THE CAUSES OF CRISIS IN THE CASHEW INDUSTRY CLUSTER IN KOLLAM

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Preface

The processing of cashew nuts is one of the leading agricultural industries in India and the export of cashew kernels and the nut shell liquid generate employment as well as significant foreign exchange earnings for the country. The average export of the processed cashew kernels from India for the last five years is 99,349 metric tons and the average foreign exchange earned from the export is 5297 Crores per year. The Cashew Export Promotion Council of India (CEPCI) reports that the export of cashew nuts contributed 4.39% of the total agricultural export earnings during 2017-18. This accounts for 0.30% of the total foreign exchange earnings of Indian exports.

According to available statistics from CEPCI and other sources, the major share of the cashew processing industry in India is clustered around Kollam region in Kerala. As per the CEPCI Handbook 2016, there are 337 officially registered cashew processing and exporting units in India, out of which 225 (64.8%) firms are from Kerala. However, certain documents of the CEPCI reveal that approximately 824 factories are currently in the State in formal and informal setup and generate 3 lakhs employment directly for rural women and create another 10 lakhs of employment indirectly. However, the cashew industry in Kollam is currently undergoing a major crisis and most of the factories are in the process of closure due to the rising input costs and increased competition from other states in India and other countries. Furthermore, many of the working units in the State are also relocating their business to other Indian states like Tamil Nadu, Maharashtra and Karnataka. Unfortunately, this scenario adversely affects the livelihood of thousands of poor women workers in the state, and many of the established entrepreneurs became bankrupt and committing suicide due to financial stress and social exclusion.

In this context, the Kerala Institute of Labor and Employment (KILE) solicited the present study to investigate the major causes of crisis in the cashew industry in Kollam region. As per the guidance of the KILE research committee, the present study is envisaged as an industrial perspective rather than the labor perspective. Many studies are available in academia and policy making institutions to understand the labor aspects of the cashew industry. However, studies that focus on industrial aspects is relatively scarce, hence we focus our analysis on understanding the necessary causes of the present crisis in the cashew processing industry in Kollam, which has been the global hub of cashew processing industry.

We conducted a meticulous field research among cashew entrepreneurs and other supporting institutions to understand the major causes of the crisis. Our field research indicates that the present crisis is an outcome of the industrial policy lacuna and the managerial inefficiency of cashew processing firms to cope with global competition. The study proposed a few policy measures to revive the industry.

I would like to express my gratitude to the Chairman, the Executive Director and the Research Core Committee of the KILE for providing a grant to conduct this study. I am eternally grateful to Prof. T S N Pillai for his insightful guidance to design and complete this research work. I am also grateful to the administrative staff at the KILE for providing me with official support for conducting the study. I am sincerely thankful for the help of A S Jisha to meet the administrative requirements of the KILE research department. I would also like to express my deepest appreciation to cashew industrialists, the officials of CEPCI, KSCDC, KSACC, DCCD, and DFB for extending their support to conduct the study. I express my profound gratitude to the Planning Board members Dr. K N Harilal and Dr. K Ravi Raman for their guidance in this study's design and to Jayachandran for organizing the field research for the study.

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Executive Summary

The cashew processing industry in India is clustered around the Kollam region in Kerala, which is traditionally known as the global cashew trading capital. Cashew processing is a labor intensive industry and has a long history of employing a large number of women workers. The export of cashew kernel from Kerala was 36,390 metric tons in 2017 with a value of 2580 Crores. This made it around 43.78 % of the total cashew kernel exports from India to the world in 2017. This reveals the significance of the region in the cashew processing industry in India. The cashew processing factories in Kerala work under both public and private ownership, but most are under the private ownership and they are the major market players who interconnect the region with global market economies.

Even though the State has a strong base in cashew processing and its international trade, the region's cashew industry is currently undergoing a severe crisis due to many endogenous and exogenous factors: many industrialists have been caught in a debt trap that has led some to commit suicide. According to the opinion of cashew industrialists, 80% of the cashew processing units are currently closed due to various issues and the remainder is shifting their factories to other Indian states. Financial transactions of many entrepreneurs have been classified as non-performing assets, leading banks to initiate legal procedures against entrepreneurs. Furthermore, the prevailing crisis in the industry leads to thousands of poor women workers from disadvantaged groups to lose their jobs and struggle to find alternative sources of livelihoods. The public sector factories impose a huge financial burden on the State and operate under the charity of the government. In this context, the present study analyzes the real causes of the declining cashew industry in the region from an industrial perspective.

The broad objective of the study is to understand and analyze the factors behind the declining cashew industry in Kollam region and relocation of existing units to other Indian states. The study covers five dimensions of the cashew industry: the overall trends in cashew production and trade; the endogenous and exogenous causes of the crisis; innovation and efficiency in the industry; institutional interventions; and other regional factors related to ease of doing business. The study is based on a meticulous field research among cashew industrialists and related stakeholders from the Kollam region in Kerala.

According to your analysis, the global production of raw cashew nuts and productivity have been declining, while the prices of raw nuts in the global market are increasing steadily at 10% per annum. The production crunch in raw nuts may inflate the prices in coming years. However, areas harvested cashew in the world show an upward trend, it may increase the supply of raw nuts in the long run. African countries are the major producers and suppliers of raw cashew nuts in the world.

There is an upward trend in export and import of cashew kernels 1990 onwards that now grows at 7% per annum. The prices of kernels also increase in international market at 6% per annum, despite higher volatility. The trade data reveal that raw cashew nut exporting African countries also started to take part in the international trade of cashew kernels. This indicates that African nations have started their cashew processing industry intensively, and it may reduce their future raw nut exports to other countries in the world. India is the largest importer of raw cashew nuts from African nations and rising kernel production in African continent may adversely affect the Indian cashew processing industry because of India's over dependency on African countries in terms of raw nuts import. Vietnam is the largest producer of cashew kernels and the major competitor of India in kernel exports. Vietnam exports approximately 54.24% of total cashew kernels produced in the world compared to India's share of 16.32%. The export market of cashew kernels is highly competitive in recent years and many countries of Asian and African continents are playing important role in dynamic world trade.

India's dependency on the import of raw nuts may increase in coming years due to the negative growth in raw nut production. However, the entry of new regions from India into cashew cultivation offers positive signs for the future. The growth in India's kernel exports has almost stagnated and records negative growth, though foreign exchange earnings from kernel trading have been growing at 11% per annum. However, the rising trend in India's raw nut imports adversely affects the nation's net foreign exchange earnings. The export intensity with conventional trade partners like the USA is declining and the emerging market gap is being filled by other kernel exporting countries in the world, which may adversely affect India's global trade competitiveness.

According to our analytical framework, the necessary causes of crisis in the cashew industry have been identified into two categories – endogenous (internal) issues and exogenous (external) issues. The endogenous issues are sub-categorized into *industrial inefficiency* and *microeconomic competitiveness*. The *industrial inefficiency* deals with the issues of cashew processing firms and its underperformance, while *microeconomic competitiveness* looks into institutional and government policy matters.

As part of industrial inefficiency analysis, we identified the major causes of the crisis in the cashew processing industry in Kollam are: *inefficient organizational structure, informal production practices, windfall gain strategies, hesitance in technology adoption, conflicts of interest among industrialists, labor exploitation strategies, overdependence on the State, and deficient market innovation*. As part of microeconomic competitiveness, we identified the factors of crisis like *increased production costs, unfavorable business environment in the state, hardship in doing business, labor cost, trade unionism, inadequacy of working capital, unavailability of credit, and issues related to export incentives and raw nut import duty.* Under exogenous factors, we identified issues like the *adverse impact of Free Trade Agreements, increased trade competition, oligopoly in buyers' market, and global food quality standards and market regulation.*

Our study confirms the fact that regional industrial development is possible only through a tripartite agreement among the entrepreneurs, workers, and the state rather than a bipartite agreement between entrepreneurs and workers. Industrialists believe the current crisis in the cashew industry in Kerala is the end result of inconsistent policies and cognitive biases of the different stakeholders as well as the state's and unions' attitudes. Conversely, labor unions believe that the crisis is the upshot of unethical profit strategies of the industrialists. In this scenario, the state's role in making unbiased judgments in protecting the interests of both industrialists and workers is very important for the general welfare of the industry. Here, we propose some policy suggestions and mitigation actions to revive the cashew industry from the present crisis. We put forward some policy suggestions and mitigation actions to revive the cashew industry in Kollam from the current crisis:

Reduce Production Costs

According to cashew entrepreneurs, the increased costs of production are mainly due to two reasons – the *increased wage rate of workers* and the *increased price of imported raw nuts*.

Wage Rate and Cost of Mechanization

According to industrialists, the major reason for the increased costs of production in the industry is the government's decision to increase the minimum wages of workers, which is now 35% higher than it was in 2014. The Cashew Export Promotion Council of India (CEPCI) report that the processing costs in Kerala of a standard 80 kg bag of raw nut is between ₹3200 to ₹3400, while it is ₹1000-₹1500 in other states, and ₹700-₹750 in other countries like Vietnam. The costs of production are low in other Indian states mainly due to low basic wages, while it is mainly due to technology intensive production practices in Vietnam. However, reducing production costs in Kerala by lowering the wage rate is not possible due to the strict labor welfare policies practiced in the state. Entrepreneurs believe mechanization is the only way out of the present crisis as it would drastically reduce productions costs and help to increase the economies of scale in production and productivity, without reducing the labor force. They say that 40% of the workforce in the cashew-processing industry in the region are below the age of 45, and thus can be trained in technology-intensive production practices, while the other 60% can be deployed in traditional processing. This would double the production of processed nuts and productivity.

The minimum cost for automation/mechanization of a small cashew processing firm is around 38 Lakhs. However, so many of the units in Kollam region do not have financial capability to meet this cost. The mechanization can be practiced at different stages of production activities like cutting, pealing and boiling of raw nuts. The average cost of a cutting machine is around ₹ 350000. A small processing firm may need at least five cutting machines to operate. The average cost for automating the peeling stages of the cashew processing is ₹1000000, and the cost of a boiler and steam line is approximately ₹1000000. Therefore, the cost of mechanization is unaffordable to small and medium

scale processing units. The machinery of the government (MoG) should provide adequate financial support to adopt new technologies in the cashew production industry. A liberal terms and conditions needs to be implemented for such financial support with transparent selection methods. Various criteria like the operational history of the firm, cash flow, organizational structure, managerial capacity, international consignments, and education of entrepreneurs could be considered for providing such financial support or grant-in-aid to acquire new production mechanization.

Cost of Imported Raw Nuts

The cost of imported raw nuts is fundamentally determined by international demand and supply, thus the role of regional governments in this regard is minimal. The raw cashew nut is the major input for the cashew processing industry and Kollam is currently dependent on imported raw nuts from the African continent. However, the imported raw nuts based industry is financially not viable due to increasing competition from global importers from African countries and the emerging domestic cashew processing industry in Africa. The only way out of this problem is strengthening domestic raw nut production. The government should formulate policies to expand the scientific cashew cultivation practices using the state's agricultural innovation system. Also, the state should take policy measures to enhance the cashew cultivation practices of existing farming institutions like the State Farming Corporation. However, we do not recommend that the government invests public money in state-owned cashew farming activities due to the non-sustainability of such farming practices.

The cashew is presently considered as a wasteland crop in Kerala, so new policies should be formulated to incentivize the cashew as a lucrative main crop in available barren areas. As part of area expansion and re-plantation of old farms with high yield varieties, the state may formulate policies to promote private cashew plantations by providing subsidies in the same way they do for rubber plantations. Furthermore, the present institutional mechanism for incentivizing cashew cultivation is very slow to react and the activities of different institutions like DCCD, KSACC and other private investors need to be integrated and reformed.

Long-term bilateral and multilateral agreements with cashew-cultivating African countries may also reduce the risk of price inflation in international raw-nut markets. Industry associations like CEPCI should liaison with the central government to explore such opportunities. In addition, the state government and CEPCI may request that the central government facilitates duty free imports of raw cashew nuts until the industry is revived.

Make Available Adequate Working Capital and Access to Credit

Efficient access to capital is important for companies to make the long-term investments needed to raise productivity. The cashew processing factories in the region are mainly coming under the category of micro, small and medium companies (SMEs), and Access to working capital is inadequate. Public and private sector banks hesitate to give loans to cashew processors due a lack of consistent cash flow, insufficient collateral, and a weakening industry. Industrialists say that the majority of the region's processors pledge their assets like land and houses. Therefore, they may get into severe social and

financial difficulties if anything adversely affects the industry. The state should take necessary actions to arrange industrial loans for weakening cashew firms with the support of central financial institutions.

Ensure a Pro-Industry Business Environment in the State

An ease-of-doing-business environment is very important for reviving the cashew industry as it competes with global companies. The business environment in the cashew industry is currently worsening due to bureaucratic red-tape and political interventions. The government should ensure a better business ecosystem in terms of ease of entry and exit. The attitude toward the industry and industrialists should be reformed and informalized. Industrialists should be considered as prominent local investors and employment-generators rather than petty capitalists. To ensure a good business environment, the state should frame policies to instigate pro-industrialist attitudes of bureaucrats, politicians, and labor unions. Furthermore, the state should take measures to eliminate the illicit nexus among industrialists, politicians, bureaucrats, and labor unions in terms of unethical business practices. As part of improving the business environment, the government may consider factors like improved quality infrastructure, liberal taxation policies, ease of access to working capital, quality bureaucracy, access to advanced technology, incentives in adopting new technologies in production, corruption free government services, less labor activism and trade unionism, fewer political interventions, and liberal international trade policies.

Enhance the Skilled Labor Supply and Regulate Activism

Labor is the most important production factor in the cashew industry. The competitiveness of the industry in the state is mainly attributed to abundant, cheap female workers. However, the industry currently faces shortage of skilled labors as the majority of active workforce is aged above 45. This will affect the sustainability of the industry, and the state should take immediate measures to increase the skilled-labor supply in the sector. The vocational education system may be explored in this regard.

According to industrialists, the labor unions and their interventions create barriers to reviving the industry. They cite it as one of the major reasons to relocate their factories to other states with more liberal working environments. The state should take some industry friendly measures to protect the industry without impacting the welfare of poor workers. The labor laws implementing machinery should be strengthened and the welfare of cashew workers should equal that of other industrial sectors. At the same time, the state should discourage and regulate the intervention of labor unions from the day-to-day activities of the industry. If the workers have any issues or concerns, they should be heard by labor law making bodies of the government rather than participating in direct conflicts with industrialists.

Formulate a Cashew Industrial Policy (CIP)

The prevailing policies in the cashew industry are fragmented and inadequately address the multidimensional issues. Therefore, the state needs to formulate an exclusive cashew-industrial policy (CIP) to revive the industry. We can perceive the CIP in two dimensions: regional (local) policy and national policy.

The regional policy needs to address the local plans and regulations to protect the cashew cluster in the Kollam region. As part of the regional policy, we recommend that the government declares Kollam as an official cashew-industrial district in Kerala. The state may also introduce some initiatives to establish a Cashew Industrial Park in Kollam based on the model of Technology Parks in the state with the support of private investors.

Furthermore, the local plans envisaged under CIP may embody the immediate needs, values, and aspirations of the industrialists and laborers, as expressed through a process of public engagement. The MoG should identify current issues related to the crisis, patterns, and implications as well as areas where future interventions should and should not occur. Local governments and institutions should play important roles in this regard, and they should delegate emergency managers, planners, bureaucrats, and others in the industry to prepare, coordinate, and execute revival plans with the support of the state. However, the state should ensure the consistency across such targets, policies, and strategies. While formulating policies, plans, ordinances, and regulations; the state should focus on three aspects: *incorporation of new policies into existing policies, integration of the policy outcomes with the overall industrial development in the region, and implementation of the policy actions through existing mechanisms to speed up the process*. The implementation of new policies is important because the industry is under multifaceted threats. Therefore, while executing revival plans and ordinances, the state should take special care to *implement agencies, resources, and timeframes*. This is essential in the present business environment of Kerala. The monitoring of policy implementation should be coordinated with the offices of the industry minister and the chief minister. This is because, according to cashew industrialists, the major constraints to improving the quality of the business ecosystem in the state are related to the attitudes of bureaucrats and supporting institutions.

National Cashew Policy (NCP)

The state may formulate policies to protect and incentivize the interests of cashew processors and exporters at the national level. In this regard, the state should exert pressure on the central government to bring a national level policy to promote cashew farming, cultivation, processing and its overall trade in India. The NCP may cover issues like *export incentives for exporters, raw nut import duty, unethical imports of finished kernels, scientific cultivation, and labor issues and welfare in the sector*.

Industrial Intervention and Market Innovation

As mentioned, industrial development in a region is a tripartite process. The responsibility of increased production costs and competitive disadvantages in the industry cannot be attributed to the state's policy deficiency alone. The industry should strive to reinvent itself to increase its ability to compete in the global market by enhancing production efficiency and innovation. The industrial attitude toward competitiveness is still misguided and misinterpreted as unethical profit-booking strategies. In the present scenario, the entrepreneurs of the cashew industry are relocating to neighboring states due to cheap labor availability and non-regulatory working environments. However, this kind of strategy is not sustainable for the future as the industrial regulatory environment is changing over time in different regions, according to new legislations. Therefore, the industry should focus more on sustainable

strategies to increase competitiveness by adopting new technologies and market innovation.

The windfall-gain strategies and unethical business practices should be avoided in the industry by formalizing the industry and enhancing managerial capabilities. Entrepreneurs in the sector should undergo professional training in cashew-processing and international trade and any new entrepreneurs and startups should be promoted. Isolated lobbying should be avoided and the industry as a whole should move toward the development, despite the disparities between small and big entrepreneurs.

The industry should also formulate strategies to promote cashew cultivation in the state. Collective large-scale methods like group farming and corporate farming could be adopted for increasing the raw-nut supply. The domestic market for quality kernels should be expanded through marketing innovations. The potential west Asian markets should be explored using our own brand of value-added nuts. Furthermore, the industry should acquire international quality standards and Phytosanitary measures to compete with global brands. New possibilities like *organic nuts, geo-branding, ethical and environment friendly production practices, etc.* can be explored to add values to cashew products from Kollam in national and international consumer markets. The industry should also focus more on the extraction of cashew nut shell liquid and Cardanol. Mechanization is important for this and it would generate additional revenue for the industry.

Institutional Intervention and Innovation

Kerala has adopted various institutional mechanisms to promote and protect cashew production, processes, trade, and employment. However, these institutions function in isolated environments, and activities are fragmented in the absence of collective interventions and common objectives. The integrated and collaborative actions of institutions can generate innovation in industrial sectors and draw out sectoral-innovation systems (Pavitt, 1984; Malerba, 2002). However, the fragmentation in their activities and bureaucratic red-tape restricts the potential innovation in the sector.

The Kerala State Agency for the Expansion of Cashew Cultivation (KSACC) and the Directorate of Cashew and Cocoa Development (DCCD) are the two agencies responsible for expanding cashew cultivation and production in the state. However, our research and discussions with officials of these institutions indicate that they are underperforming due to a lack of appropriate policies and monitoring mechanisms. The activities of KSACC and DCCD need to be integrated with cashew industrial organizations like the CEPCI to enhance production and productivity of cashew cultivation in the state. These institutions should formulate their working plans according to industrial demands and market insights.

The Kerala Cashew Board (KCB) is the agency responsible for procuring and importing raw cashew nuts, and redistributing them to domestic processors at fair prices. However, the industrialists in the region do not appreciate the activities of KCB due to its political affiliations and malpractices. Even though the CEPCI protects the interests of cashew processors and exporters, there is a general apprehension that it does not represent the interests of the whole industry in the state. In this scenario, we recommend the integration and collective actions of all these institutions to move toward the general welfare of the industry.

