
7.	Maintaining a good relation with multi-national companies			
8.	Sending brochures, photographs, price lists via mail / online mode			
9.	Appointing a PRO who knows foreign languages during the trade show, to translate for customers			
10.				
11.				

**The major determinants of cashew exports:**

Which factors highly contribute to the success of the cashew export market:- 5 – High contribution, 4- Good contribution, 3- Average contribution, 2- Less contribution, 1- Unfavourable.						
<b>Legal and political factors ( Institutional factors)</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>1.</b>	The trade agreements between India with different countries					
<b>2.</b>	Export and import duty protection imposed by the government of India					
<b>3.</b>	Government support system to promote exporters					
<b>4.</b>	The export regulation in the international market					
<b>5.</b>	The existing export marketing supply chain					
<b>6.</b>	Fair trade certification of cashew					
<b>7.</b>	Barriers to entry					
<b>8.</b>	Trade union issue					
<b>Socio – cultural factors</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>1.</b>	The language and communication of the product package.					
<b>2.</b>	Specifications in packing (Quality, Quantity)					
<b>3.</b>	The religious and social compliance of the company products packaging and layout to the international customers.					
<b>Geographical factors</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>1.</b>	Location where cashew is grown.					
<b>2.</b>	Location where cashew is processed.					

3.	The proximity of the export firm to major ports.					
4.	The proximity of the international buyers to India.					
<b>Economic factors</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.	Fluctuations in the currency rate					
2.	Market Development Scheme (MDS)					
3.	Demand and supply of the product					
<b>Export and import policy of the country</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.	VAT refund on export					
2.	Marketing policies					
3.	Standard Input Output Norms (SION)					
4.	Export incentives					
5.	Advance license (duty free imports of raw nuts)					
<b>International trade agreements</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.	Trade restrictions					
2.	Trade competitions					
3.	Food quality standards					
<b>Market logistic factors</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.	Image of cashew exporting companies.					
2.	Up-to-date market information					
3.	Processing technology					
4.	Communication facility					

5.	Transportation facilities					
6.	Products handling					
7.	Warehousing					
<b>Competitive factors</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.	Pricing of the product					
2.	Promptness in shipment					
3.	Packing of the product					
4.	Quality of the product					
5.	Rapport with suppliers					
6.	After sales support					
7.	Payment terms					
8.	Trade norms (Terms and Conditions of sale)					
9.	Honouring of contractual obligations					
<b>Cost factors</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.	Cost of raw material					
2.	Processing cost					
3.	Packaging cost					
4.	Freight charges / shipping charge					
5.	Labour cost					
6.	Transportation cost					
7.	Port charges (Custom House Agents)					

8.	GST					
9.	Import duty					
10.	Export duty					

**Problems faced by the cashew exporters**

<b>I</b>	<b>Internal problems</b>	<b>Rank</b>
1	Shortage of quality raw cashew nuts	
2	High processing cost	
4	Non availability of cashew to meet the requirement	
5	Problems related to online transactions/ documents	
6	High penalty charges for the damage of the product during transit	
7	Outdated shelling method	
8	Inability to provide continuous and smooth supply	
9	Inadequate and unreliable transportation , communication facilities	
10	Non availability to keep prompt track of business information overseas	
11	Lack of active export promotion	
12	High wage rate of workers	
13	High dependency on import	
14	Continuous labour strikes	
<b>II</b>	<b>External problems</b>	<b>Rank</b>
1	Impact of import duty on raw cashew nut	
2	Penalty for late clearance of cargo	
3	Unattainable of global food quality standards	
4	Low level of export incentives compared to competing countries	
5	Fluctuation in exchange rate	
6	Recession in the world market	
7	Problems of sea pirates attacks	

<b>8</b>	High port charges	
<b>9</b>	Facing competition from other producing countries	
<b>10</b>	High price of imported raw cashew nut	
<b>11</b>	Unattainable SION (Standard Input Output Norms)	
<b>12</b>	Non refund of GST paid on exports	

Suggestions if any,

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4. -----  
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----- Thank You -----

**ANNEXURE**

## Annexure I

### Raw cashew nut processing industry in Kollam district



Storage for imported Raw Cashew Nuts (RCN)