Reform the Public Sector Cashew Industry in Kerala

Two public sector factories are involved in the cashew processing industry in Kerala. The first one, the Kerala State Cashew Development Corporation (KSCDC), was established in 1969 under the ownership of the government of Kerala. The major aim was to protect the interests of workers and provide maximum employment with statutory benefits. Furthermore, to increase the production of indigenous raw nuts with the aim of increasing total working days, the KSCDC began cashew plantations in the state. According to available statistics, 30 factories are currently operating under KSCDC with approximately 21,500 employees. However, the company is undergoing a severe financial crunch and is currently operating under the charity of the government. The accumulated loss of the company is 1181.89 Crores as of 2017. According to our estimates based on State Planning Board (SPB) statistics, the average loss per worker at KSCDC is approximately ₹70003 per year. This indicates how much money the government spends per year to retain an employee at KSCDC. Furthermore, the auditors' reports reveal that the company is not following any accounting standards as per the prevailing national Companies Act and it should take immediate measures to strengthen the internal control procedures for the purchase of inventory, fixed assets, and sale of goods, according to the size of the company and the nature of business.

The second public company involved in cashew processing and trade is the Kerala State Cashew Workers Apex Industrial Co-operative Society Ltd (CAPEX). CAPEX was founded in 1984 to work as an apex society to take care of the operations of the 10 primary co-operative societies under the Government of Kerala. It procures raw nuts, distributes them to the primary societies, and processes and markets the kernels. Ten factories work under CAPEX with 5,000 employees as of 2018. The CAPEX is also undergoing tremendous operational losses and only sustains the industry with the support of public money. The average loss at CAPEX per worker is ₹11257.

In this scenario, the government should take immediate actions to reform the present production and marketing practices of the public sector companies with the support of private sector investors. Companies should also focus more on exploring domestic and international consumer markets and retail chains to distribute their value added cashew products. However, the companies should also improve their quality of products according to global food quality standards. The government should initiate independent studies to inspect issues in the sector and to formulate reforming strategies to be adopted.

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Abbreviations

AFTA	ASEAN Free Trade Agreement
CAPEX	Cashew Workers Apex Co-operative Society
CEPCI	Cashew Export Promotion Council of India
CIP	Cashew Industrial Policy
CNSL	Cashew Nut Shell Liquid
DCCD	Directorate of Cashew and Cocoa Development
DFB	Directorate of Factories and Boilers
FAO	Food and Agriculture Organization
FDA	Food and Drug Administration
FSSAI	Food Safety and Standards Authority of India
FTA	Free Trade Agreements
IIED	Institute of Environment and Development
ISO	Organization for Standardization
KCB	Kerala Cashew Board
KILE	Kerala Institute of Labor and Employment
KSACC	Kerala State Agency for the Expansion of Cashew Cultivation
KSCDC	Kerala State Cashew Development Corporation
MT	Metric Tone
NCP	National Cashew Policy
NRCC	National Research Center for Cashew
RCP	Regional Cashew Policy
SCP	State Cashew Policy
SFAC	Small Farmers' Agribusiness Consortium
SPS	Sanitary and Phytosanitary Measures
UNECE	United Nations Economic Commission for Europe
USDA	United States Department of Agriculture
WTO	World Trade Organization

1.

Introduction

1.1 Background

Cashew nuts are a high value luxury commodity that are cultivated and produced from poorer regions of the world, and consumed mainly in economically developed regions in West Asia, America, and Europe. India is the largest producer and importer of raw cashew nuts in the world. The average production of raw cashew nuts is 756,756 metric tons per year in India, and the major competing countries are Vietnam, Brazil, Tanzania, Ivory Coast, Guinea Bissau, Mozambique, and Indonesia. The total raw cashew nuts imported in India were 649,050 metric tons in 2017, which makes up approximately 16% of the global production. The average annual growth rate in India's importation of raw cashew nuts was 3.7% during the last decade. India mainly imports raw cashew nuts from African nations like Ivory Coast, Tanzania, Guinea Bissau, Benin, Ghana, Mozambique, Nigeria, and Senegal.

According to Food and Agriculture Organization (FAO) statistics, the average growth in processed cashew kernel exports in quantity and value was 3% and 8% respectively during the last decade. The significant growth in the global trade of processed cashew nuts signifies that the market will remain strong in the future. The export of processed cashew nuts from India generates an average of US$ 833 million in foreign exchange per year, which is 27% of the total global export value. The top five markets for Indian processed cashews are UAE, USA, Netherlands, Japan, and Saudi Arabia. Approximately 21% of the total cashew kernel production is exported to UAE and 16 % of the kernels are exported to the USA.

The Cashew Nut Shell Liquid (CNSL) and Cardanol are the major industrial byproducts of the cashew nuts processing apart from kernels. The CNSL fluid is extracted from the pericarp of cashew nuts. The CNSL has been used for numerous industrial applications like friction linings, paints, laminating resins, rubber compounding, resins, cashew cements, polyurethane based polymers,

surfactants, epoxy resins, foundry chemicals, and intermediates for the chemical industry. Studies found that it can also be considered for renewable and reliable petrochemical feedstock (Taiwo, 2015). The global trade of CNSL and Cardanol also generates a good amount of the foreign exchange for the country. According to the Directorate General of Commercial Intelligence and Statistics (DGCIS), the export of CNSL from India during 2017-2018 was 32.63 Crores. The major importers of CNSL from India are the Korea Republic, China, Spain, USA, Belgium, Taiwan, and Japan, though it is still an underexploited opportunity in Indian cashew industry. In short, cashew kernels and CNSL are the two major products that can be extracted from raw cashew nuts to sell in the international market. The cashew industry in India is export oriented and the international market laws significantly affects the prices of raw nuts, cashew kernels, and CNSL. In other words, it is an industry that is highly interconnected with developed economies in the world, and changes in consumption behavior and food quality standards of such developed economies may create certain market shocks in the domestic cashew industry.

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. The region has established a constant relationship with global markets in processed cashew exports to developed economies and raw nut imports from economically underdeveloped African nations. Cashew processing is a highly labor intensive industry and has a long history of employing a large number of workers. According to the estimates of Kerala State Planning Board (KSPB), the cashew industry is one of the major employment-generating sectors in the state and it currently provides employment for 1.5 lakhs of poor workers from socially and economically disadvantaged stratum. It is a 90% women dominated sector. Men are engaged in tasks like roasting, drying, supervision, loading, and unloading, which are activities that require fewer workers. All the other kernel-processing tasks such as peeling, shelling and grading are undertaken by women.

The export of cashew kernels from Kerala was 36,390 metric tons in 2017 with a value of 2580 Crores. This made it around 43.78 % of the total cashew kernel exports from India to the world in 2017. This reveals the significance of Kerala in cashew processing industry in India, but the region does not have competitive edge in producing 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. Cashew factories in Kerala work under ownership of both government and private investors, but most are under the private ownership. The Kerala State Cashew

Development Corporation (KSCDC) and Kerala State Cashew Workers Apex Co-operative Society (CAPEX) are the two government agencies engaged in processing of cashew nuts in the State. The major aims of these two agencies are to protect the interests of workers and generate maximum employment in the sector. Kerala State Agency for the Expansion of Cashew Cultivation (KSACC) and Directorate of Cashew and Cocoa Development (DCCD) are the agencies responsible for expanding the cashew cultivation and production in the State. The Kerala Cashew Board (KCB) is a private limited company, which is formed by the Kerala Government in 2017 as a special purpose vehicle with an equity contribution of 49% by the State Government and the remaining 51% shared between KSCDC, CAPEX and other private investors. The primary objective of the KCB is to procure and import raw cashew nuts for domestic processors at fair prices. It is assumed that the exploitation of intermediaries in importing raw cashew nuts will be eliminated after this initiative. The Cashew Export Promotion Council of India (CEPCI) is another agency to promote the export of cashew kernels and acts as an intermediary between global importers of cashew kernels and Indian exporters.

Even though the Kerala has a strong base in cashew processing and export, the industry is currently undergoing a severe crisis due to many endogenous and exogenous factors. According to the opinion of entrepreneurs, 80% of the cashew processing factories are closed and the remainder is shifting their factories to other Indian states. The crisis causes thousands of poor women employees from disadvantaged stratum to lose their jobs and struggle for livelihoods. The public sector factories impose huge financial burden on the State and operate under the charity of the government. The political system blames exogenous factors, which are emerging as part of global capitalism and globalization for the crisis. However, cashew entrepreneurs react differently and reject the arguments of the political system; their major reason for the crisis is hyperactive trade unionism as political parties focus on generating votes from the working class. Our interviews with some experienced cashew entrepreneurs in the region reveal that most of the established cashew industrialists are not optimistic about the future of the industry in Kollam and they are in the process of shifting their cashew processing factories to neighboring states due to unfriendly business environment in the region. In this context, the present study analyzes the major causes of declining cashew industry in Kollam region from an industrial perspective.

1.2 Objectives

The broad objective of the study is to understand and analyze the factors behind the declining cashew industry in the Kollam region and its relocation to other Indian states. The study focuses on five dimensions of the industry: the overall

trend in cashew industry and trade; the endogenous and exogenous causes of the crisis; efficiency of the industry; institutional interventions; and other regional factors related to ease of doing business. Some of the specific objectives of the study are given below

1. To study the cashew production, trade and industry at regional, national and international level
2. To study the present status of the cashew processing industry in Kollam
3. To study the endogenous and exogenous causes of the crisis
4. To study the causes of relocation of cashew processing factories from Kollam region to other states in India
5. To study the technology and innovation in the cashew industry
6. To understand the impact of globalization

1.3. Methods

The study is based on intensive field research among cashew industrialists and related stakeholders from Kollam using a questionnaire-based sample survey. The sampling is drawn from the latest directory of cashew processors and exporters, published by the Cashew Export Promotion Council of India. The survey locations were chosen randomly based on the directory of the processors from the Kollam region. We prepared two questionnaires for the study. The first questionnaire was used for the pilot stage to gather detailed inputs to prepare for the formal interviews with industrialists. The second questionnaire was used for the formal survey among industrialists. Apart from the questionnaire-based survey, we conducted a progressive interview with industrialists and summarized the major facts. We also tried to conduct an online survey among cashew entrepreneurs from other regions of India, but the response rate was not encouraging despite the repeated calls from our side to complete the online questionnaire.

We visited several institutions and other stakeholders in the cashew sector for discussion. We conducted a detailed discussion with the office bearers of institutions like Cashew Export Promotion Council of India (CEPCI), Directorate of Cashew Nut and Cocoa Development (DCCD), Kerala State Agency for the Expansion of Cashew Cultivation (KSACC), Kerala State Cashew Development Corporation (KSCDC), Department of Factories and Boilers, and Federation of Cashew Processors and Exporters.

We used various secondary databases from institutions like CEPCI, DCCD, KSCDC, Kerala State Planning Board, Directorate General of Commercial Intelligence and Statistics, and databases of Food and Agriculture Organization to support our analysis.

1.4 Field Research

As per various reports and documents, there are approximately 800 cashew-processing factories in Kollam district. Many of the major processing companies own multiple factories in multiple locations in the region and some have units in other states like Tamil Nadu and Maharashtra. A medium level company owns on an average five units and large companies own ten to twenty processing units in different locations. However, not all their subsidiary units work throughout the year as many of them work seasonally based on the availability of raw nuts and market demands.

We considered a registered company with multiple subsidiaries as a single unit for sampling purpose. As there are no reliable source for the list of all cashew companies in Kollam, we considered the companies who have registered with CEPCI for the sampling. The Directory of Indian Cashew Exporters 2016 is used for the sampling data, which was the latest available directory at the time of the survey. Companies located in Kollam region only were considered for the survey.

CEPCI has two types of membership. One is an 'exporter' who has an export license and exports cashew kernels from India to other countries. They are known as 'ordinary' members. The second type of the member is an 'associate member" that is not exporting but processing cashews and selling kernels locally or to other exporting companies. There are 166 companies registered as ordinary members and 59 companies registered as associate members from Kerala as of 2016. As our sample region is Kollam, the population size is fixed at 212 companies (157+55) that have their registered office in Kollam district.

We adopted the simple random sampling method for selecting 42 companies for the survey (20% of the population). Out of the 42 companies, owners of two companies were reluctant to give interviews even after several attempts. Two companies were closed down as the owners passed away recently (one person committed suicide under financial stress). We repeatedly visited the two public companies, KSCDC and CAPEX. However, the bureaucratic mechanism was not favorable to the survey and we could not access any information from the CAPEX.

We experienced several issues in our field research. The attendance ratio of industrialists for the interview was very low. In general, cashew industrialists have a hectic schedule during working hours and are less likely to complete the survey. Therefore, we approached those several times to arrange a suitable time for the interview and, even then, some hesitated to respond fully to our questions. The experienced cashew processors were not cooperative in sharing necessary information as they have less of an interest in this kind of study. They

feel that such studies are irrelevant, as they will not result in a significant change in the prevailing scenario given their frustration with State policies. However, some of the emerging and loss-making entrepreneurs were willing to provide sufficient information.

1.5 Structure

Chapters 2, 3, and 4 analyze the trends and patterns of the cashew production, trade and industry at global, national and regional level. At the global level, we analyze the trends in cashew production and trade over the time. At national and regional level, we analyze the pattern of cashew production, trade and industry size in India and Kerala. Chapter 5 narrates the major points of our discussion with entrepreneurs regarding the crisis. Chapters 6 and 7 examine the necessary causes of the crisis in the cashew industry in Kerala. These chapters provide theoretical and empirical explanations for the present crisis in the industry based on primary survey and secondary data analysis. Chapter 8 provides certain mitigation measures to protect the cashew processing industry from the vicious circle of the crisis.

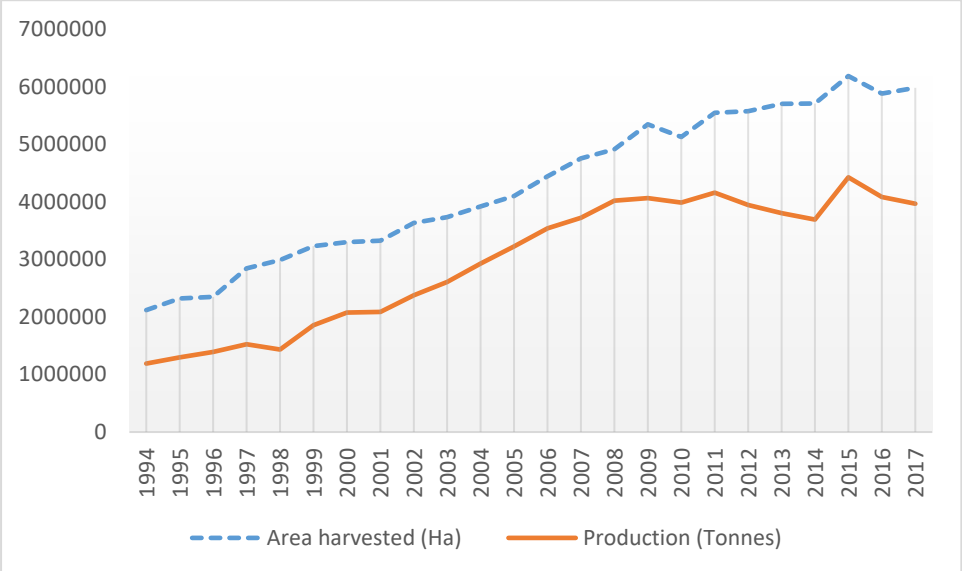
2.

Global Trends in Cashew Production and Trade

2.1 Area Harvested, Production, and Productivity

According to FAO statistics, the total area harvested and production of raw cashew nuts in the world was 5,985,359 hectares and 3,971,046 tons respectively in 2017. The productivity was 599 Kg per hectare. The average annual growth in the area harvested and production was 3.6% and 4.6%, respectively, during 2000-2017. The average growth in the productivity was 0.72% during this period.

Figure 2.1 Trends in global area harvested and production of raw cashew nuts

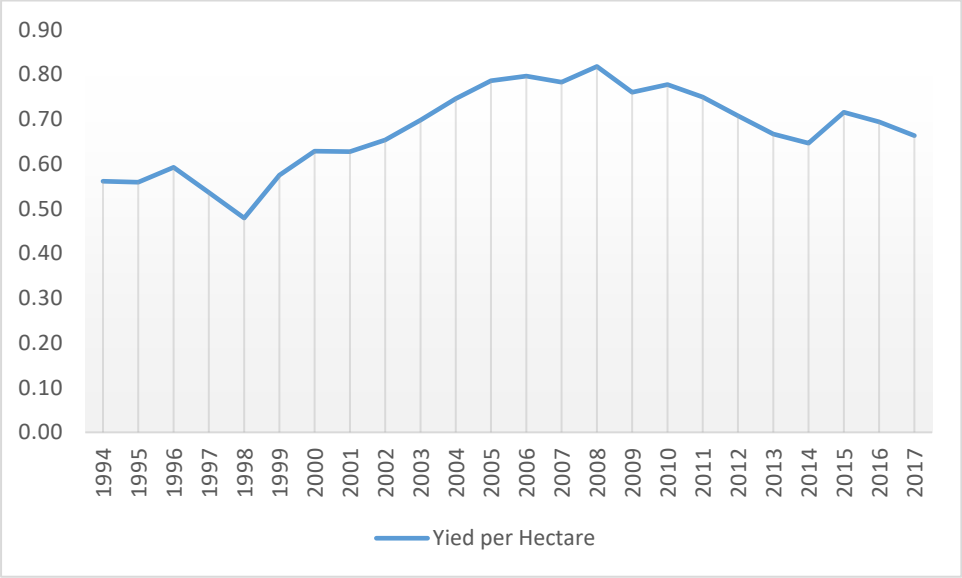


Source: FAOSTAT, 2019

Figure 2.1 shows the global trends in harvested cashew areas and raw cashew nut production from 1994 to 2017. The area harvested has been steadily increasing since 1994 with a slight fluctuation. The production also increased at par with the increased area harvested until 2007. However, the production of raw nuts records a reduction from 2008. This may be due to the productivity of the land records a

plunge from 2008 (Figure 2.2). In many countries in the world, cashew is considered as neglected trees that grow in wastelands without much care and it adversely affects the productivity of the crop. Furthermore, the age of cashew trees and bad weather conditions also negatively affects the raw nut production.

Figure 2.2 Trends in productivity of raw cashew nuts in the world



Source: FAOSTAT, 2019

2.2 Trends in World Trade of the Raw Nuts

Figure 2.3 shows the pattern of trade in raw cashew nuts in quantity from 1961 to 2016. The trends in exports of raw cashew nuts seemed to be almost steady in the 1960's and the beginning of the 1970's. However, it declined from 1975 onwards, but there was a gradual hike in the global export of the raw nuts towards the middle of the 1990's and after. After 2015, the pattern shows another downward trend. This may be due to the factors like economic recession and the raw nut production crunch.

The estimated price of raw cashew nuts per kilogram shows a gradual increase from 1961 to 1981 (Figure 2.4). During this period, the average price of the raw nuts per kilogram was 0.29 US$. However, 1980 onwards, the prices are highly volatile and show a gradual rise from 1985 to 1999. During this period, the average price was 0.95 US$. Again, during the period of 1999 to 2007, the price recorded a decline.

However, during the last five years the price has an upward trend with slight volatility. The average price of raw nuts during this period was 1.41 US$ per kilogram. This trend in raw nuts pricing reveals that even though the price recorded higher volatility in the 1980s, it is growing at a rate of 10 % per annum.

Figure 2.3 Trends in the world trade of raw cashew nuts

Source: FAOSTAT, 2019

Figure 2.1 Export pricing of raw cashew nuts per kilogram (US$)

Source: FAOSTAT, 2019

2.3 Trends in Global Trade of Cashew Kernels

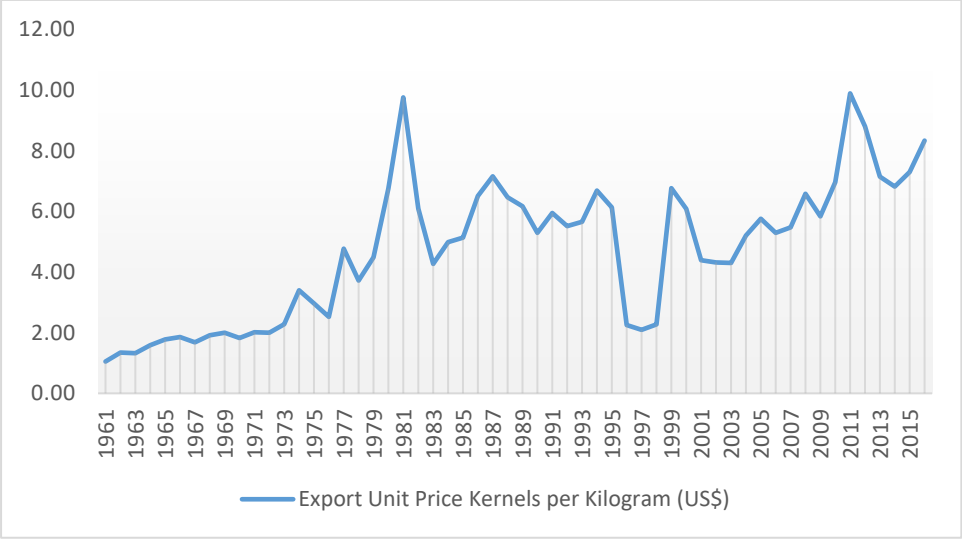
The trend in trade of the shelled cashew nuts (kernels) in quantity has not seen much fluctuation until the end of the 1980's (Figure 2.5), with a periodical rise in the trade from the first half of the 1990's. However, during the post 1990s, there was a sudden boom in the export of shelled cashews in the global market that has

remained steady since the beginning of 2000. The average growth in kernel exports during the period was 7% per annum.

Figure 2.4 Trends in the world trade of Cashew nuts, shelled (Kernels)

Source: FAOSTAT, 2019

Figure 2.5 Export pricing of cashew kernels per kilogram (US$)



Source: FAOSTAT, 2019

The trend in the estimated price of cashew kernels per kilogram shows a gradual increase from 1961 to 1981, except a few volatile years (Figure 2.6). During this period, the average kernel price was 2.56 US$ per kilogram. However, from 1982 to 1983, there was a sudden fall in the price and revived again from 1983. The average price of the kernels during the last ten years was 7.31 US$ per kilogram. Even though kernel prices are as volatile as raw nuts, there has been an average

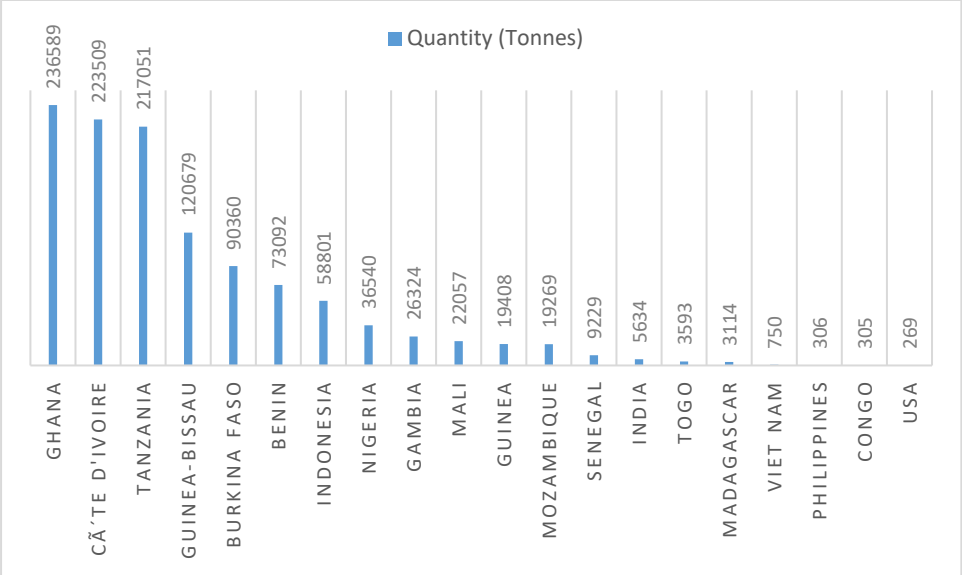
growth rate of 6% per annum. Like any other edible nuts, market forces from developed economies determine the demand and prices of kernels. However, the statistics reveal that the global trade in kernels is expanding over the time.

2.4 The Major Countries Participate in the Global Trade of Cashew Nuts

Raw Nuts Exporting Countries

Figure 2.7 shows the top 20 exporters of raw cashew nuts in the world. The African countries lead in raw cashew nut trade in the world market, particularly Ghana, which exported 236,589 tons in 2016. This is followed by Cote D' Ivoire, which exported 223,509 tons of raw cashew nuts during the period. Tanzania ranked in third position with an export of 217,051 tons. The other leading countries are Guinea-Bissau, Burkina Faso Benin, Indonesia, Nigeria, Gambia, Mali, Guinea, Mozambique, etc. The statistics show that India also exported 5,634 tons of raw cashew nuts in 2016.

Figure 2.6 The top 20 raw cashew nut exporting countries in the world in 2016



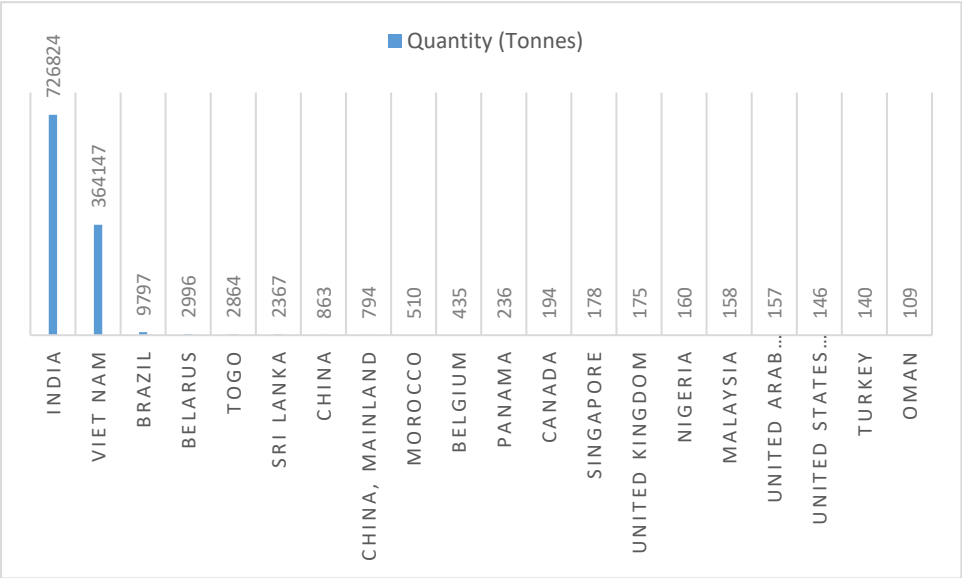
Source: FAOSTAT, 2019

Raw Nuts Importing Countries

Figure 2.8 shows the top 20 importers of raw nuts from the world. In 2016, India imported 726,824 tons of raw nuts, which is the highest in this sector. Vietnam imported 364,147 tons, followed by Brazil, which imported 9,797 tons. The quantity of cashews imported by other countries during the year is negligible. This clearly reveals the major processors of cashew nuts in the world. Furthermore, we

can understand from the statistics that Vietnam and Brazil are the major competitors of India in terms of raw nuts import, processing, and trade.

Figure 2.7 The top 20 raw cashew nut importing countries in the world in 2016



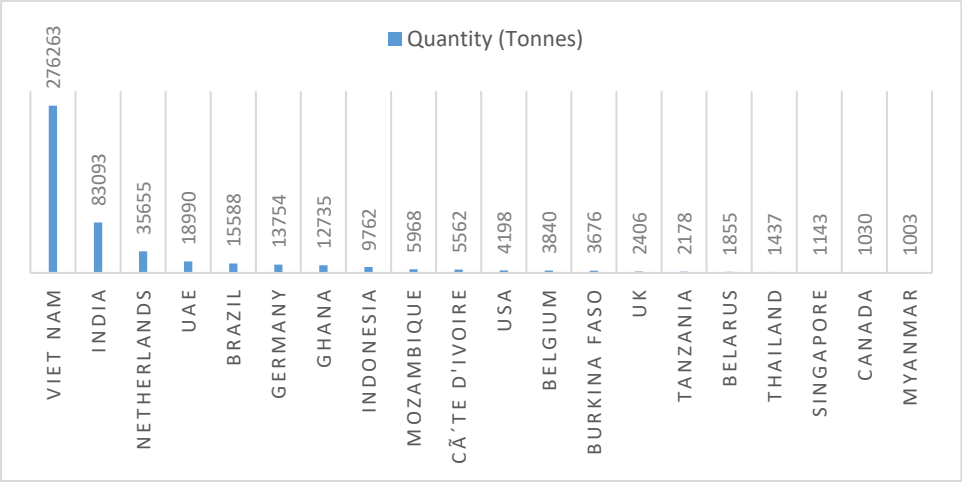
Source: FAOSTAT, 2019

Shelled Cashew Exporting Countries

Figure 2.9 shows the top 20 cashew kernel exporting countries in the word. As per FAOSTAT, Vietnam was the top exporter of the shelled cashew nuts in 2016, with 54.24 % of total kernels exported globally. India stands in the next position with 83,093 tons exported, which equals only 16.32 % of the world trade. The Netherlands, UAE, Brazil, Germany, Ghana, and Indonesia also export a considerable quantity of shelled cashews. It is interesting to observe that the top five exporters—Vietnam, India, Netherlands, UAE and Brazil—together constitute around 84.34% of the total cashew kernels exported in the world. The Netherlands and UAE are not cashew processing countries, but they function as intermediary trading hubs for re-exporting cashew kernels in Europe and other western countries. Rotterdam is the major cashew-trading hub in the Netherlands.

The major raw nuts exporting African countries also actively take part in the global trade of cashew kernels. Ghana, Mozambique, Ivory Coast, Nigeria and Kenya together exported 5% of the global kernels trade in 2016. The entry of African countries into the cashew nut processing industry may adversely affect the countries like India due to the industrial dependence on imported raw nuts from Africa. Many of the African nations currently frame their policies to explore the maximum advantage of the domestic cashew processing industry using domestically produced raw cashew nuts.

Figure 2.8 The top 20 shelled cashew nuts exporting countries in the world in 2016

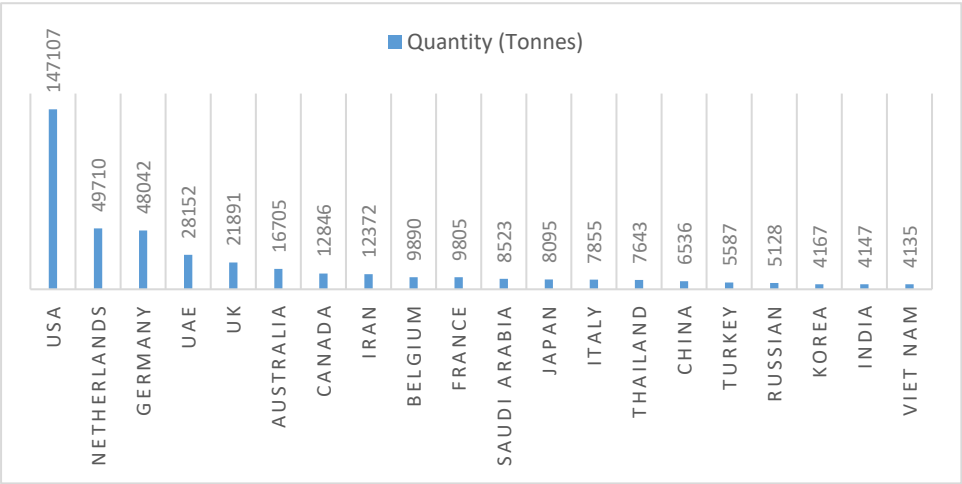


Source: FAOSTAT, 2019

Shelled Cashew Importing Countries

Figure 2.10 shows the top cashew kernel importing countries in the world. Two types of countries do this. The first type of countries import kernels for final consumption and the second type countries import kernels for re-export, thus acting as a trading hub to re-export cashews to neighboring countries. In the global cashew market, the USA imports largest quantity of cashew kernels for final consumption. The Netherlands, Germany, UAE, UK, Australia, Canada, and Iran are also positioned in the top shelled cashew importing countries. The UAE and Netherlands function as global cashew trading hubs. According to statistics, India also imported 4,147 tons of shelled cashews in 2016.

Figure 2.9 The top 20 shelled cashew nuts importing countries in the world in 2016



Source: FAOSTAT, 2019

2.5 Summary

This chapter is dedicated to analyze the global scenario of cashew production and trade. Our analysis reveals that the global production and productivity of raw cashew nuts have been recently declining, while the price of raw nuts in the global market has grown steadily at 10% per annum. The production crunch in raw nuts may inflate the prices in coming years. However, the cashew harvested area in the world shows an upward trend, hence the supply of raw nuts may increase in the long run. There is an upward trend in the world trade of cashew kernels during the post 1990s that now grows at 7% per annum. The prices of kernels also increase in the world market at 6% per annum, despite higher volatility. African countries are the major producers and suppliers of raw cashews in the world. The trade statistics reveal that raw cashew nuts exporting African countries also have started to take part in the global trade of cashew kernels, this may reduce their raw nuts export in the future. India is the largest importer of raw cashew nuts from African nations and rising kernel production in African countries may adversely affect the Indian cashew processing industry due to the India's over dependence on African countries in raw nuts import. Vietnam is the largest producer of cashew kernels and the major competitor of India in kernels export. Vietnam exports 54.24 % of total cashew kernels traded in the world compared to India's share of 16.32 %. The export market of cashew kernels is highly competitive in recent years and many countries in the world play important role in governing the global cashew market.

3.

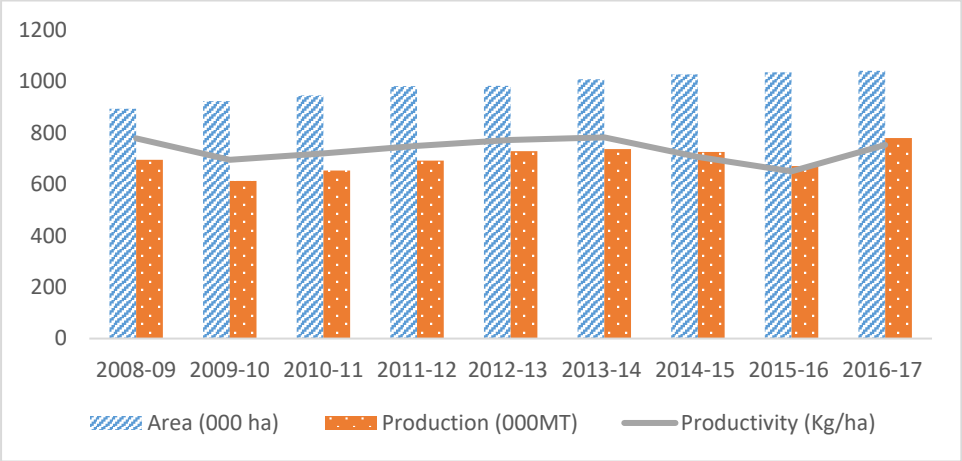
Cashew Industry in India

3.1 Area Harvested, Production, and Productivity

According to the statistics of the Directorate of Cashew Nut and Cocoa Development (DCCD), the total area harvested and production of raw cashew nuts in India was 1,040,890 hectares and 779,335 tons respectively in 2016. This makes up 17 % and 20 % of the world's harvested areas and production of raw nuts. The productivity is 753 kilograms per hectare. This is greater than the rest of the world's productivity 599 kilograms per hectare.

Figure 3.1 shows the overall trends by area, production and productivity of raw cashew nuts in India during the last decade. During 2008 to 2017, the area harvested increased from 850 to 1,000 hectares. However, the production and productivity not recorded any significant growth during the period. The productivity remained almost steady until 2013-14, with a fall in 2009-10. However, it declined from 2013-14 to 2015-16 and shows a gradual upward trend after 2015-16.

Figure 3.1 Area, production and productivity of raw cashew nuts in India



Source: Directorate of Cashew nut and Cocoa Development, 2019

The overall annual growth in production of raw nuts during the period was 1.8 % despite the negative growth in some years. However, the overall growth in the productivity records a negative growth of -0.06 % per annum in the decade. The National Research Center for Cashew (NRCC) reports that cashew cultivation in India was mainly carried out as an afforestation and conservation programs for wastelands rather than for economic ventures. Since productivity was not the basic objective of such a program, the cashew was highly neglected. Poor soil fertility in cashew growing areas, seedling progenies of nondescript origin, and neglect of the crop resulted in low productivity.

3.2 Regions-wise Cashew Production

Among the different cashew producing states in India, Maharashtra used more land area for cultivation, and production and productivity were more than any other Indian states (Table 3.1). NRCC studies reveal that higher yields in Maharashtra are primarily due to the fact that cashew production is of recent origin and the major plantation areas have been established with the high yielding clonal material.

Next to Maharashtra, Andhra Pradesh has 185.57 hectares of land where the production and productivity was 111,390 tons and 600 kilograms per hectare, respectively. In Orissa, the production was comparatively less, even though 183.31 hectares of the area were used for cultivation. Here, the productivity was 513 kilograms per hectare. In the case of productivity, Nagaland and Assam stand next to Maharashtra, despite very low areas of cultivation and production. These are newly emerging regions in India in terms of cashew cultivation. In the case of Kerala, the traditional cashew cultivation region in India, 90.87 hectares of land was cultivated from which 83,980 tons of cashews were produced in 2016. The productivity is 962 kilograms per hectare, which is well above the India average.

Table 3.1 Major raw cashew nuts producing states in India during 2016-17

State	Area (000 ha)	Production (000MT)	Productivity (Kg/ha)
Kerala	90.87	83.98	962.00
Karnataka	127.86	85.15	672.00
Goa	58.18	32.66	561.00
Maharashtra	186.20	256.61	1378.00
Tamil Nadu	141.58	67.65	478.00
Andhra Pradesh	185.57	111.39	600.00
Orissa	183.32	93.90	513.00
West Bengal	11.36	12.96	1140.00

State	Area (000 ha)	Production (000MT)	Productivity (Kg/ha)
Jharkhand	14.83	5.83	393.00
Chhattisgarh	13.70	9.33	681.00
Gujarat	7.22	6.50	900.00
Pondicherry	5.00	2.16	432.00
Assam	1.05	1.08	1028.00
Tripura	4.25	3.45	812.00
Meghalaya	8.50	5.83	686.00
Manipur	0.90	0.32	360.00
Nagaland	0.50	0.54	1080.00
Total	1040.89	779.34	12,676.00

Source: Directorate of Cashew nut and Cocoa Development, 2019

Figures 3.12, 3.13 and 3.14 points toward the major state-wise cashew harvesting areas, raw nut production, and overall productivity in India. According to DCCD statistics in 2016, the top five states in India in terms of cashew areas harvested are Maharashtra, Andhra Pradesh, Orissa, Tamil Nadu, and Karnataka. All these states together account for 79 % of cashew cultivation areas in India. The top three states- Maharashtra, Andhra Pradesh and Orissa show a similar trend in area harvested. The top five states in India in terms of raw nut production are Maharashtra, Andhra Pradesh, Orissa, Karnataka, and Kerala. The top five states together constitute 81% of overall raw nut production in India. Maharashtra alone accounts for 33% of production. Traditional cashew cultivating regions like Kerala and Karnataka constitute only 11% each.