Drum roasting method



Cutting / De- shelling using mallets



Borma treatment



Cashew kernels after borma treatment



Cooling / Humidification





Peeling



Grading



Final grading



Flexi bag packing



Tin pouch packing

**Annexure - II**

**GARRETT RANKING CONVERSION TABLE**

**The conversion of orders of merits into units of amount of “soces”**

<b>Percent</b>	<b>Score</b>	<b>Percent</b>	<b>Score</b>	<b>Percent</b>	<b>Score</b>
0.09	99	22.32	65	83.31	31
0.20	98	23.88	64	84.56	30
0.32	97	25.48	63	85.75	29
0.45	96	27.15	62	86.89	28
0.61	95	28.86	61	87.96	27
0.78	94	30.61	60	88.97	26
0.97	93	32.42	59	89.94	25
1.18	92	34.25	58	90.83	24
1.42	91	36.15	57	91.67	23
1.68	90	38.06	56	92.45	22
1.96	89	40.01	55	93.19	21
2.28	88	41.97	54	93.86	20
2.69	87	43.97	53	94.49	19
3.01	86	45.97	52	95.08	18
3.43	85	47.98	51	95.62	17
3.89	84	50.00	50	96.11	16
4.38	83	52.02	49	96.57	15
4.92	82	54.03	48	96.99	14
5.51	81	56.03	47	97.37	13
6.14	80	58.03	46	97.72	12
6.81	79	59.99	45	98.04	11
7.55	78	61.94	44	98.32	10
8.33	77	63.85	43	98.58	9
9.17	76	65.75	42	98.82	8
10.06	75	67.48	41	99.03	7
11.03	74	69.39	40	99.22	6
12.04	73	71.14	39	99.39	5
13.11	72	72.85	38	99.55	4
14.25	71	74.52	37	99.68	3
15.44	70	76.12	36	99.80	2
16.69	69	77.68	35	99.91	1
18.01	68	79.17	34	100.00	0
19.39	67	80.61	33		
20.93	66	81.99	32		

### Annexure - III

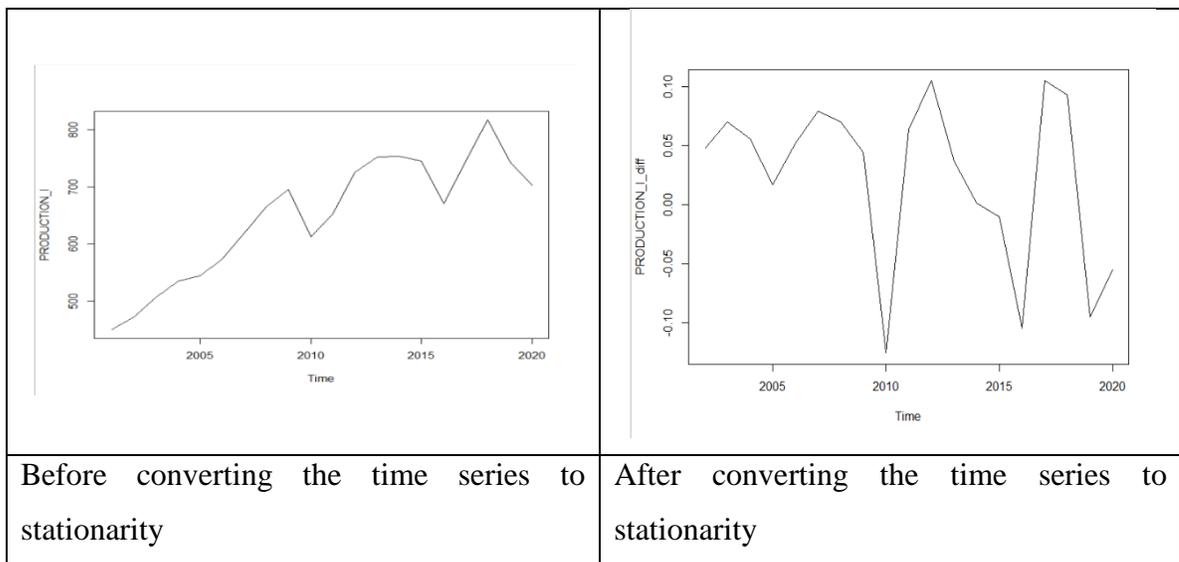
#### Instability analysis of cashew exports

The instability in cashew exports is analysed using Cuddy Valle Instability Index and Augmented Ducky fuller (ADF) test. Accordingly, GARCH model was fitted and the results generated are presented in the following Tables and Figure.