Figure 3.2 Area harvested (Ha)

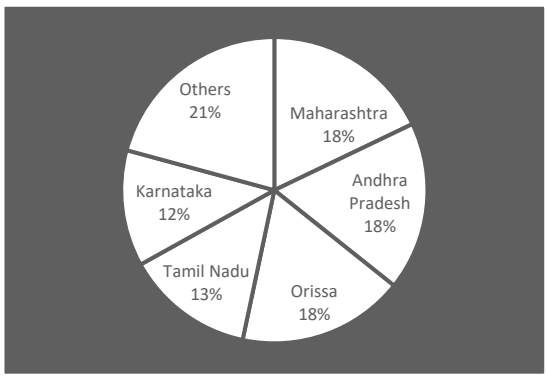
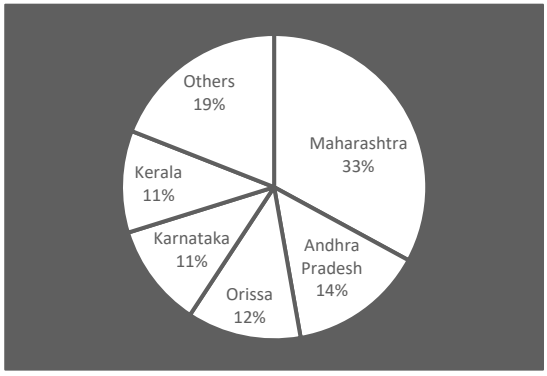


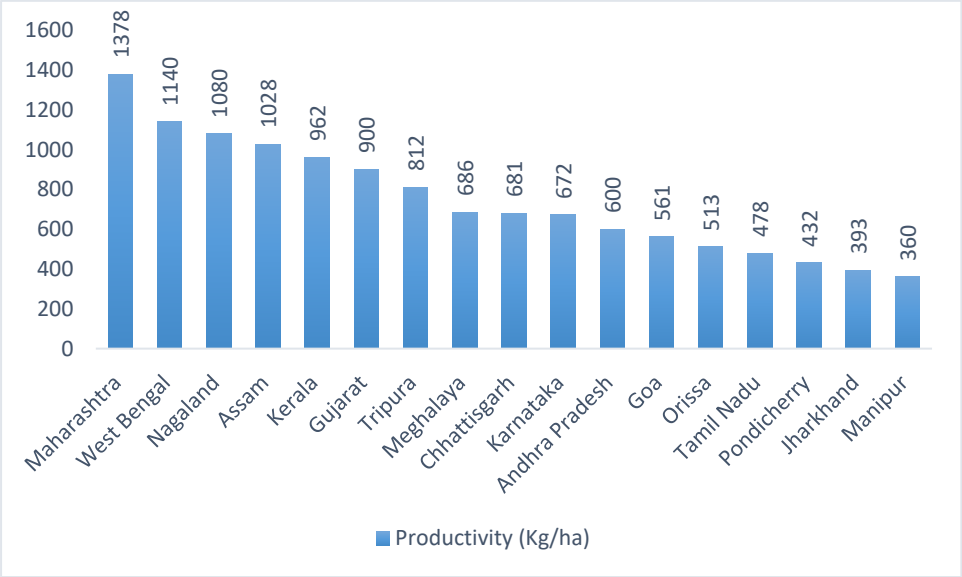
Figure 3.3 Raw nut production (000 MT)



Source: Directorate of Cashew nut and Cocoa Development, 2019

The top five regions in terms of higher productivity are Maharashtra, West Bengal, Nagaland, Assam, and Kerala (Figure 3.4). The first four regions record productivity above 1,000 kilograms per hectare while Kerala's productivity is only 962 kilograms per hectare. It is interesting to observe that productivity is relatively low in the top raw nut producing states like Andhra Pradesh, Orissa, and Karnataka.

Figure 3.2 State-wise productivity

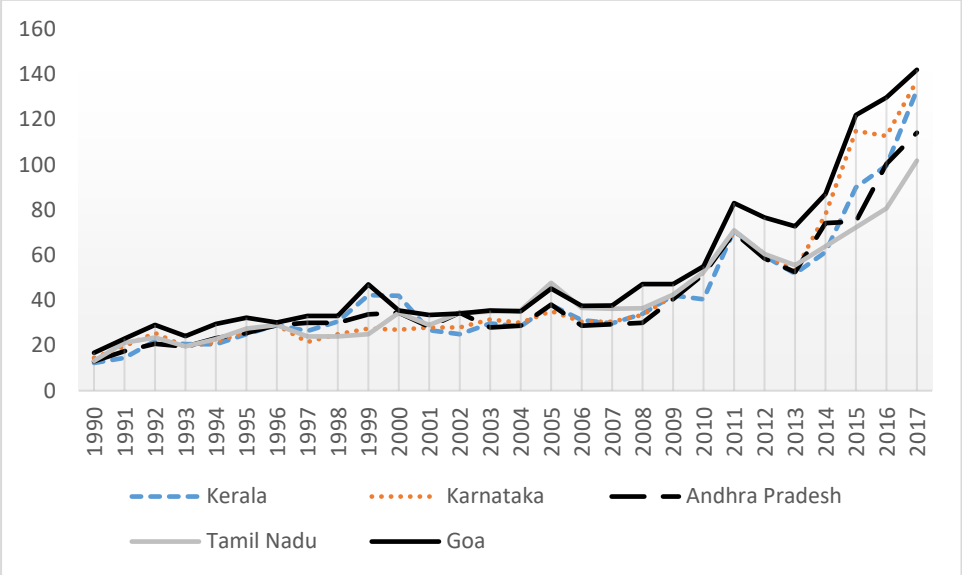


Source: Directorate of Cashew nut and Cocoa Development, 2019

3.3 Raw Cashew Nut Price in India

Figure 3.5 shows the market-wise trend in raw cashew nut prices in five states—Kerala, Karnataka, Andhra Pradesh, Tamil Nadu, and Goa—from 1990 to 2017. The market price of raw cashew nuts in the major cashew producing states has been increasing gradually from Rs.12 to Rs.147 per kilogram during this period. It rose steadily until 2014 then there was a sudden upsurge in 2015. Currently, the market price of raw nuts is higher in Goa, then Karnataka followed by Kerala and other states. It is interesting to observe that raw cashew nut prices in Kerala are relatively low despite the state's high density of cashew processing industries. The average price of raw cashew nuts in India was Rs. 126 per kilogram in 2017 as compared to the average global price of Rs. 148.

Figure 3.3 Major market-wise trend in raw cashew nut prices (Prices Rs. /Kg)



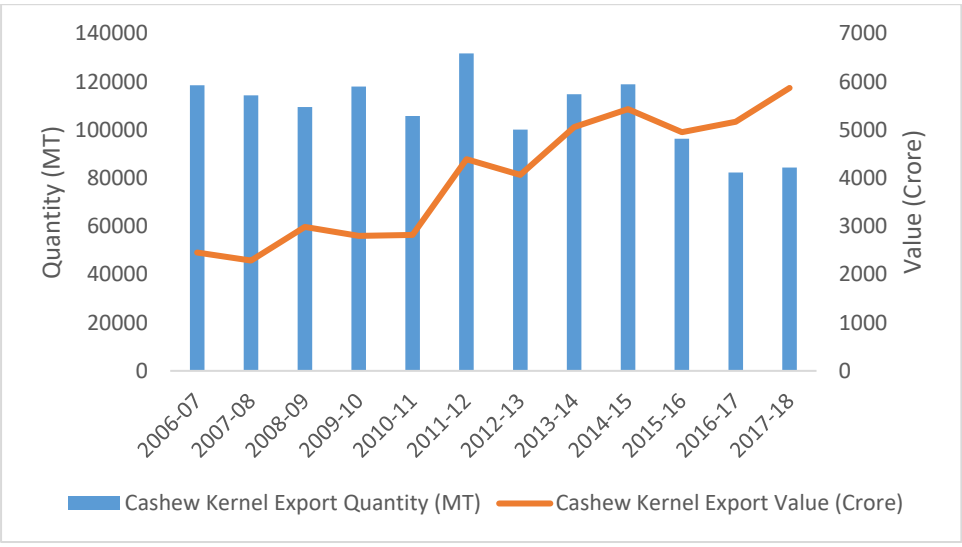
Source: Directorate of Cashew nut and Cocoa Development, 2019

3.4 Cashew Kernel Exports

The trend in cashew kernel exports from India indicates stagnation with neither a hike nor a massive decline. According to DGCIS, the average export of cashew kernel was 106,188 tons during the last decade (Figure 3.6), which is around 24% of the world average. However, the average annual growth in kernel exports was -2% during the decade.

In terms of value, India earned on an average of 4,355 Crores of foreign exchange per year during the last decade with an average growth of 11% per annum.

Figure 3.4 Trends in cashew kernel export from India

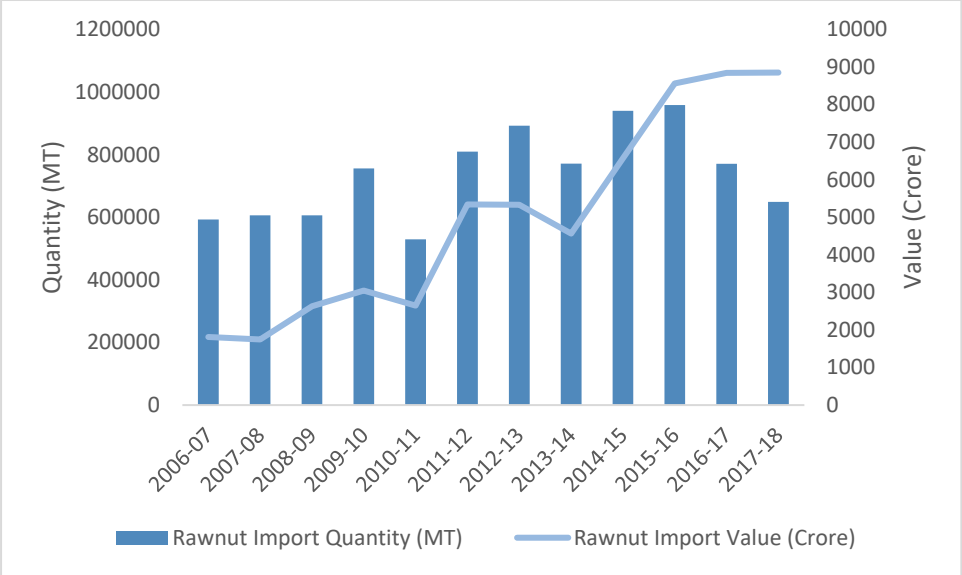


Source: Directorate of Cashew nut and Cocoa Development, 2019

3.5 Raw Cashew Nut Imports

India imported on an average of 768,181 tons of raw nuts and spent around 5638 Crores in foreign exchange per year during the last decade. The average growth in India's raw nut import was 3% per annum during the decade. Figure 3.7 shows that the trend in India's foreign exchange spending noticeably rose with a slight fluctuation during the decade, which adversely affects the net foreign exchange earnings of India in the context of stagnation in the export of kernels.

Figure 3.5 Trend in cashew kernel Import in India



Source: Directorate of Cashew nut and Cocoa Development, 2019

3.6 Country-wise Exports

Table 3.2 shows the quantity of the cashew kernel exported from India to 24 different countries during 2013-17. In 2013-14, 29.2% of the total exports were to the USA and 15.2% to the UAE. As the years passed, the export of kernels to the USA diminished and the UAE received 20.8 % of kernel exports from India. Currently, the UAE is the major trade partner for India. The USA only receives 15.6% of the total exports from India. The Netherlands is another major recipient and exports to Japan and Saudi Arabia have also increased over the years. Germany, Spain, France, Kuwait, Belgium, and the UK are the other countries import cashew kernels from India.

Table 3.2 Country-wise export of cashew kernels from India, 2013-2017

Country	2013-2014		2014-2015		2015-16		2016-17		2017-18	
	QTY (M.T)	%	QTY (M.T)	%	QTY (M.T)	%	QTY (M.T)	%	QTY (M.T)	%
UAE	17421	15.2	23904	20.1	18537	19.2	18556	22.5	17570	20.8
USA	33898	29.5	30643	25.8	22661	23.5	17515	21.3	13179	15.6
Netherlands	9918	8.6	9349	7.9	6236	6.5	4891	5.9	8650	10.3
Japan	6702	5.8	7413	6.2	7826	8.1	6434	7.8	8509	10.1
Saudi Arabia	7195	6.3	6636	5.6	7535	7.8	7441	9.0	7827	9.3
Germany	2808	2.4	4724	4.0	2720	2.8	2449	3.0	3278	3.9
Spain	3089	2.7	2384	2.0	2296	2.4	2140	2.6	2534	3.0
France	2963	2.6	2958	2.5	2916	3.0	1907	2.3	2135	2.5
Kuwait	1568	1.4	1329	1.1	1706	1.8	1658	2.0	2067	2.5
Belgium	2122	1.8	2601	2.2	2597	2.7	2362	2.9	1978	2.3
UK	2813	2.5	2766	2.3	1780	1.8	1674	2.0	1825	2.2
Korea, Rep.	2221	1.9	3193	2.7	2777	2.9	2271	2.8	1541	1.8
Singapore	1654	1.4	1490	1.3	1145	1.2	1199	1.5	1268	1.5
Qatar	709	0.6	781	0.7	797	0.8	843	1.0	1153	1.4
Greece	1284	1.1	1252	1.1	1000	1.0	770	0.9	1129	1.3
Turkey	703	0.6	782	0.7	797	0.8	482	0.6	861	1.0
Canada	862	0.8	793	0.7	449	0.5	361	0.4	677	0.8
Malaysia	897	0.8	707	0.6	953	1.0	648	0.8	603	0.7
Trinidad	508	0.4	588	0.5	524	0.5	464	0.6	531	0.6
Israel	713	0.6	668	0.6	734	0.8	316	0.4	461	0.5
Iran	1181	1.0	927	0.8	1133	1.2	687	0.8	442	0.5
Italy	865	0.8	1201	1.0	839	0.9	756	0.9	383	0.5
Jordan	630	0.5	617	0.5	363	0.4	660	0.8	267	0.3
Algeria	1531	1.3	1356	1.1	602	0.6	685	0.8	60	0.1
Others	10536	9.2	9890	8.3	7423	7.7	5133	6.2	5424	6.4
Total	*114791*	*100*	*118952*	*100*	*96346*	*100*	*82302*	*100*	*84352*	*100*

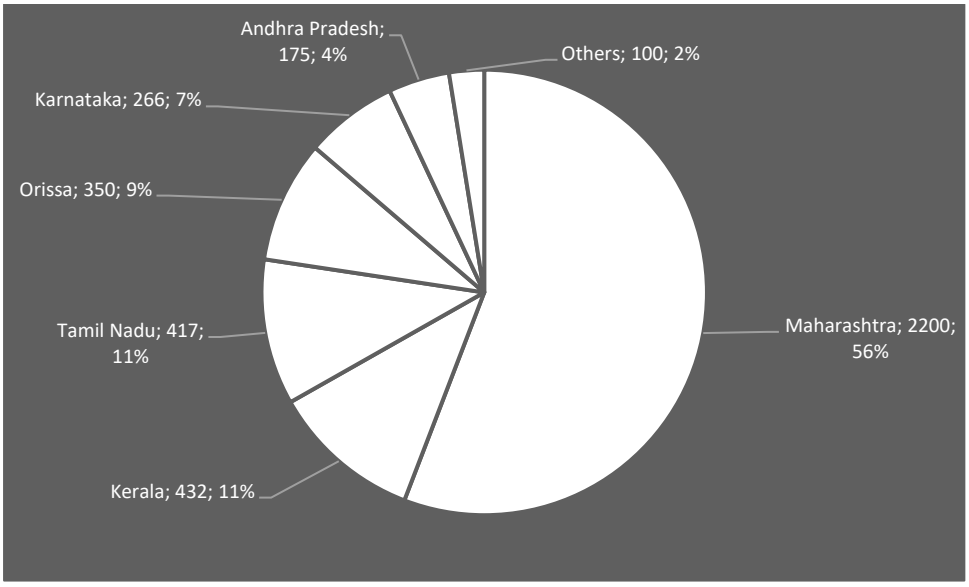
Source: The Cashew Export Promotion Council of India

3.7 The Cashew Processing Industry

As per the DCCD estimates, more than 3,900 cashew-processing units are functioning in India under organized and unorganized sectors. However, most of the units are working under unorganized sector in informal setups. A study of the Small Farmers' Agribusiness Consortium (SFAC) reports that there are 3,940 processing units in India in 2016 (Figure 3.8). The total installed production capacity of these units is 643,000 metric tons per year. According to the estimation of SFAC, 56% of the processing units are clustered in Maharashtra. However, the highest installed production capacity is recorded in Kerala at 600,000 metric tons, followed by Tamil Nadu with 400,000 metric tons. Maharashtra's installed

capacity in cashew nuts processing is only 50,000 metric tons per year. This indicates that most of the processing units in Maharashtra are working in informal setups.

Figure 3.6 Region-wise cashew processing units in India as of 2016



Source: Small Farmers' Agribusiness Consortium, 2019

3.8 The Size of Cashew Processing and Exporting Units in India

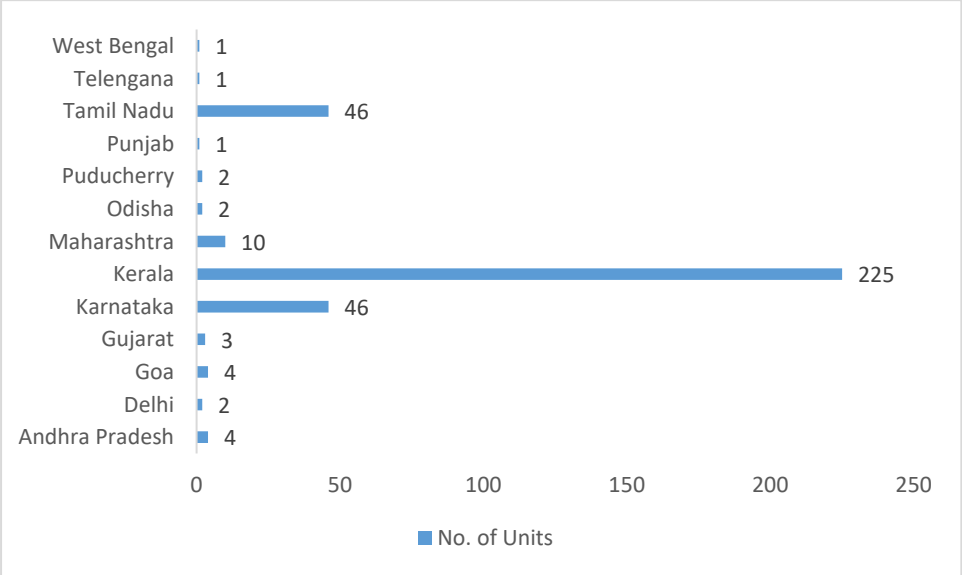
Cashew is an export-oriented commodity and the existence of the industry in India is dependent on foreign exchange earnings from developed nations. The Government of India (GoI) established an institutional framework to promote the export of processed cashew kernels and CNSL to other countries in 1955. As part of the initiative, The Cashew Export Promotion Council of India (CEPCI) was formed with the support of cashew exporters in the country. According to CEPCI, "*the Council provides the necessary liaison for bringing together foreign importers with member exporters of cashew kernels. The enquiries received from the foreign importers are circulated amongst Council members. The Council also extends its good offices in settling complaints amicably in the matter of exports/imports either on account of quality and/or variation in fulfillment of contractual obligations."* CEPCI is the organization that aggregates the statistics of cashew exporting units in India through its membership scheme.

The CEPCI has two types of membership: 'ordinary' members who have export licenses to export cashew kernels from India to other countries; 'associated' members who are not exporting but processing cashews and selling kernels locally or to other exporting companies. Our field research reveals that most of the cashew processing companies in India own multiple factories in different names

under formal and informal setups. A mid-level company owns at least five processing units and larger ones may own ten to twenty processing units.

As per the official statistics of CEPCI in 2016, the total number of registered cashew processing and exporting units in India is about 347. Among these, Kerala has the highest number of units (225), which forms around 64.8% of the total number of units in the country (Figure 3.9). Next to Kerala, Karnataka and Tamil Nadu have 46 units each and other states like Maharashtra, Andhra Pradesh, Goa, Gujarat, and Odisha have very limited numbers units.

Figure 3.7 Region-wise number cashew processing and exporting units in India



Source: Cashew Export Promotion Council of India, 2018

Of the top 10 locations where cashew units are concentrated, Kollam in Kerala is in top position. Approximately 60.8% of the total units are concentrated in Kollam. Panruti in Tamil Nadu is another region where 28 units are located. Next to this, Udupi and Manglore in Karnataka have 5.8% and 3.5% of the total units, respectively. In Kerala, Pathanamthitta, Thiruvananthapuram, Kasaragod and Alappuzha also have cashew units (Table 3.3)

Table 3.3 Region and sub-region wise cashew processing and exporting units as of 2016

Location	**State**	No. of Units	%
Kollam	Kerala	211	60.8
Panruti	Tamil Nadu	28	8.1
Udupi	Karnataka	20	5.8
Mangalore	Karnataka	12	3.5
Chennai	Tamil Nadu	8	2.3

Location	**State**	No. of Units	%
Karkala	Karnataka	4	1.2
Kanya Kumari	Tamil Nadu	4	1.2
Pathanamthitta	Kerala	3	0.9
Bicholim	Goa	3	0.9
Thiruvananthapuram	Kerala	2	0.6
Ratnagiri	Maharashtra	2	0.6
Puducherry	Puducherry	2	0.6
Nagpur	Maharashtra	2	0.6
Koraput	Odisha	2	0.6
Kolhapur	Maharashtra	2	0.6
Kasaragod	Kerala	2	0.6
Hyderabad	Andhra Pradesh	2	0.6
Delhi	Delhi	2	0.6
Dakshina Kannada	Karnataka	2	0.6
Alappuzha	Kerala	2	0.6
Total		315	100.0

Source: Cashew Export Promotion Council of India, 2018

Table 3.4 shows the membership type of cashew-exporting units in India. The CEPCI statistics reveal that there are more 'ordinary' members than associate members, 74.6% of the cashew units registered with CEPCI are 'ordinary' members. However, states like Andhra Pradesh, Maharashtra, Odisha and West Bengal, have more 'associate' members. During our field research in Kollam, we heard some concerns about CEPCI's membership based discrimination. Some of the industrialists reported that CEPCI proffers its services only to their elite members and small players in the sector do not have stakes in CEPCI activities. Therefore, some industrialists have formed their own local associations to protect their trade interests (i.e. Kerala Cashew Processors and Exporters Association; Federation of Cashew Processors and Exporters)

Table 3.4 CEPCI membership wise cashew processing and exporting units as of 2016

State	Membership Type		Total
	Associate	Ordinary	
Andhra Pradesh	80.00%	20.00%	100.00%
Delhi	50.00%	50.00%	100.00%
Goa	0.00%	100.00%	100.00%
Gujarat	33.30%	66.70%	100.00%
Karnataka	17.40%	82.60%	100.00%
Kerala	26.20%	73.80%	100.00%
Maharashtra	70.00%	30.00%	100.00%
Odisha	100.00%	0.00%	100.00%

State	Membership Type		Total
	Associate	Ordinary	
Puducherry	0.00%	100.00%	100.00%
Punjab	0.00%	100.00%	100.00%
Tamil Nadu	10.90%	89.10%	100.00%
West Bengal	100.00%	0.00%	100.00%
All	25.40%	74.60%	100.00%

Source: Cashew Export Promotion Council of India, 2018

Table 3.5 shows that the registered members at CEPCI exported 107,960 metric tons of kernels in 2007 as compared to 105,464 metric tons in 2015. The increase is marginal by only 2,496 tons. The average export per unit was 311 tons in 2015. According to CEPCI statistics, processing firms based in Kerala, Karnataka, and Tamil Nadu are the major exporters of kernels. An average export of cashew kernels per firm in Kerala is 392 tons followed by Karnataka with the export of 240 tons[1].

Table 3.5 Export of CEPCI registered cashew processing firms (Quantity in MT)[2]

	2007-08		2008-09		2009-10		2015	
State	All Firms	Average	All Firms	Average	All Firms	Average	All Firms	Average
Goa	572	143	362	91	294	74	625	156
Karnataka	7483	163	9113	198	8182	178	11051	240
Kerala	87477	389	84240	374	84398	375	87867	391
Maharashtra	123	12	115	12	90	9	145	15
Puducherry	63	32	107	54	99	50	30	15
Tamil Nadu	9689	211	7362	160	8043	175	6460	140
All	105407	304	101299	292	101106	292	106178	311

Source: Cashew Export Promotion Council of India, 2018

3.9 International Quality Standards in Indian Cashew Industry

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,

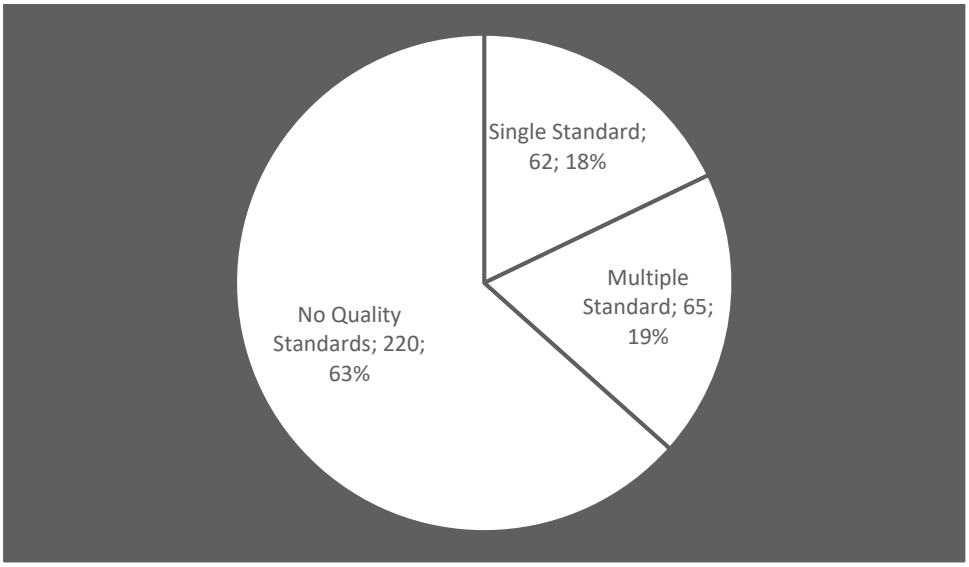
[1] Punjab shows the highest value in terms of per firm exports because there is only one registered unit from the state.

[2] The statistics are taken from the directory of exporters published by CEPCI in 2016. This is the latest available directory from the CEPCI. The statistics may be underreported, but still provide an idea on the average quantity of cashew kernels exported by firms from different regions. Also, some states are removed from the table due to insufficient data.

moisture content, uniformity, hygiene, packaging, etc. The requirements of quality standards may vary by market to market and from country to country.

Indian exporters currently possess international food safety certificates from the Food and Drug Administration (FDA), United States Department of Agriculture (USDA), Jewish Dietary Regulations like KOSHER, FSSC, BRC Global Standards, International Organization for Standardization (ISO), and Food Safety and Standards Authority of India (FSSAI). Figure 3.10 shows the number and percentage of firms that hold international quality standards to facilitate their exports to developed economies. The CEPCI statistics reveal that only 47% of the registered firms hold one or more global quality certificates. 18% of firms hold only one certification from a single agency and 19% hold multiple certifications from different countries. Furthermore, statistics show that 42.7% of firms in Kerala hold some kind of international quality certification. Other major cashew kernel producing states like Karnataka and Tamil Nadu hold some kind of quality certification at 28.3% and 21.7%, respectively. In the case of Maharashtra, only two firms hold global quality standards.

Figure 3.8 Number of cashew firms hold various global quality certifications



Source: Cashew Export Promotion Council of India, 2018

3.10 Type of Quality Certifications

The analysis of different certifications acquired by the processing units reveals that 118 cashew firms in India have some kind of ISO certifications. Among these, 91 firms are from Kerala, 13 are from Karnataka, and 10 are from Tamil Nadu. As per FDA standards, 57 firms are certified with HACCP standards, out of which 48 units are from Kerala. There are only 14 firms that achieve BRC global standards

and they are all from Kerala. 12 firms have Indian FSSAI quality certification, out of which 10 are from Kerala and the other two are from Goa and Maharashtra. This shows Kerala's competitive edge in international quality certifications, which enables them to trade internationally.

3.11 Summary

India's dependence on the imported raw nuts from African countries may increase in coming years due to the negative growth recorded in raw cashew nut production. However, the entry of new regions from India into cashew cultivation offers positive signs for the future. The growth in India's kernel export has almost stagnated and records negative growth, though foreign exchange earnings from kernel trading are growing at 11% per annum. However, the increasing trend in India's raw nut imports adversely affects the nation's net foreign exchange earnings. The export intensity with conventional trade partners like the USA is declining and this gap is being filled by other kernel exporting countries in the world, which may adversely affect India's global trade competitiveness.

4.

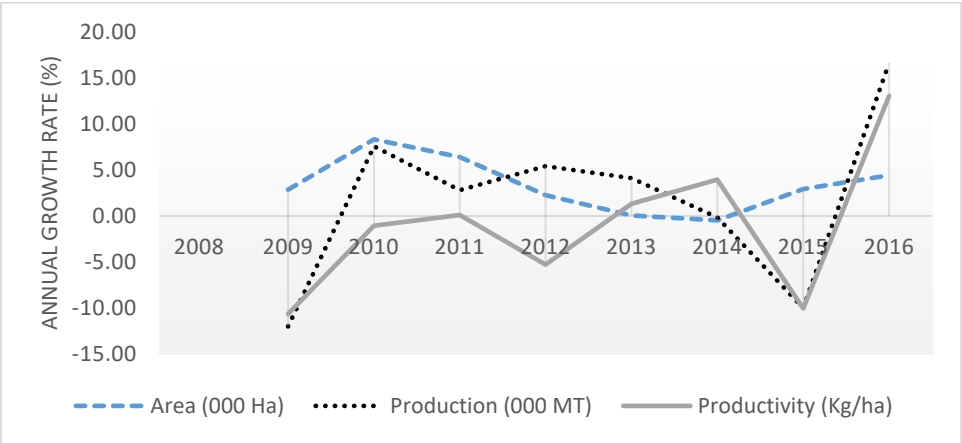
Cashew Industry in Kerala

4.1 Area Harvested, Production, and Productivity

The economic review of Kerala, published by the State Planning Board (SPB), points out that there has been a continuous and a considerable decline in both the area and production of cashews during the last decade. As per the DCCD statistics, the average area of cashew cultivated in Kerala was 86,443 hectares during the period 2012-2016. This is around 8.49 % of the average areas harvested in India and 1.49 % of the average areas harvested in the world during the period.

Figure 4.1 shows that the growth in areas of cashew has not increased in the last ten years. In 2010, there was a marginal increase, but then a gradual decrease to negative growth in 2013. There has been a slight upsurge from 2015 onwards. At the same time, the production of raw cashews deteriorated during 2008-09. There was a boom in 2010, but then a downward trend. From 2016 onwards, it is recuperating again. The productivity was in a deplorable state until 2015, though there was a notable hike in 2013-14. From 2015, there has been a remarkable increase in the productivity of cashew nuts.

Figure 4.1 Trends in growth of area, production and productivity of cashew nuts in Kerala



Source: Directorate of Cashew nut & Cocoa Development, 2019

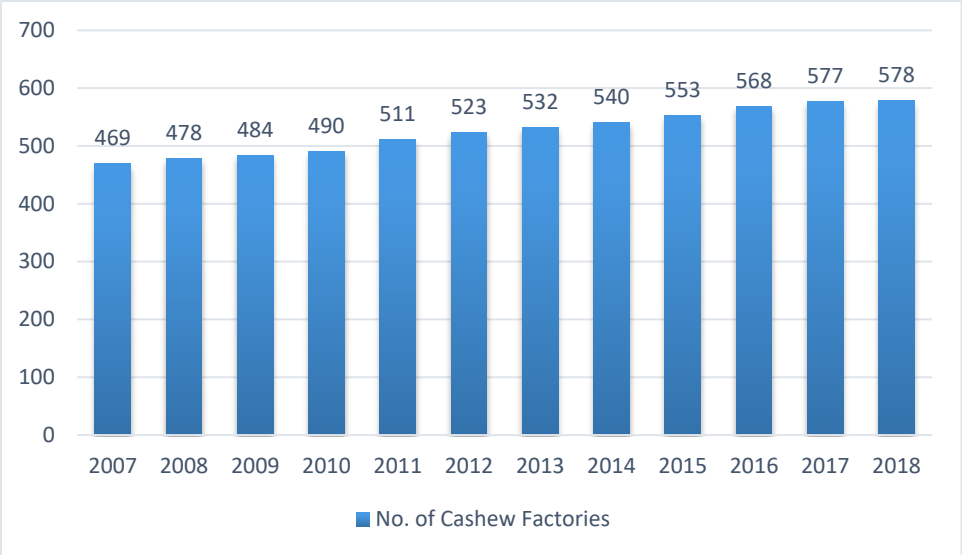
4.2 The Size of the Cashew Industry in Kerala

The propagating cashew industry size in Kerala is a vague estimation rather than an actual count. As per industry observation, there are approximately 800 processing units in Kollam, but there are no official or reliable documents to substantiate these statistics. To estimate the size of the cashew processing units in Kerala, we aggregated data from CEPCI and the Department of Factories and Boilers (DFB).

According to CEPCI statistics, there are 225 cashew processing units in the private sector and 94 % of these firms are clustered around Kollam region. Next to Kollam, the neighboring district Pathanamthitta has more cashew units in Kerala. The districts like Alapuzha, Ernakulam, Kasaragod, Kottayam, Thiruvananthapuram and Thrissur also have a few cashew processing units. This estimation is based on the statistics of registered cashew processing units under the CEPCI. This would be underestimated statistics due to many factories work under informal setups.

Figure 4.2 shows the year-wise cashew factories registered under the DFB. The statistics of DFB are relatively reliable because the operative cashew factories need to renew their licenses every year as per the legality of the DFB. We aggregated these statistics from different divisions of the DFB in Kollam. According to the DFB records, there are 578 cashew processing units in Kollam region and recorded 2% of average annual growth in terms of the number of factories newly registered during the period 2007-2018.

Figure 4.2 Number of cashew factories in Kollam District



Source: Department of Factories and Boilers, 2019

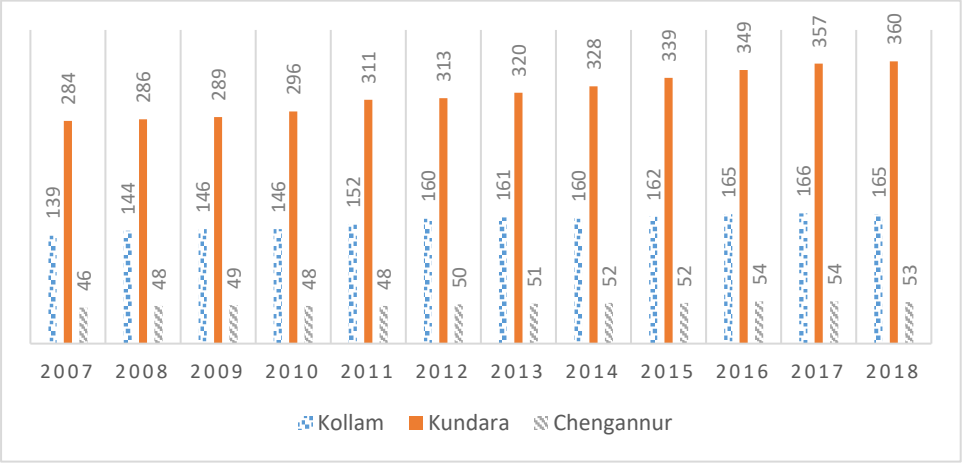
Figure 4.3 shows the newly registered cashew factories under DFB. The DFB statistics reveal that the trend in registration of new cashew processing factories is optimistic during 2008-2015, except for a slight downward movement in 2013. However, the trend drastically collapses 2016 onwards.

Figure 4.3 Newly registered cashew processing factories with DFB

Source: Department of Factories and Boilers, 2019

According to DFB classifications, there are three major cashew divisions in the Kollam district: Kollam, Kundara, and Chengannur. The statistics indicate that Kundra is the division where more cashew units are concentrated. In addition, cashew units in Kundara have increased from 284 in 2007 to 360 in 2018. In Kollam division, the number has slightly increased from 139 to 165. However, there is no considerable increase in the Chengannur division in terms of number of cashew units.

Figure 4.4 Division-wise Number of cashew factories in Kollam District



Source: Department of Factories and Boilers, 2019

4.3 Number of Workers in Private Sector

We could not find any reliable source to aggregate the total number of cashew workers in Kerala. According to the DFB's registration details, the total number of cashew workers in three major cashew-processing districts like Kollam, Pathanamthitta and Alappuzha is 3,054, out of which 2,236 workers are female and 818 workers are male. This statistic is based on full-time permanent workers who are currently working in operative factories as of 2018, and does not provide the actual scenario of the cashew workers in the region.

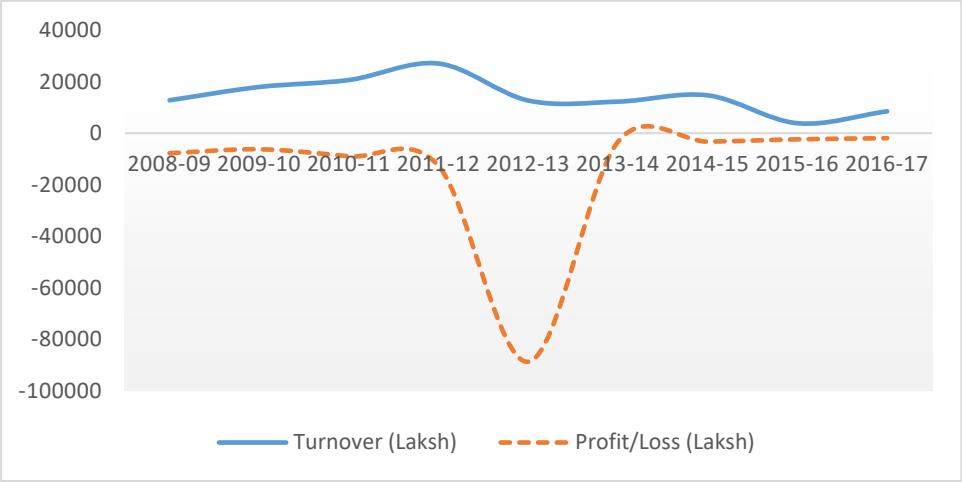
We made an estimation of total cashew workers in the state based on the data we collected from sample surveys. As per our data extrapolation based on 225 registered firms in CEPCI from Kerala, the approximate full-time cashew workers in the private sector are 126,500 in Kerala. The number of part-time employees is 129,13. The full-time and part-time female workers are 117,425 and 11,813, respectively, however, these are best guess estimates.

4.4 Public Sector Cashew Industry in Kerala

There are two public institutions engaged in the cashew processing industry in Kerala. The first one, Kerala State Cashew Development Corporation (KSCDC), was established in 1969 under the ownership of the government of Kerala. The major aim of this institution was to protect the interests of workers and provide maximum employment with statutory benefits. Furthermore, to increase the production of indigenous raw nuts with the aim of increasing the total working days, the KSCDC began cashew plantations in the State. According to available statistics from the State Planning Board (SPB), 30 factories are currently operating under KSCDC management as of 2018 with approximately 21,500 employees. However, the company is undergoing a severe financial crunch and records huge financial burden to the government.

Figure 4.5 shows the performance indicators of KSCDC such as sales turnover and net profits from 2008-09 to 2016-17. The average sales turnover during the period was 14,491 lakhs and the average loss was 15,051 lakhs. It is interesting to observe that the average loss incurred during the period is higher than the average sales turnover reported in the period. The average loss per worker at KSCDC is Rs.70003. This indicates how much money the government spends per year to retain an employee at KSCDC.