#### Instability analysis of cashew production in India

##### Cuddy Valle Instability Index of cashew in India 2000-01 to 2019-20

<b>India</b>	<b>Area</b>	<b>Production</b>	<b>Productivity</b>
	2.38	7.45	7.34



ADF result for the trend in total volume of cashew production in India 2000-01 to 2019-

20

#### GARCH result for total production of cashew in India 2000 –01 to 2019-20

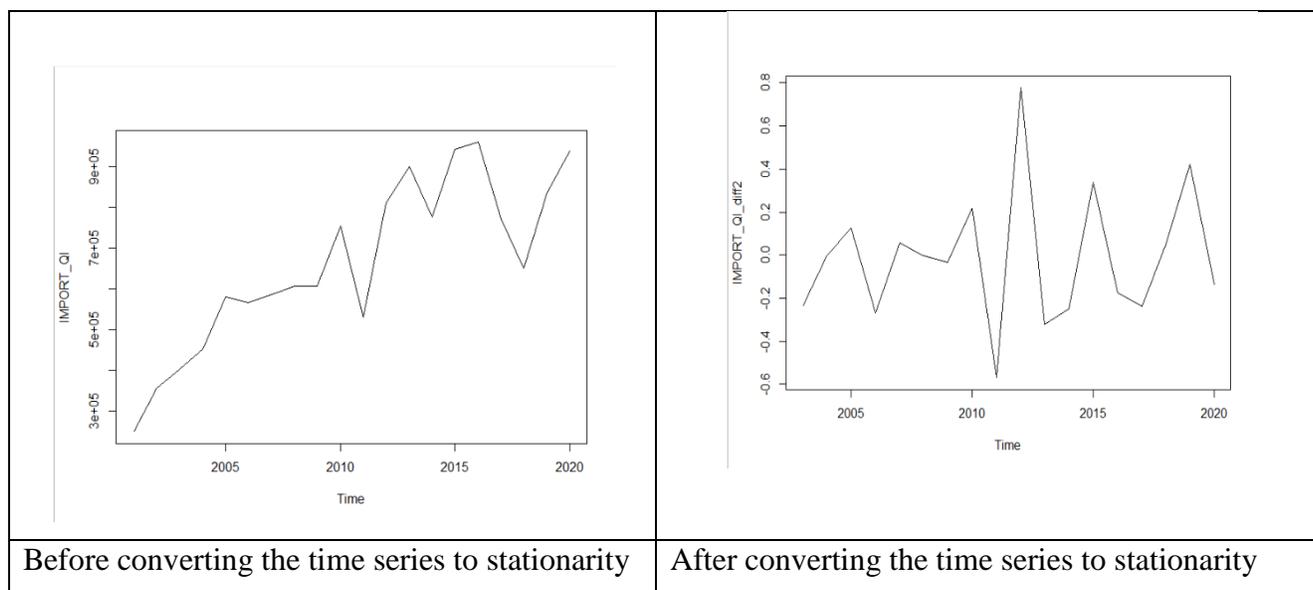
	Co-efficient	std. Error	t value	prob.
C (Intercept)	0.004429	0.057366	0.077	0.938
Residual	0.066723	0.883600	0.076	0.940
GARCH	0.126441	10.613219	0.012	0.990

**Instability analysis of import of raw cashew to India**

**Cuddy Valle Instability Index of import of raw cashew nut to India 1990-91 to 2019-**

20

<b>Import of raw cashew nut</b>	<b>Volume</b>
	16.19



Before converting the time series to stationarity

After converting the time series to stationarity

ADF result for the trends in total volume of raw cashew nuts imports to India 1990-91 to 2019-20