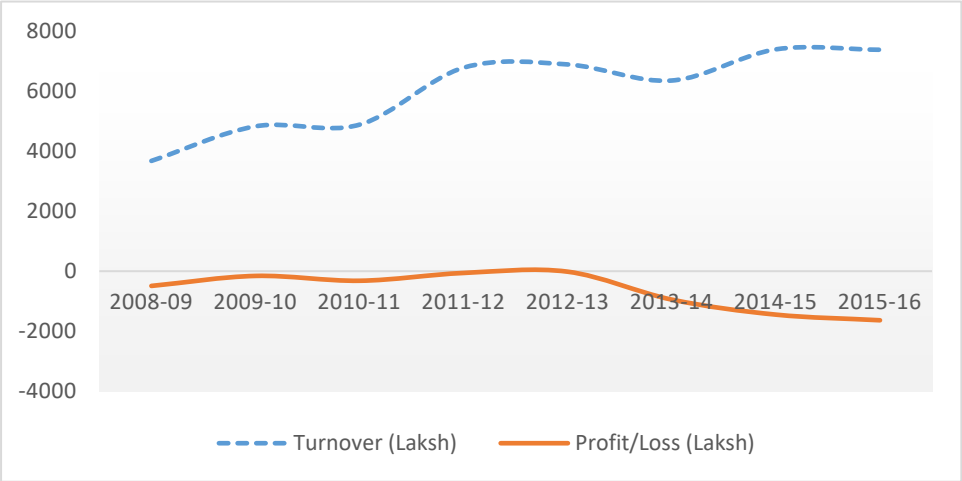
Figure 4.5 Performance of KSCDC from 2008-09 to 2016-17



Source: Economic Review, Kerala State Planning Board, 2017

Another public company involved in cashew processing and trade is the Kerala State Cashew Workers Apex Industrial Co-operative Society Ltd (CAPEX). CAPEX was founded in 1984 to work as an apex society to take care of the operations of the 10 primary co-operative societies under the Government of Kerala. It procures and distributes the raw nuts to primary societies for processing kernels. Ten factories work under CAPEX with 5,000 employees as of 2018. The CAPEX is also undergoing tremendous operational loss and keeping its operation with the support of public money. Figure 4.6 shows the performance of CAPEX and the gap between sales turnover and loss. The average turnover of CAPEX from 2008-09 to 2016-17 was 5858 lakhs and the average loss was 633 lakhs. The average loss at CAPEX per worker is Rs.11257 per year.

Figure 4.6 Performance of CAPEX

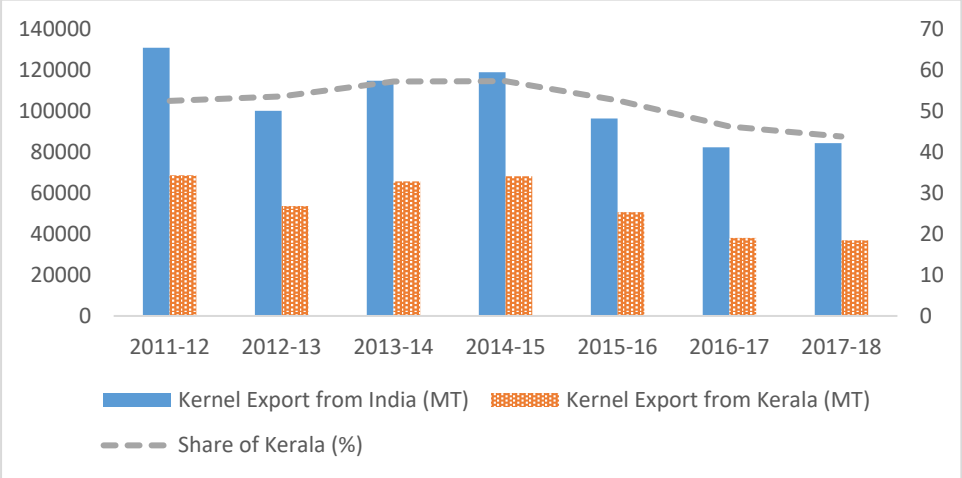


Source: Economic Review, Kerala State Planning Board, 2017

4.5 Kernel Export from Kerala

According to the SPB statistics, Kerala exported an average of 54,535 metric tons kernels per year during 2011-2017. This comes around 52% of the total kernel exports from India. Figure 4.7 shows that the trend in Kerala's share in kernel export has declined since 2014. This may be due to the factors like declining industry size, migration of factories from Kerala to other states, and emerging cashew industries in other states.

Figure 4.7 Trend in cashew kernel export from Kerala



Source: Economic Review, Kerala State Planning Board, 2017

4.6 Summary

The statistics reveal that there has been a continuous decline in both the area and production of cashews in Kerala during the last decade. The average size of kernel exports from Kerala is 54,535 metric tons per year. It comes around 52% of the total kernel exports from India. However, Kerala's share in kernel export has declined since 2014. According to the DFB, there are 578 cashew processing units in Kollam district. Next to Kollam, districts like Pathanamthitta, Alapuzha, Ernakulam, Kasaragod, Kottayam, Thiruvananthapuram and Thrissur also have cashew processing industry. There is no reliable source to estimate the actual number of cashew workers in the state. According to our estimation based on the sample survey, approximately 126,500 full-time cashew workers are in the private sector of the cashew industry. The number of part-time employees are 129,13. The full-time and part-time female workers are 117,425 and 11,813, respectively. The public sector cashew companies KSCDC and CAPEX make huge financial losses to the government. According to our estimation, the average loss per worker at KSCDC is Rs.70003 per year and the same in CAPEX is Rs.11257 per year.

5.

Entrepreneurs' Perception of the Crisis

Narrative Analysis

This chapter describes the major points arising from the progressive interviews conducted with cashew industrialists and their perspective on the causes of the present crisis in the industry. This also offers insights to policymakers about the qualitative aspects of the overall business environment in the Kollam region from the industrialists' point of view.

An established cashew exporter from Kollam reports that his business has been failing for the last two months. Import duty, high prices and the non-availability of the raw cashew nuts, wage hikes, etc. are the main reasons. The major export target was to the Gulf countries, but the crises in those countries affected his business adversely. Traditional processing is the main method practiced in the unit, but the non-availability of labor is another dilemma. Mechanization is the only remedy for this, but funding is an issue and the state government is not providing any kind of support as the funds to the CEPCI are shared among the committee members only. The bad practices in the raw nut purchase also adversely affect the trade. The proprietor lost 2 Crores paid to an agent to purchase raw nuts. The approach of the bureaucrats to the industrialists is very bad. The pollution control board determines the fee unilaterally by mistakenly valuing the asset of the entrepreneurs every year, which results in a huge financial burden. The political parties have their own agenda and it is not at all helpful for the employers. It is easy to start a business in Andhra Pradesh and Tamil Nadu, but the only issue is funding.

Another well-known processor from the region said that his company has been declared as a non-performing asset by the bank, though now he manages a processing unit in Tamil Nadu. There is no processing of cashews in Kerala now because of the huge losses experienced in the last three years. They face major competition from Vietnam and the other states in India. The unit had only achieved domestic sales with no exports. They had traditional as well as semi

mechanized processing units, thought there is a difference in the quality of the products from the two types of units. Better quality products are produced from the traditional type while it is less in the latter type. The scarcity and the high price of the raw cashews is a threat now and domestic production must be increased. The farmers require education about the importance of cashews over rubber and they must be encouraged to plant the cashews by replacing the rubber. In Tamil Nadu, the labor cost is much less than that of Kerala, and the influence of the labor union less.

An active processor with five processing units and trading cashew nuts from Kollam mentioned that his factories are still working despite big losses, as 80% of the raw cashews are imported and 20% is domestically purchased. There is competition with Vietnam on the purchase of the raw nuts and the production costs with the other states. The domestic availability of raw nuts must be increased. Traditional and semi-mechanized processing is carried, though mechanized units are more profitable than traditional, as the processing cost is less, but it results in a lower quality. Thus, semi mechanization is a viable solution as incentives, rebates, and tax deductions are available. Nevertheless, the entrepreneur does not intend to shift units to other states because of the lack of safety measures and a skilled work force.

A traditional cashew processing unit located in Puthoor, Kottarakkara is owned by a young entrepreneur who also has factories in Tamil Nadu. In Kerala, Cochin import facilities are not dependable, so he imports through Thoothukkudi and exports through Cochin. The import duty regulation is very difficult to meet by the small processors. He also argues for the mechanization of units, but needs financial support. Also, when mechanized, the production must be increased so as to maintain all current workers, and wages need to be restructured. Furthermore, technicians have to be trained to service and maintain the machines. The industrialist is not optimistic about the growth of the cashew industry in Kollam region, given the high processing costs and the high expense of raw nuts, despite low availability. Simultaneously, the price of the processed cashew is comparatively low. Wage hikes are another problem. The influence of the labor union is adverse, which the entrepreneur reiterates by sharing an incident. His brother had purchased a peeling machine worth Rs 50,000,00, but it only worked for one day. Because of the influence of the labor union, the workers boycotted it. The business environment in Kerala requires significant improvements. All the certifications should be online to help entrepreneurs. The biggest bottleneck is the availability of the raw nuts, and middlemen play an important role in worsening the situation. He also says that the Factories and Boilers Department have insufficient staff, which affects the factory's ability to obtain various permissions from the department. He further emphasizes that high processing costs are killing

the competitiveness of the industry in Kollam. Mechanization will reduce the costs, but issues of the quality and the processing costs remain. Research and development is required to improve the performance of current machineries. In the case of export marketing, this entrepreneur requires sufficient supports like financial aid to attend international trade fairs. Another burning problem is the advance bonus and its high rate.

Another processor from Puthoor, Kottarakkara, also has a similar story. His semi-mechanized unit is currently functioning and there are no branches outside the state. There is a competition in the trade with other countries, especially Vietnam and other states like Andhra Pradesh and north Indian states in the case of production costs. He states it is very difficult to compete in the international market, especially as the state government provides no support to industrialists. They are suffering so many difficulties beginning at the port where bureaucrats have a bad attitude towards the industrialists in Cochin port. There are fewer issues in Tuticorin as the single window system is being implemented for certifications and license. However, while the industrialist is optimistic about the growth of the cashew industry in Kollam, because of the availability of skilled labor and the quality of the cashews, he feels that the government should provide necessary aid.

No doubt, there is turbulence in the industry, heightened by the fact that Vietnam is the main competitor, due to lower production costs. The wage hike, labor union interference and the duties are cramping the cashew industry.

An experienced industrialist, who had held higher positions in the field, considers mechanization as a remedy for the hike in the production costs, but acknowledges this will affect the quality of the product. The attitude of the bureaucrats should be positive as the domestic raw material availability will curtail other difficulties. In Tamil Nadu, the production cost is much less. There is no unwanted political interference or labor unrest. The industrialist recommends some solutions for the revival of the industry. He says that mechanization will not lead to a loss of labor, but will increase the production capacity, so the government should provide subsidies for mechanization.

A proprietor in Kilikolloor has long-term experience in trading cashews and has provided the most authoritative explanation on the issues of the industry. In Kerala, the production cost is high, meaning they cannot buy raw nuts at a higher cost from the international market. However, in other places, the high cost is not an issue. Kerala is not as technically advanced as other cashew producing countries. The politicians and bureaucrats are against mechanization, citing job losses as the reason, though, in reality, it opens up new job opportunities and production will increase. However, mechanization cannot be done by

industrialists alone given the huge losses they suffered in last three years, so the government should grant loan for it. In 2015, the wage hike was done without understanding the situation, and this, along with import duties, are the main reasons for industrial backwardness.

Another well-respected proprietor has major processing units in Tamil Nadu because, according to him, Kerala has failed to adapt to the changes happening in the world. The global cashew industry has advanced technically, but we are still following traditional processing methods due to its qualitatively effectiveness. However, this method cannot be promoted worldwide. The scarcity of skilled labor and the wage hike are other issues. Again, this proprietor considers that semi mechanization is a solution for the present problem. The price of the raw nuts in the international market reduced significantly in recent years, but industrials could not make use of this because the banks refused to fund their operations. The domestic cultivation of cashews must increase to reduce the dependency on imports. Unfair practices like gambling and high sea sales are other threats to the cashew industry, and large processors are looting smaller ones with buy back offers. The central and state government is not supporting the cashew industry anyway and must devise a package for reviving it, by supporting guarantees to banks and providing subsidies for mechanization and to train technicians in the maintenance and servicing of machines. Also, bank interest should be reduced to revive the industry. The attitude of bureaucrats is also very bad as they face many issues with pollution control certification in terms of valuing their assets.

The proprietor of the cashew unit in the Karikodu region in Kollam is bankrupt and has not worked for two years due to high import duty and wage hikes. According to him, the industrialists in Kollam were working successfully up to this time, but recent developments have hampered their growth. When the industry is mechanized, the electricity costs will be well priced. Also, there is no funding for mechanization and no support from the labor union for entrepreneurs. To address this, the government can decrease taxes, withdraw import duties, and the banks can reduce the interest on loans until the revival of the industry. In fact, the industry can grow only with the support of the government.

The cashew unit in Kundra region had units in Tamil Nadu, but they are completely closed now as they could not survive competition from the global arena. The main opponent was Vietnam in the case of purchasing raw nuts and other states' with the increased processing costs. Half of their units operated traditionally while half were mechanized. Even though the mechanized units were profitable, traditional units offer higher quality. More technicians should be made available for the service and maintenance of machines. The politicians are biased and implement policies based on their own political interest. No proper study on the industry has

been conducted before policies were implemented. Similarly, wage hikes are reasonable, but sudden unreasonable increases have affected the industry badly. Processing costs in other states are less compared to Kerala, but the labor skill is lower as well. Again, proximity is another issue when considering the operation of units in the other states.

According to an industrialist in the Chandanathopu region, mechanization is the only probable solution for the present deplorable condition of the cashew industry. Quality will be less but as it is the accepted standard, we too have to allow for it. Though there will still be competition with Vietnam and other states on the production costs, he remains optimistic about the growth of the cashew industry in Kerala, if mechanized. We have market for byproducts too, which is absent in other places, but it is easier to do business in states other than Kerala because the regulations are very strict here. The domestic availability of the raw nuts is to be increased, which will help to save foreign currency spends and will reduce our dependency on imports in the long term. The government can provide subsidies and bank loans for investments into mechanization. Also, there must be provision for rehabilitation of those who may lose their jobs.

There is an industrialist who multitasks in the field of cashew industry. Unlike other traders, he created a unique market in Japan. He did not try any type of machineries, but used a purely conventional method and sells the kernels at a premium price. He says he is not facing any competition. In Kerala, the scenario worsens day by day because politicians are completely against mechanization as they suspect job loss. Actually, it will create more job opportunities and wage gains, so the government should provide subsidies for mechanization. The availability of raw nuts will reduce in the coming years as the cashew producing countries have started their own units, meaning the domestic availability of the cashews must be increased. The central fund is shared among the CEPCI members and is not provided to the industrialists. A 35% wage hike is the first step of the cashew industry destruction. Then, the CEPCI ruling giants have insisted the central government should impose import duties, which marked the second step of destruction. In addition, the export incentive is reduced so that the small processors who do not export but import are badly affected.

A well-educated industrialist who had a unit in Panruti in Tamil Nadu, has closed now due to huge losses from importing bad quality raw cashews twice. According to him, wage hikes are not the prime issue, but claims that import duties and import taxes caused the destruction of the industry. This claim is without any studies about the industry. A processor cannot meet a 20% re-export regulation. To fulfill this, the exporter is forced to buy kernels from local processors at a higher price. The labor unions should be more sincere to the industry, as their attitudes are currently the major reason for the destruction of all industries in

Kerala. The politician's interest is the vote bank. The government departments have no friendly attitude. The intervention of the traders in the purchase of raw nuts caused price increases and scarcity in the international market. The import should be restricted to the manufacturers. Mechanization is a failure because of the peculiarity of the cashew nuts and its processing method. It needs more research to develop a proper machine that produces good quality kernels that will match the quality of manually processed kernels. The existing loan is to be converted as a term loan for the industry's revival. Also, the government can stock raw nuts and distribute them to the processors in small scale as per their need.

The proprietor of this firm reports that they have mechanized units. If the raw nuts are of good quality, they can be processed in the mechanized units; otherwise, they cannot be used in machines. There are many problems like the strike in Cochin airport, the influence of trade unions, tax problem etc. If the domestic availability of raw nuts increases, it will help to compete with the international market. The government should contribute to the ESA/PF of workers.

A cashew unit, which was once the second highest volume exporting kernels from India has the same issues to point out. He suggests the restructuring of the wage system, especially in the case of bonuses. The domestic availability of raw nuts' subsidies for mechanization and the central state government's support on banking with benefits for the workers can recuperate the present condition of the cashew industry.

The next cashew unit is also a victim of the current phenomenon in the industry. Apart from the usual issues, there is another barrier to the growth of the industry and that is that there is no unity among industrialists. The giants should consider small processors too. Also, the tax paid to the government could be re-invested for the revival of the industry.

Another industrialist with a factory in Tamil Nadu has not been processing the cashews for the last two years. They import raw nuts, sell to the processors and buy back on a small scale as Thoothukkudi port functions better than Cochin. Government support is needed for the revival. Another measure is that incentives can be given to technology gradations.

A unit in Kottarakkara is not exporting the kernels, but selling to exporters and some of the domestic market. As the number of buyers has currently decreased, the small processors are not able to achieve competitive pricing. Vietnam imported machines are used in the units, so maintenance and servicing is expensive. Recently banks are reevaluating these assets and reducing working capital limits. Some people are manipulating the banks, taking more money and diverting it for other purposes. This affects genuine business owners. Labor union

leaders are creating unwanted struggles to the industrialists and receiving money from them, at the same time. The government should do a proper study before making policy decisions.

There is a firm in Mundakkal ,Kollam that has not been working for three years. Their main product is bakery items. They have unique market for cashews in Singapore. They do not intend to start a business in Kerala again, but will move to Tamil Nadu where there is government support, less political interference and cheap labor. Another firm in Mundakkal stopped working because of the reduced availability of labor. There is no consistency among the labors to come to work.

A firm based on Kollam region reports that the wage hike is the major reason for the depletion in the cashew industry. Mechanization will reduce the production cost, but as mentioned, political parties are against it. Once the machines are implemented, technology must be imported. The import duty is another major problem, such that central government regulations adversely affect the firm. Delay in the reimbursement of GST causes a loss of money.

The firm in Chandanathoppu region is one of the largest exporters of cashew kernels from Kerala. They have processing units in Tamil Nadu too, but now face a scarcity of labor and Vietnam as a major opponent. There the production cost is much lower, so we cannot compete with them in the international market. Mechanization is not 100% successful, and as well as lower quality, there are other related problems like adding chemicals during mechanized processing, full mechanization leads to job losses, etc. There are suggestions for the revival of the industry from technological research and development to improve the quality and performance of the machines. Subsidized power for mechanization is needed. The domestic availability of raw nuts needs to be increased and marketing Kerala brand cashews should yield premium pricing.

A cashew proprietor in Kollam region expressed that the small processors are the victims of the present chaos in the cashew industry. The exporters do not have to pay duty like the small processors have to. The politicians are biased and can create problems using the labor unions. Semi mechanization will be good for the revival of the industry.

A firm that stopped processing in the last six months is now trading on a small scale. According to the proprietor of the firm, the banks should provide further capital for operation within the industry. As the real estate market is in a bad condition, property cannot be sold. Job losses affect all walks of life in Kollam. The wage hikes and the high price of the raw nuts are the reason for the failure of the company. They claim that the government's policies are unscientific and so there is no parity between the production cost and the finished goods. They have other

firms in Tamil Nadu and Mangalore and state it is easier to do business there than in Kerala.