**GARCH result for total volume of raw cashew nut import to India 1990-91 to 2019 -**

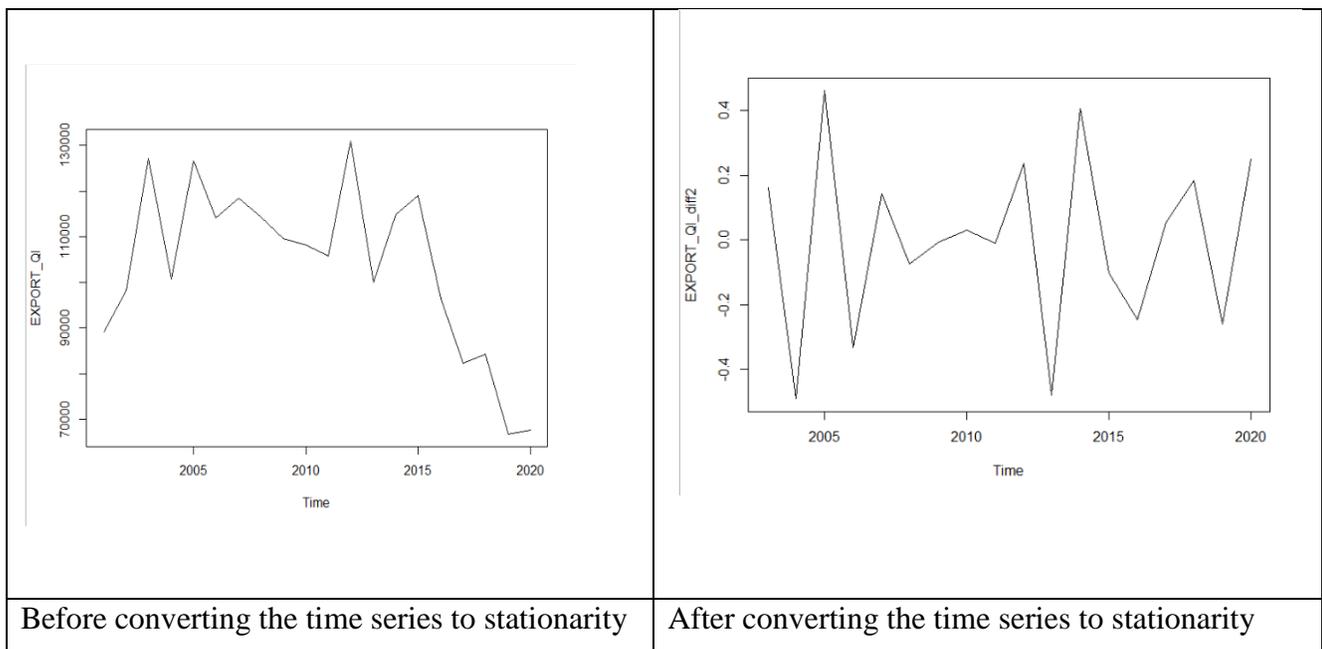
20

	Co-efficient	std. Error	t value	prob.
C (Intercept)	0.05840	0.1500	0.389	0.697
Residual	0.2945	0.3406	0.865	0.387
GARCH	0.00550	2.1860	0.000	1.000

## Instability analysis of export of cashew kernel from India

### Cuddy Valle Instability Index of export of cashew kernel from India 1990-91 to 2019-20

<b>Export of raw cashew nut</b>	<b>Volume</b>
	15.6



ADF result for the trends in total volume of cashew exports from India 1990-91 to 2019-

20

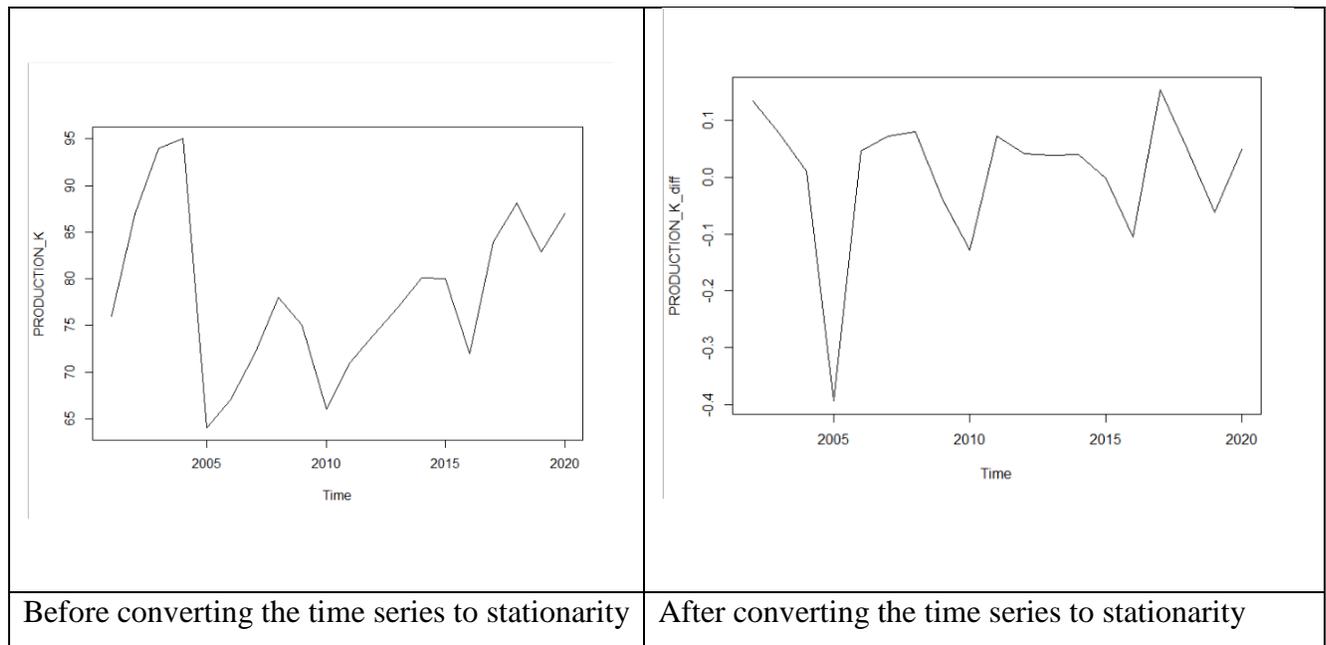
### GARCH result for total volume of cashew export from India 1990-91 to 2019-20