Another firm in the region has three factories in Kerala and one in Tamil Nadu and is facing the same issues. Still, the proprietor feels that Kerala is the best place for doing business. However, the processing aspect of the business is only done in Tamil Nadu due to cheap production costs. Again, they experience competition with Vietnam. Their products are bought and sold in the same market as products from Vietnam. Their processing cost is less, so they can buy at higher prices and sell at lower prices. The collective purchase of raw nuts may help to revive the industry. They feel that labor unions are not causing many problems, but new laborers are not entering the field. Also, they state it is very difficult to start a new factory here, as obtaining sanctions depends on the individual officers attending the applications.

A recent CEPCI registered firm is very much optimistic about the future growth of the cashew industry because trade is becoming processor friendly. Erstwhile, there were cases in which money was lost by giving advances for the raw nuts to the foreign countries. The bank or the government will not support claims for these losses. The governments of other states are supportive of their industrialists as they recognize that Kerala's nuts are of better quality than Mangalapuram nuts and should be promoted. Government support is needed for the revival of the cashew industry and funding is necessary for mechanization to promote cashew production. Funding and political issues remain obstacles, and the number of shelling laborers is currently reducing. The governmental departments and bureaucrats are bribing the industrialists heavily. Hence, a single window system should be developed wherein the government can buy raw nuts in bulk and sell to local processors, so they can control the price of kernels. Subsidies to the failing units will help them survive. The general manager of another firm opines the same prospects and issues.

A firm that has hereditary experience in the cashew trade is not currently exporting cashews, but is selling the kernels to exporters. Out of their four factories, only one is operational. A traditional method of processing is adopted because huge investments are necessary for mechanization. As most of the units are closed, there is no scarcity of laborers. The domestic availability of the raw cashews can be increased if the government performs a centralized collection of the raw cashews and distributes them to processors. The big giants in the industry decide on the kernel price, which affects small processors. Import duties represent a huge loss for the processors who are not exporting. The firm is trying to get rid of the business after clearing bankruptcy. The unit has not been working for two years. The main reason for the closure is the sudden wage hike, meaning they are not able to compete with processors from other states as the processing costs are

less there. The import duty is also very high. When the loss happened the first time, the firms were unable to stop processing because of the bank. The slowdown in real estate also affected the industrialists as they could not sell their properties. They feel there is no need to shift operations to other states. Trader gambling is the reason for the price hike of the raw cashews. They also feel the government should purchase raw nuts in bulk and sell to the processors at a fixed price. Imports should be restricted to the processors.

A firm in Kollam region has shifted its unit in Tamil Nadu because of the labor issues. They feel that big traders are blocking/stocking the raw nut in bulk to create a fake scarcity, then they increase the price of raw nuts. They consider that the sudden increase of in wages is unwarranted and that the big industries are getting funds with lower interest rates and the small processors are getting funded at higher rates. They recognize that mechanization is difficult to implement in industries with more workers, and feel there is more freedom in Tamil Nadu to do business.

A newly started fully mechanized firm has closed now because of the high price of the raw nuts and a scarcity of laborers for shelling.

6.

Endogenous and Exogenous Causes of Crisis

Industrial Inefficiency and Globalization

This chapter examines the major causes of the crisis in the cashew industry in Kerala based on our field study. The crisis in the cashew industry is neither a natural nor a one-day phenomenon. It is basically an outcome of several untreated diseases which affected the cashew sector a long time ago. The industrialists say that the cashew industry had a good time until 2000. During the post 2000s, the various endogenous (internal) and exogenous (external) factors started to adversely affect the industry and the prevailing entrepreneurs lost their competitive edge in global cashew trade. The economic reform process which started in 1991 made a positive impact in the industry initially due to the opening up of new global markets for the trade, particularly the export of kernels to the developed nations and the importation of cheap raw nuts from the poor African countries. This made a sudden prosperity in the industry and attracted the new entrepreneurs in the cashew processing industry. According to the CEPCI, during this period, the number of cashew factories in the state increased from 200 to 824. The externality of prosperity also reflected in the welfare of poor women workers in the region. However, the liberalization policies gradually started to affect the industry undesirably due to the increased global competition. The major causes of the deterioration of competitive edge in the industry are mainly due to the endogenous factors like access to capital, scale of production, labor market inflexibility, changes in global value chains, unfavorable business environment, the failure of political institutions, infrastructural inadequacy, organizational inefficiency, lack of sophisticated management practices, and technological insufficiency in production practices.

The reasons for the crisis can be classified into two categories – endogenous and exogenous reasons. The endogenous reasons are basically the outcome of internal issues related to the overall industrial environment in the state. However, the exogenous reasons for the crisis are related to the global issues, which are beyond the control of the State. Several of the endogenous issues can be solved at the regional or national level, but the exogenous reasons cannot be solved easily due to their complexities. However, certain global issues can be trounced by increasing the competitiveness of the cashew industry. The endogenous issues are further classified into two categories – industrial inefficiency and microeconomic competitiveness. In this Chapter we analyze the endogenous issues of the crisis related to the industrial inefficiency and the exogenous issues related to the globalization. However, the analysis of microeconomic competitiveness of the industry is given in the Chapter 7.

ENDOGENOUS ISSUES

6.1. Informalization, Organizational Inefficiency and Windfall Gain Strategies

The productivity of the industrial sector is the sum of the productivity of firms in the sector. Empirical studies reveal that the factors like production practices, organizational practices, marketing, and managerial sophistication of local firms may affect the economic competitiveness of firms (Porter et al., 2007; Bloom and van Reenen, 2007; Freeman and Shaw, 2009; Delgado, et al., 2010). According to our field observation, the primary reasons for the present crisis in the cashew industry are organizational inefficiency and lack of competitiveness.

The cashew industry in Kerala was flourishing in the past decades due to the favorable conditions like low capital requirement, supply of cheap labor, availability of domestic raw nuts, low-priced raw nut imports from Africa, lower domestic and international competition in kernel processing, increased global demand for cashew kernels and bigger profit booking.

The cashew industry is a labor-intensive industry. The different stages of the cashew processing industry are highly labor-intensive except for the roasting. The majority of the labor force is women. The proportion of the women labor force is found to be around 90 percent in the cashew industry. The share of fixed capital is less and there is a low capital requirement per worker (Chirayath, 1965). The ratio of workers to productive capital is reported to be high in the cashew industry (Deepa, 1994). The cashew industry is seasonal, based on the availability of domestic raw nuts. The peak period of the production starts from March and ends in October. The rest of the month has no production and no work (Beevi, 1978).

A study conducted by the International Institute of Environment and Development (IIED) exemplifies that there are two types of processing units in the private sector: the factory (organized) and the household/cottage (unorganized). Even though the various forms of unorganized cashew processing in the state are barred by the government in the late 1960s, the practice is continued on a sub-contracting term. The study observes that the organization of processing activities in the private sector can be divided into four types:

1. *The owner himself undertakes the processing using his license but attempts to casualize the workforce,*
2. *Owner leases the license to a lessee, and the lessee carries out the processing activity,*
3. *The owner enters into a contract with a commission agent, and*
4. *Lessee enters into an agreement with a commission agent*

The last two types of practices are known as *Commission Varuppu (*Kudivarappu). Commission agents enter into a contract with either the owner or the lessee to process a certain quantity of nuts for a certain amount of money. These agents may be foreign or Indian. The *Commission Varuppu* practices were popular in the cashew industry because it dilutes the obligations of factory owners to workers. Also, there is a practice prevailed in the industry that starting new factories in poorer, backward areas of the State as part of getting cheap labors.

A study conducted in the good times of the cashew industry in the State observed that *Kudivarappu* has been practiced in various forms (Lindberg, 2001). Registered factories formally close for a period, but soon reopen without notifying the authorities so that the factory is nonfunctional in the books. Another tactic is leasing out the processing factory to friends or relatives. Therefore, in place of the old factory, a new one emerges. The workers are dismissed, but are soon rehired to work in the *new* factory without rights to any labor benefits. The average life of such factors is only three months. Another method is not registering every worker in the factories. This was done to people of all age groups. Hence there exists an unregistered workforce within the registered workforce or there is an *informal* sector within the *formal* sector.

This kind of profit maximization strategies through informal production practices and labor exploitation tactics have adversely affected the cashew industry from transforming into an organized industrial cluster in the region. Many studies reveal that the business environment that directly influences companies' productivity is the presence of clusters of related and supporting industries. Clusters are geographic agglomerations of companies, suppliers, service providers, and associated institutions in a particular field, linked by externalities and complementarities of various types (Porter, 1998). The presence of strong clusters enables companies to achieve higher productivity and raises regional

performance (Feldman and Audretsch, 1999; Glaeser and Kerr, 2009; Delgado, Porter and Stern, 2010). However, the cashew industry in the Kollam region could not explore these advantages due to the informalization of the industry for accruing windfall gains, even if the sector had the features of an industrial cluster.

6.2 Hesitance in Adoption of New Technology

Cashew is an export-oriented commodity. Kerala's international trade connections in the cashew trade started a long time ago with technologically and industrially developed nations in the world. Academic literatures observe that the positive role of trade as a means to tap into other countries' knowledge stock and new technology in increasing the productivity of local firms (Frankel and Romer, 1999; Dollar and Kraay, 2003; MacGarvie, 2006; Bernard et al., 2007). However, technological adoption in the cashew industry is not occurring pervasively in the sector. According to the industry, the blame mainly goes to the political institutions and labor unions for their anti-mechanization attitudes. However, the industry is also not that much keen to adopt new technologies, mainly by reason of high fixed capital investment. The industry's production practices were mainly focused on higher profit bookings using poor production infrastructure and cheap labor. Consequently, the industry is half-minded in investing in new technology and R&D activities. Therefore, the industry has not taken any organized and sincere efforts to develop their scientific production infrastructure. However, during this period, countries like Vietnam improved their production capacity by adopting new technologies. The lack of adoption of technology in the cashew industry is not only due to institutional failure, but also the failure of industrial yearning. Our discussion with industrialist reveals that the majority of the companies and entrepreneurs emerged in the cashew processing industry was mainly to reap the short-term profits. The lack of managerial capacity and non-sustainable production practices adversely affected the adoption of new technologies. It is interesting to observe from the industrialists that the majority of the cashew entrepreneurs in the region do not have any knowledge in foreign trade or cashew processing industry. During the boom of the cashew industry, many people from other businesses shifted their domain to cashew processing industry with the expectation of earning huge foreign money. However, they were not interested in investing in production infrastructure apart from buying raw nuts from abroad.

6.3 Inadequacy of Working Capital and Unavailability of Credit

Efficient access to capital is important for companies to make the long-term investments needed to raise productivity (King and Levine, 1993; Rajan and Zingales, 1998; Levine, 2005; Aghion et al. 2007). The cashew processing factories in the region mainly come under the category of micro and small enterprises. Therefore, the working capital is important for them to execute the international

consignments. Access to working capital for cashew processing enterprises in the region is not liberal due to the high frequency of their defaults in repayments. Banks hesitate to give loans to cashew processors due to factors like lack of consistent cash flow, insufficient collateral, unprofessional management, and the weakening industry. Industrialists say that the majority of the processors in the region pledge their assets like land and houses for getting loans from the banks. This takes them to severe financial crisis and mental stress if anything adversely affects the industry.

6.4 Disputes among Industrialists

Disputes and conflicts of interests are higher among cashew entrepreneurs compared to other industries. The informal production systems and unethical business practices split industrialists into different interest groups. Therefore, the common goal-based working attitudes are not prevailing in the cashew industry. Also, a common platform to express the concerns of all types of cashew entrepreneurs is absent in Kerala, informality is the major cause of this. The small scale cashew entrepreneurs in the region alleged that the big guys in the industry follow unethical business practices like overstocking, artificial price inflation of imported raw nuts, and High Sea sales. Also, they criticize that the CEPCI platform which is supposed to interact with policy-making bodies for the general welfare of the industry, does not address real industrial issues and they work only for the advantages of elites in the industry.

6.5 Anti-Labor Attitude and Overdependence on State

In general, cashew industrialists are in favor of a free market and non-regulated business environment in the region, but at the same time, they want to work on a subsidized, risk-free, and government protected business ecosystem. According to the entrepreneurs, the increased wages, labor welfare policies, and increased price of the imported raw nuts are the major cited reasons for the crisis. However, the earnings of laborers in the sector is not at par with other organized industrial sector, and the number of working days per year is also relatively less in the sector. The working conditions of the cashew processing factories in Kerala are very poor (Lindberg, 2001, IIED, 2003). The industry thinks that the government is the sole agency that has the responsibility of enhancing the production of raw nuts. According to the emerging concepts of Global Production Network (GPN), the leading industrial users also have the responsibility to assure the sustainable production inputs (Gereffi 1994; Gereffi et al., 2005; Coe and Yeung 2001). However, the cashew industry in Kerala never made any collective action towards improving the raw nut production the state despite lowering the prices of domestically produced raw nuts. Our analysis reveals that the raw nut prices in Kerala are relatively less as compared to other major markets in India. The cultivation of cashew declined in the State mainly due to two reasons - the

declining wasteland and less price for the raw nuts (Veron, 1997). Cashew is a labor-intensive sector, and the industry should take all measures to enhance the welfare of workers for the sustainable production practices in the region, especially in the context of the declining labor participation in the cashew industry.

6.6 Deficient Market Innovation

The international trade in cashew kernel is working within a buyer-driven value chain (Harilal, *et al.,* 2006). This is called 'directed network' in value chain literature. In 'directed network', firms from networks tend to be controlled by certain leading firms. The lead firms specify what is to be produced by whom, and they monitor the performance of the producing firms (McCormick and Schmitz, 2002). In the cashew processing industry, the market of cashew kernel is controlled by importers, roasters and salters, wholesalers, and retailer chains from the European and American markets. Therefore, the marketing capability of the processors in the region at international level is very weak. The international food quality standards also make major constraints in the industry to explore the global consumer markets. To produce and pack the kernels as per the global food quality standards, firms need a higher level of investment and technological capacity. Firms with an informal working arrangements may not meet these conditions.

However, certain factors contribute to the relative autonomy of processors and exporters from the region. The growth of the domestic demand for processing cashew nuts helps in decreasing the dependence on international importers and consumer markets. In addition, the emergence of alternative markets in the Middle East and China, lessened the power of European and American importers (Harilal, *et al.,* 2006). In fact, this opened a tremendous opportunity to the processors in the region for positioning their value added products in national and western Asian markets. Furthermore, according to the opinion of the entrepreneurs, the processed nuts from the Kollam region are much more superior quality wise than nuts which were produced in mechanized units. The traditional reputation of the region in producing superior quality of cashew nuts (geographic branding) is also a valuable input for marketing the cashew nuts from Kerala. However, the cashew industry in the region failed to explore the full benefits of such market innovations over the time period.

EXOGENOUS ISSUES

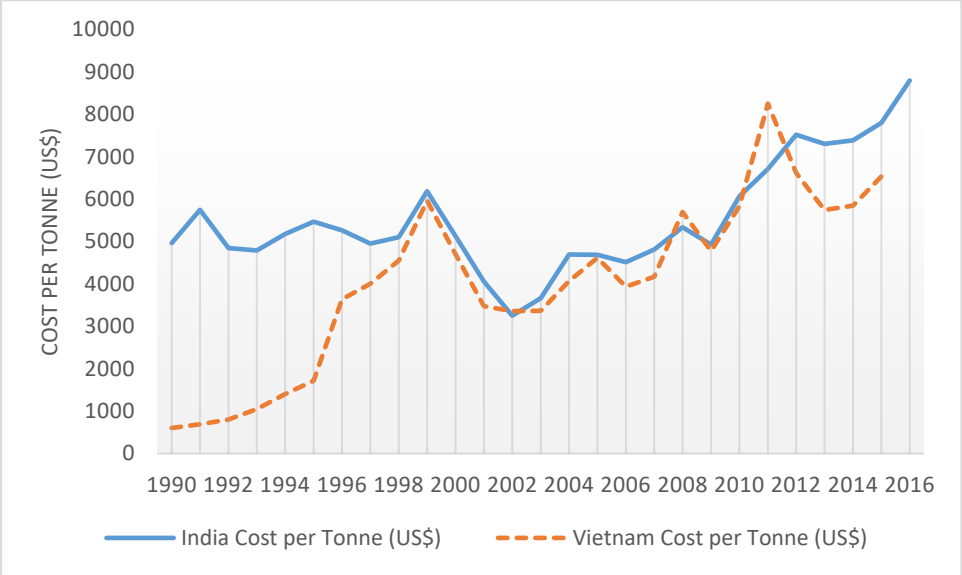
6.7 Globalization and Free Trade Agreements

The exogenous cause of the crisis in the cashew industry is mainly related to regional trade agreements like the ASEAN Free Trade Agreement (AFTA). The

CEPCI reports that the import of low-quality cashew kernels from Vietnam adversely affects the domestic market of cashew kernels. According to cashew exporters, the cashew industry in the region was surviving from the international competition mainly due to the expanding domestic market for cashew kernels. They report that 20-30% yield of the kernels are of broken varieties which were enjoying good domestic demand. However, low quality broken kernels and testa *(a by-product obtained from the processing of cashew nuts, which is used for animal feed)* are finding their entry in one form or the other into the domestic markets as part of India's participation in the AFTA. Traders mix broken kernels in the husk and import to India. It affected the domestic market for locally produced broken kernels.

The globalization and free trade agreements (FTAs) upraised the competitiveness of global trade in agricultural commodities like cashew nuts. It adversely affected the cashew industry in Kerala in terms of the importation of raw cashews and the exportation of kernels. As part of the trade competition, countries like Vietnam increased their economies of scale in cashew production and started to trade the low-priced processed nuts worldwide. Figure 6.1 illustrates the unit price of the cashew kernels during the post-liberalization period in India and Vietnam. The export price of kernels from India is above Vietnam's price due to the higher costs of production, and the price gap between Vietnam and India is widening after 2011.

Figure 6.1 Unit price of cashew Kernels during globalization: India vs. Vietnam

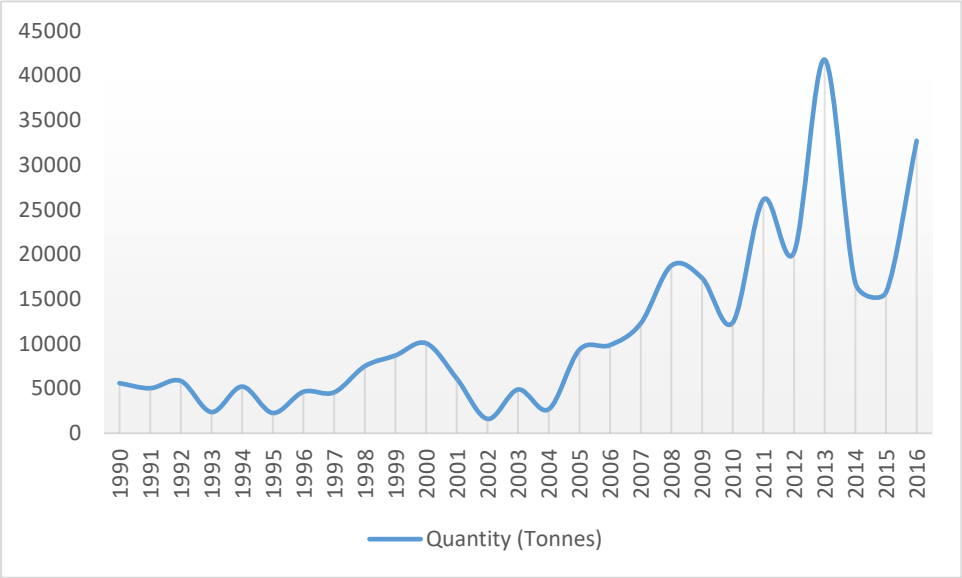


Source: FAO Statistics, 2019

6.8 Emerging African Countries in Processed Cashew Trade

The cashew processing industry in Kerala dependent on the imported raw nuts from Africa. During the past decade, the cashew industry flourished due to the cheap priced raw nuts imported from the African countries. However, after the globalization, competition to buy raw cashew nuts from Africa is increasing and it inflated the prices of raw nuts in India. Furthermore, the situation has worsened due to the African nations' entry into the cashew processing industry and export of kernels. African countries can sell the processed nuts in the world at a cheaper cost due to the comparative advantages like cheap labor and abundant raw nuts availability. This also affected the cashew processing industry in Kerala. Figure 6.2 demonstrates the rising trend in kernel export from the African continent.