	Co-efficient	std. Error	t value	prob.
C (Intercept)	0.04965	0.057366	0.076	0.928
Residual	0.27930	0.883600	0.074	0.920
GARCH	0.00893	10.613219	0.011	0.980

**Instability analysis of raw cashew nut production in Kerala**

**Cuddy Valle Instability Index of cashew in Kerala from 2000-01 to 2019-20**

<b>Kerala</b>	<b>Area</b>	<b>Production</b>	<b>Productivity</b>
	16.33	10.28	11.89



ADF result for the trends in total volume of cashew production in Kerala 2000-01 to 2019-20

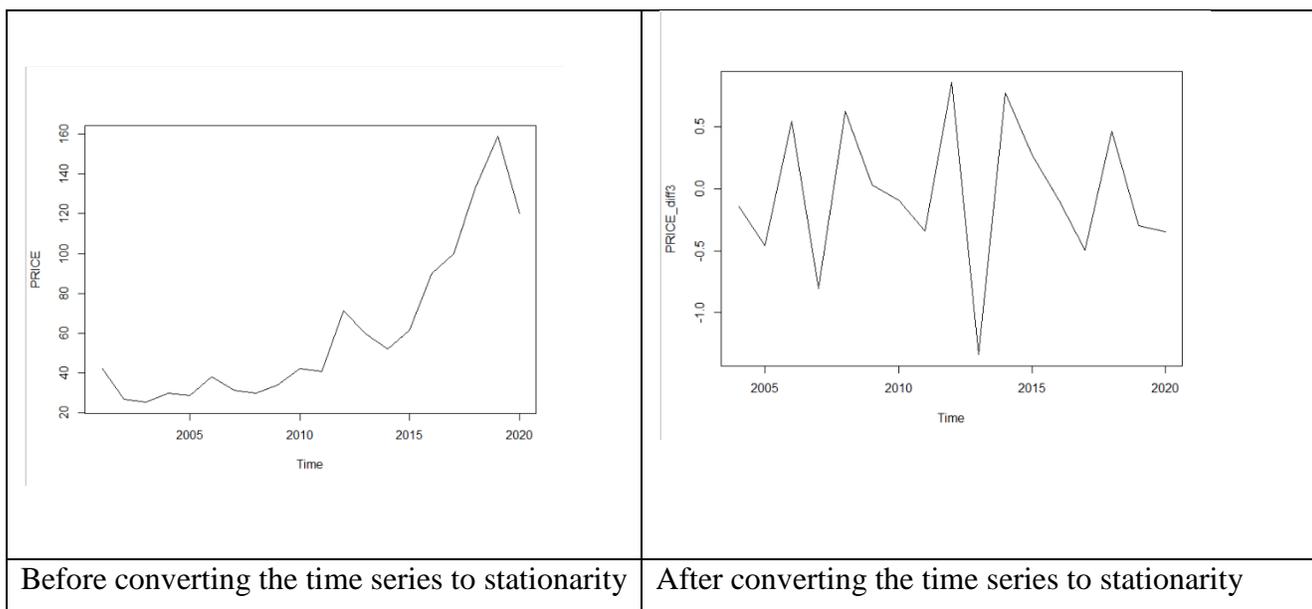
**GARCH result for total production of cashew in Kerala from 2000 –01 to 2019-20**

	Co-efficient	std. Error	t value	prob.
C (Intercept)	0.01307	0.057366	0.076	0.928
Residual	0.00538	0.883600	0.074	0.920
GARCH	0.048881	0.613219	0.011	0.980

## Instability analysis of price of raw cashew nut in Kerala

### Cuddy Valle Instability Index of Price of the Raw Cashew Nut (RCN) in Kerala from 2000-01 to 2019-20

<b>Price of Raw Cashew Nut (RCN)</b>	<b>35.1</b>
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ADF result for the trends in price paid to cashew growers in Kerala 2000-01 to 2019-20

### GARCH result for the trends in prices paid to cashew growers in Kerala from 2000-01 to 2019-20

	Co-efficient	std. Error	t value	prob.
C (Intercept)	0.23980	0.66570	0.36	0.719
Residual	0.21361	0.4648	0.046	0.646
GARCH	0.001638	2.1410	0.000	1.000

### Annexure IV

#### Compiled instability analysis of cashew export

Variables	Instability Index	Level of differencing	ADF test statistics	GARCH result	Co-efficient of variation	Level of significance
Production of raw cashew nut in India	7.45 percent	First differencing, the time series of cashew production in India attained stationarity.	Null hypothesis is rejected at the p value (0.02485).	Sum of co-efficient, $\alpha + \beta < 1$ , (0.66+0.126 = 0.786), thus in the year to year variability strength in the production of cashew in India for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	The co-efficient of variation in the volume of cashew production in India found 16.27 percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	The check the significance level of GARCH (1,1) model, BOX Ljung test was used. P value (0.9307) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.
Import of raw cashew nut-volume	16.19 percent	Second differencing, the time series of volume of import to India attained stationarity.	Null hypothesis is rejected at the p value (0.04).	Sum of co-efficient, $\alpha + \beta < 1$ , (0.2945+0.0055 = 0.3), thus in the year to year variability strength in the volume of import of raw cashew nut to India for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	The co-efficient of variation in the volume of import of raw cashew nut to India found 31.0percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	The check the significance level of GARCH (1,1) model, BOX Ljung test was used. P value (0.35) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.
Import of raw cashew nut - value	25.97 percent	Second differencing, the time	Null hypothesis is rejected at the p value (0.01).	Sum of co-efficient, $\alpha + \beta < 1$ , (0.1287+0.00116 = 0.12), thus in the year to	The co-efficient of variation in the value of import of raw cashew nut	The check the significance level of GARCH (1,1) model,

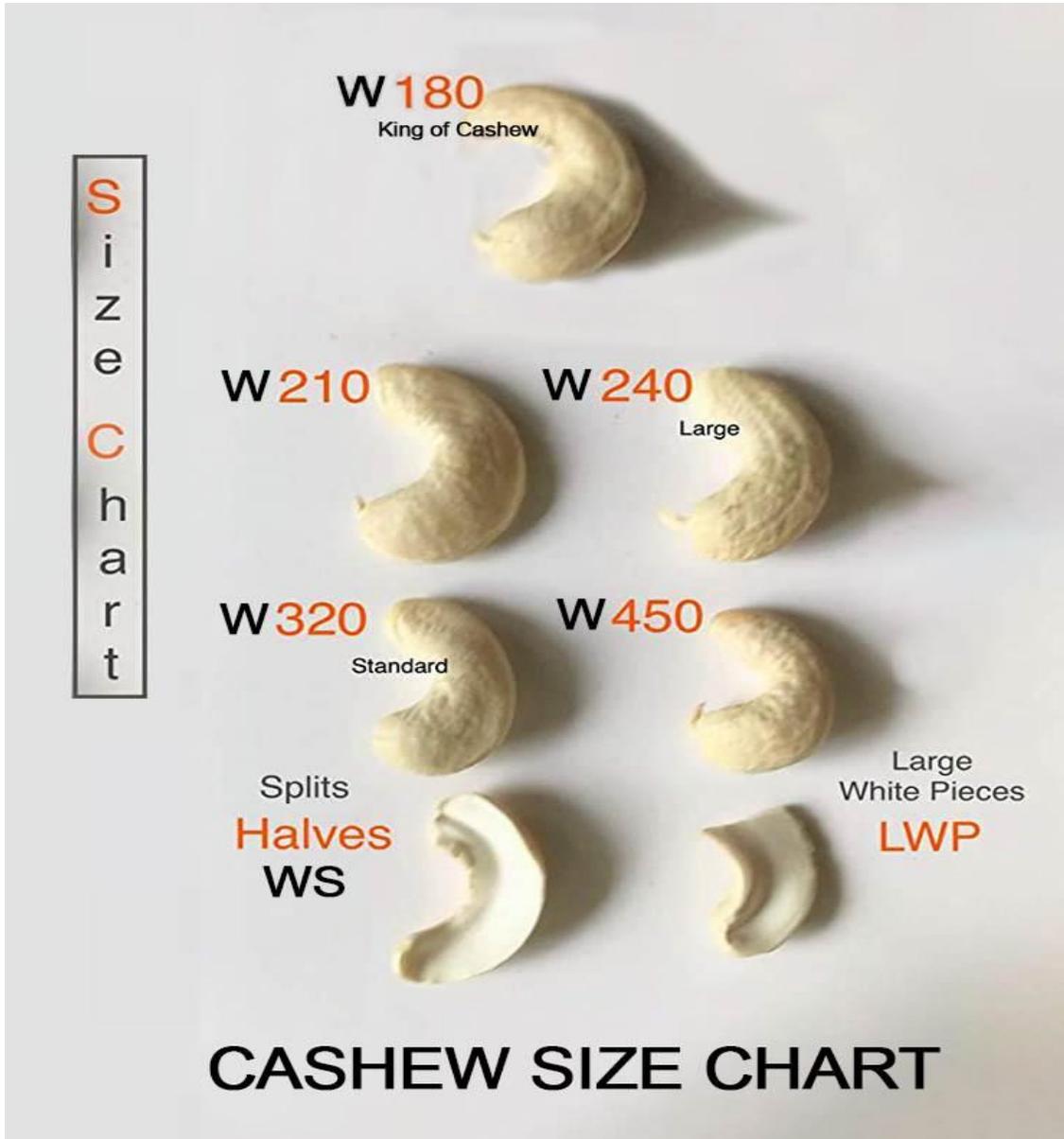
		series of value of import to India attained stationarity .		year variability strength in the value of import of raw cashew nut to India for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	to India found 73.3percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	BOX Ljung test was used. P value (0.76) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.
Export of cashew kernel – volume	15.6 percent	Second differencing, the time series of volume of export from India attained stationarity .	Null hypothesis is rejected at the p value (0.01).	Sum of co-efficient, $\alpha + \beta < 1$ , (0.005+0.048 = 0.053), thus in the year to year variability strength in the volume of export of cashew kernel from India for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	The co-efficient of variation in the volume of export of cashew kernel from India found 17.8percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	The check the significance level of GARCH (1,1) model, BOX Ljung test was used. P value (0.1835) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.
Export of cashew kernel – value	19.30 percent	Second differencing, the time series of value of export from India attained stationarity .	Null hypothesis is rejected at the p value (0.01).	Sum of co-efficient, $\alpha + \beta < 1$ , (0.1054+0.00150 = 0.01069), thus in the year to year variability strength in the value of export of cashew kernel from India for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	The co-efficient of variation in the value of export of cashew kernel from India found 38.54percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	The check the significance level of GARCH (1,1) model, BOX Ljung test was used. P value (0.6637) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.
Production of raw	10.28	First differencing	Null hypothesis is rejected at the p	Sum of co-efficient, $\alpha + \beta < 1$ , (0.005+0.048 =	The co-efficient of variation in the production	The check the significance level of

cashew nut in Kerala	percent	g, the time series of cashew production in Kerala attained stationarity .	value (0.01).	0.053), thus in the year to year variability strength in the production of cashew in Kerala for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	of cashew in Kerala found 11.26percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	GARCH (1,1) model, BOX Ljung test was used. P value (0.5868) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.
Price of raw cashew nut in Kerala	35.1 percent	Third differencing, the time series of price of the RCN in Kerala attained stationarity .	Null hypothesis is rejected at the p value (0.02).	Sum of co-efficient, $\alpha + \beta < 1$ , (0.213+0.00163 = 0.21463), thus in the year to year variability strength in the price of the RCN in Kerala for the last 20 years was found not persistent under the GARCH (1,1) model, and there is no covariance stationarity.	The co-efficient of variation in the price of the RCN in Kerala found 62.8percent, however the persistence level of its variation was found to be less or not persistent as shown in the result detected by the GARCH model.	The check the significance level of GARCH (1,1) model, BOX Ljung test was used. P value (0.1031) of the test is higher than 0.05, which is accepted the null hypothesis and proved as not significant / not good for fit.

From the above analysis, the import of raw cashew nut shows the highest variation with highest instability (73.3 percent).

Annexure - V

Grades of cashew





**White wholes**



**Scorched wholes**



**Desert wholes**



**White pieces**



**Scorched butts**



**Scorched pieces**

## Annexure VI

### Volume and value of cashew kernels exported to different countries from Kerala during the period from 2019-20

#### Volume and value of cashew kernel to USA (2019-2020)

Grades	Quantity (in Tonnes)	Value (Million USD)
W 180	3780 (57.6)	4.495 (65.1)
W 210	230 (3.5)	.243 (3.51)
W 240	1320 (20.1)	1.162 (16.8)
W 320	730 (11.1)	.604 (8.74)
W 450	500 (7.6)	.400 (5.7)
<b>Total</b>	<b>6560 (100)</b>	<b>6.904 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

#### Volume and value of cashew kernel to UK (2019-2020)

Grades	Quantity (in Tonnes)	Value (Million USD)
W 180	500 (11.0)	.600 (14.7)
W 210	75 (1.65)	.0800 (1.96)
W 240	2400 (52.9)	2.114 (51.9)
W 320	960 (21.1)	.794 (19.5)
W 450	600 (13.2)	.480 (11.7)
<b>Total</b>	<b>4535 (100)</b>	<b>4.068 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

### Volume and value of cashew kernel to Dubai (2019-2020)

Grades	Quantity (in Tonnes)	Value (Million USD)
W 180	200 (3.9)	.240 (5.46)
W 210	25 (0.48)	.0266 (.60)
W 240	2070 (40.5)	1.823 (41.51)
W 320	1970 (38.5)	1.630 (37.1)
W 450	840 (16.4)	.672 (15.3)
<b>Total</b>	<b>5105 (100)</b>	<b>4.391 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

### Volume and value of cashew kernel to Japan (2019-2020)

Grades	Quantity (in Tonnes)	Value (Million USD)
W 240	520 (8.1)	.458 (8.61)
W 320	5830 (91.1)	4.824 (90.7)
W 450	45 (0.70)	.0360 (0.67)
<b>Total</b>	<b>6395 (100)</b>	<b>5.318 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

### Volume and value of cashew kernel to Saudi Arabia (2019-2020)

Grades	Quantity (in Tonnes)	Value (Million USD)
W 180	20 (1.56)	.0240 (2.18)
W 240	560 (43.75)	.493 (44.9)
W 320	700 (54.6)	.579 (52.82)
<b>Total</b>	<b>1280 (100)</b>	<b>1.096 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

**Volume and value of cashew kernel to South Korea (2019-2020)**

<b>Grades</b>	<b>Quantity (in Tonnes)</b>	<b>Value (Million USD)</b>
W 320	100 (76.9)	.0827 (78.01)
W 450	30 (23.0)	.0240 (22.6)
<b>Total</b>	<b>130 (100)</b>	<b>.106 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

**Volume and value of cashew kernel to Europe (2019-2020)**

<b>Grades</b>	<b>Quantity (in Tonnes)</b>	<b>Value (Million USD)</b>
W 210	200 (9.2)	.213 (11.5)
W 240	530(24.5)	.466 (25.2)
W 320	860 (39.8)	.711 (38.5)
W 450	570 (26.3)	.456 (24.7)
<b>Total</b>	<b>2160 (100)</b>	<b>1.846 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total

**Volume and value of cashew kernel to Hong Kong (2019-2020)**

<b>Grades</b>	<b>Quantity (in Tonnes)</b>	<b>Value (Million USD)</b>
W 240	230 (33.3)	.202 (35.3)
W 320	100 (14.4)	.0827 (14.4)
W 450	360 (52.17)	.288 (50.34)
<b>Total</b>	<b>690 (100)</b>	<b>.572 (100)</b>

(Source: compiled from primary data)

\*figures in parenthesis indicated percent to total