Figure 6.2 Trend in kernel export from African continent



Source: FAO Statistics, 2019

6.9 Oligopoly in Buyers' Market

The oligopolistic buyers' market indicates the state of limited competition, in which a market is shared by a small number of wholesale buyers. The kernel market in foreign countries is buyer-driven. Product mixing and labeling is mainly done by global retail chains. The 80% of the imported processed nuts in developed economies like the UK and the US is sold through retail chains (Harilal, 2006). Marketing channels in the North have undergone huge changes in the past years, especially for food products. An important feature of this process of transformation has been the growing market power of large retailers and other dominant actors belonging to the downstream nodes of the global value chains (Harilal, 2006). This is attributed to a variety of reasons such as competition among retailers, struggles over margins and changes in the regulatory

environment (Dolan and Humphrey, 2000). However, the transformation of the marketing chains and the consequent domination by retailers have had far-reaching implications for individual nodes in the value chain and their interrelationships. Therefore, the demand and price for the processed cashew nuts can be determined by the large retailers in the developed markets. This may adversely affect the profit margin of the cashew exporters in Kerala.

6.10 Quality Standards and Market Regulation

Food markets in the developed countries undergo strict regulatory measures and quality certifications. The Sanitary and Phytosanitary Measures (SPS) of the World Trade Organization (WTO) also impact the cashew processing industry adversely in Kerala due to their labor intensive informal production practices.

6.11 Summary

In this chapter, we analyzed the industry level causes of the prevailing crisis in the cashew industry. According to our analytical framework, the necessary causes for the crisis in the cashew industry are classified into two categories – endogenous (internal) and exogenous (external) issues. Furthermore, the endogenous issues are categorized into industrial inefficiency and microeconomic competitiveness. Under industrial inefficiency, we have analyzed the major issues like informalization, inefficient organizational structure, windfall gain strategies, hesitance in technology adoption, inadequacy of working capital and non-availability of credit, disputes among industrialists, anti-labor attitudes and over dependence on the State, and deficient market innovation. Under exogenous issues, we analyzed the issues like globalization and free trade agreements, the emergence of global competitors from Africa, oligopolistic behavior of buyers' market, and global quality standards and market regulation.

7.

Microeconomic Competitiveness

Survey Analysis

7.1 Microeconomic Competitiveness

The microeconomic competitiveness focuses on the attributes of the national business environment like business regulation, local economic condition, local competition, industrial agglomeration and spillovers, and the use of sophisticated business management practices. Empirical studies emphasize the significance of microeconomic policies in national and regional economic performance (Saxenian, 1994; Porter, 1998, Bloom and van Reenen, 2007; Freeman and Shaw, 2009; Delgado, Porter, and Stern, 2010). The policymakers from the public and private sectors have significant latitude to strengthen the microeconomic competitiveness by enhancing the business environment, enabling cluster development, and improving the sophistication of company operations and strategy. In this Chapter, we analyze the various factors related to the overall business environment and competitiveness of the cashew industry in the region based on the questionnaire-based quantitative survey.

As part of the field survey, we have visited 38 randomly selected private cashew factories in the Kollam region based on the cashew exporters and processors directory of the CEPCI[1]. The CEPCI has two types of membership: 'ordinary' members who have export licenses to export cashew kernels from India to other countries; 'associated' members who are not exporting but processing cashews and selling kernels locally or to other exporting companies. For analytical purposes, we have classified the sample cashew firms into three groups based on the total quantity of sales (domestic and international) in 2017. The *small* firms which produce processed cashew kernels below 100 MT, the *medium* firms produce 100-500 MT, and the *large* firms produce above 500 MT.

[1] Please refer the Chapter 1 for further details regarding survey design

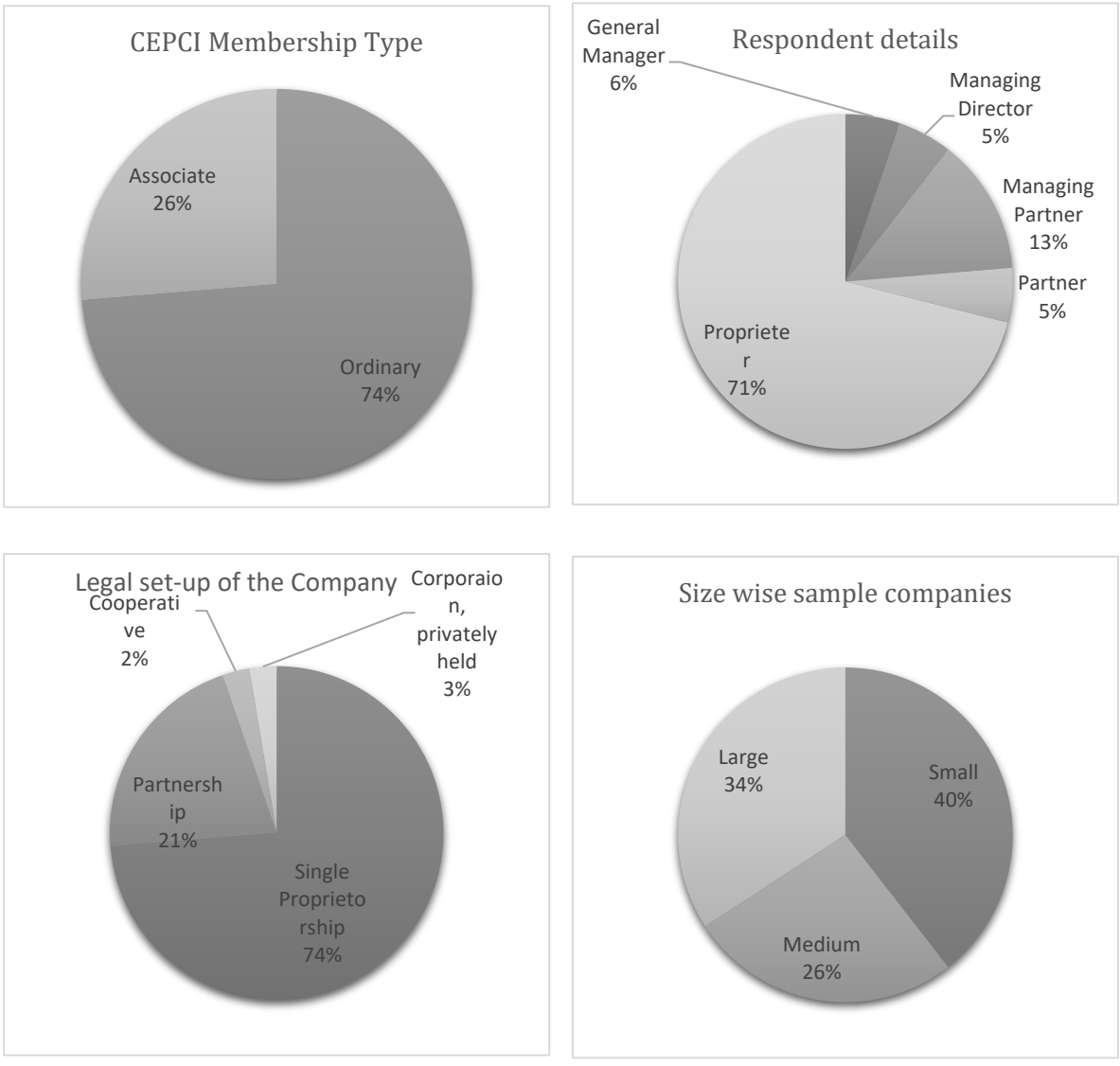
7.2 Sample Profile

Among our sample firms, 74% of the cashew firms are the *ordinary* type, and the other 26% is the *association* type. The respondent statistics indicate that 71% of the people who responded to the study are proprietors of the firms, 5% were general managers, another 5% managing director, 13% managing partners and yet another 5% were partners.

According to the legal set-up of the sample firms, 74% of the sample firms comes under single proprietorship, and 21% of the firms run under a partnership system. A small number comes under a cooperative system.

As per the total quantity of kernels sale in 2017, it is identified that 40% of the sample cashew firms are small firms which have sales under 100 MT whereas 34% are large firms with sales above 500 MT. 26% of the firms are medium-sized firms with total sales of kernels between 100 and 500 MT in 2017.

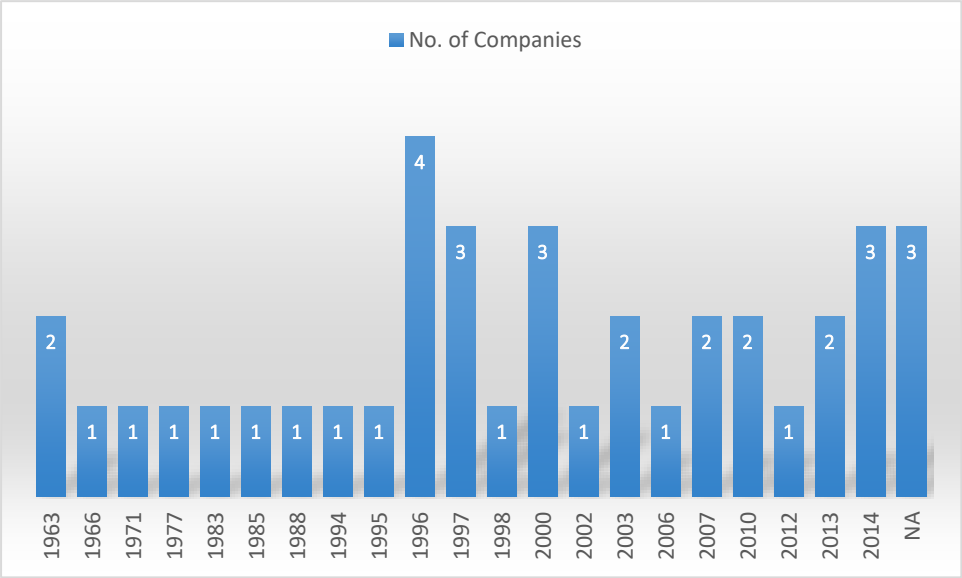
Figure 7.1. Sample profiles



7.2 Age of the Sample Companies

We have included companies which started from 1963 to 2014 in the survey. Among the sample, 8% of companies were started in the 1960s, 5% companies started in 1970s, 8% started in 1980s, 26% started in 1990s, 24% started in 2000s and the remaining 21% started their business in 2010s. Therefore, we could gather the perspectives of different generations of companies regarding the microeconomic environment of the cashew industry in the region. Figure 7.2 details about the establishment year of sample cashew companies in the region.

Figure 7.2 Establishment year of sample cashew companies



7.3 Business Environment

To evaluate the overall microeconomic environment in the cashew sector in Kerala, we asked entrepreneurs about some of the important details regarding the *ease of doing business* in the region. This would help the policy makers to identify the favorable regulatory environment for promoting the cashew industry in the State. We adopted the analytical framework of the World Bank's ease of doing business to understand the major constraints of starting business in the state. We have analyzed the present and past business environment to evaluate the overall change in the industrial ecosystem of Kerala over a certain period.

Present Business Environment

According to the survey data, 60% of the entrepreneurs rated that the quality infrastructure in the state to start cashew business is poor, while 24% rated it as satisfactory (Table 7.1). 50% of entrepreneurs rated that the taxation policies prevailing in the state are poor, while 68% of entrepreneurs reported that access

to capital for running a business is poor in the state. Labor is another problem in doing cashew business in the state. According to the survey, 40% of entrepreneurs stated that availability of talented labor in the sectors is currently in difficult condition, and 79% of industrialist mentioned that the availability of cheap laborers are poor in the state. The environmental regulations are satisfactory even though the regulatory framework is poor. 63% of the entrepreneurs reported that the quality of bureaucracy is poor in the state and they face hurdles from the bureaucracy in doing business. The availability of advanced technology is poor, and raw material suppliers are scarcely available. 82% of entrepreneurs reported that there is no stability of political systems in state and 74% of entrepreneurs said that the government support in cashew export is poor. According to the entrepreneurs, the performance of industrial bodies in the cashew sector is poor in the state (50%). Finally, if an entrepreneur tries to close his business, it seems very difficult in the State

Table 7.1 The present business environment for the cashew industry in Kerala

Factors	Ratings (Percent of responses)						
	Very Poor	*Poor*	*Satisfactory*	*Good*	*Excellent*	*Not Reported/ Not Applicable*	*Total*
Quality infrastructure	13	47	24	5	3	8	100
Telecommunication facilities		13	32	21	18	16	100
Taxation policy	13	37	34	3		13	100
Availability of talented labor	3	37	32	24	3	3	100
Availability of cheap labor	34	45	3			18	100
Access to capital	21	47	24			8	100
Innovation	5	11	16			68	100
Environmental regulations	3	21	47	5		24	100
Regulatory framework		45	29	3		24	100
Ease of land acquisition	3	8	8	3		79	100
Quality of bureaucracy	24	39	29	3		5	100
Availability of advanced technology	18	26	11	3		42	100
Presence of raw material suppliers	5	29	16	5		45	100
Availability of logistics partners	5		21	34	3	37	100
Stability of political system	24	58	13	3		3	100
Crime free environment		11	24	8		58	100
Corruption free Govt. Systems	11	42	29			18	100

Factors	Ratings (Percent of responses)						
	Very Poor	*Poor*	*Satisfactory*	*Good*	*Excellent*	*Not Reported/ Not Applicable*	*Total*
Presence of firm management		3		11	3	84	100
Availability of Electricity / power	5	5	45	29	3	13	100
Govt. Support in export	63	11	3	3		21	100
Presence of Industry body	5	45	3	3		45	100
Quality control measures	13	8	18	3		58	100
Availability of training facilities	5	18				76	100
Ease of closing down the business	18	3				79	100

Past Business Environment

During the last five years, the quality infrastructure has not changed at all in the cashew industry (Table 7.2), but the telecommunication facilities improved. The pro-industry taxation policy is declining as per some entrepreneurs, while it remains unchanged for some. The availability of cheap and talented laborers is declining. Access to capital is also declining. The environmental laws, regulatory framework and the quality of bureaucracy remain as such during the last five years. The presence of the raw material suppliers decreased while the availability of logistics partners remained unchanged. The political system and the crime-free environment remained without any change. There is less support from the government in the cashew export.

Table 7.2 Business environment for the cashew industry in Kerala in the last five years

Factors	Declining	No Change	Improving	Not Reported/Not Applicable	Total
Presence of quality infrastructure		50	34	16	100.0
Telecommunication facilities		8	63	29	100.0
Taxation policy	29	26	11	34	100.0
Availability of talented labor	63	34		3	100.0
Availability of cheap labor	82	3		16	100.0
Access to capital	66	18		16	100.0
Innovation		11	5	84	100.0
Environmental laws	11	45	8	37	100.0

Factors	Declining	No Change	Improving	Not Reported/Not Applicable	Total
Regulatory framework	3	47	5	45	100.0
Ease of land acquisition		5		95	100.0
Quality of bureaucracy	3	58	21	18	100.0
Availability of advanced technology		32	18	50	100.0
Presence of raw material suppliers	37	21		42	100.0
Availability of logistic partners		29	13	58	100.0
Stability of political system	5	58	5	32	100.0
Lack of transparency, protection of property		13	3	84	100.0
Crime free environment	3	29	5	63	100.0
Corruption free Govt. systems	8	47	11	34	100.0
Presence of firm management		5	5	89	100.0
Power supply		16	39	45	100.0
Govt. Support in export	24	26		50	100.0
Presence of industry body	5	39	3	53	100.0
Quality control measures	8	11		82	100.0
Availability of training facilities		11		89	100.0
Ease of closing down the business	5		5	89	100.0

7.4 Ease of Starting Cashew Industry in Kerala

According to the World Bank's methodology, the growth in industrial startups is determined by the average time required to start a new business. According to the survey conducted among the cashew entrepreneurs in Kollam, 10.5% of the entrepreneurs reported that they need only less than a month to get all approvals from the government to start a new cashew processing unit in the State. 21% of entrepreneurs said that they may need 1 to 3 months for getting approvals from the government. However, 19% of the entrepreneurs informed that it takes more than 3 months to get approvals. According to the entrepreneurs, dealing with government officials over regulatory affairs is the most time taking process, however, all reported entrepreneurs informed that getting permission for exporting cashew kernels is relatively easy in the state, and they need only less than a month for the purpose. This analysis directs that starting a new cashew processing factory in the state is relatively hurdles free and one can start his/her business within a short span of the time.

Table 7.3 Approximate time required to start Cashew business in Kerala (percent)

Time	Taking all approvals from the Government	Dealing with Govt. officials over regulatory affairs	Clearing environmental regulations	Taking permission for export	Taking permission for import
Less than a Month	10.5	-	5.3	23.7	23.7
1-3 Months	21.1	7.9	2.6	-	-
4-6 Months	10.5	2.6	5.3	-	-
7-12 Months	5.3	2.6	5.3	-	-
1-2 Years	2.6	-	-	-	-
Not Reported/Not Applicable	50.0	86.8	81.6	76.3	76.3
Total	100.0	100.0	100.0	100.0	100.0

7.5 Cost Affordability

Table 7.4 shows the affordability of the costs in the cashew industry in terms of different factors of the production. This would help to understand the expensive factors related to the cashew processing industry. Among small firms, 73% of the firms reported that the imported raw nuts are expensive for them, while 33% said that local nuts are also expensive. It is interesting to observe that 40% of the small firms reported that the local raw nuts are very expensive, against only 7% of small firms mentioned that the imported raw nuts are very expensive. In the case of medium firms, approximately 70% of the firms informed that both local and imported raw nuts are not reasonable. However, large firms informed that local nuts are more expensive than imported raw nuts.

67% of the small firms reported that the access to skilled labor is expensive, while 50% of medium and 84% of large firms reported that it is an expensive factor of production in the cashew industry.

20% of small firms reported that access to technology is reasonable for them, while 10% of medium firms and 15% of large firms informed access to technology is relatively reasonable for them.

The cost of electricity, fuel, quality certifications, marketing, and logistics are affordable. However, the cost of accessing capital is expensive. The firm size wise cost affordability is given in the Table 7.4

This analysis reveals the fact that the major factors related to the increased costs of production are raw nuts and labors. Furthermore, the entrepreneurs think that the cost of accessing technology is more affordable than the cost of skilled labors.

Table 7.4 Business activity wise cost affordability of the Cashew industry (percent)

Size	Affordability	Costs										
		Local raw nuts	Imported raw nuts	Technology	Skilled labor	Electricity	Machinery	Quality certifications	Marketing & selling in domestic market	Marketing for getting exports order	Logistics	Access to capital
Small	Economical	-	-	-	-	-	-	-	6.7	6.7	6.7	-
	Reasonable	-	-	20.0	13.3	46.7	20.0	6.7	13.3	6.7	33.3	-
	Expensive	33.3	73.3	26.7	60.0	6.7	26.7	20.0	6.7	6.7	6.7	40.0
	Very expensive	40.0	6.7	6.7	6.7	-	-	-	-	-	-	20.0
	Not Reported	*26.7*	*20.0*	*46.7*	*20.0*	*46.7*	*53.3*	*73.3*	*73.3*	*80.0*	*53.3*	*40.0*
Medium	Economical	-	-	-	-	-	-	-	30.0	20.0	10.0	
	Reasonable	-	-	10.0	20.0	20.0	-	20.0	-	10.0	20.0	20.0
	Expensive	10.0	20.0	30.0	40.0	10.0	20.0	-	-	-	-	20.0
	Very expensive	60.0	50.0	-	10.0	-	-	-	-	-	-	20.0
	Not Reported	*30.0*	*30.0*	*60.0*	*30.0*	*70.0*	*80.0*	*70.0*	*70.0*	*70.0*	*70.0*	*40.0*
Large	Economical	-	7.7	-	-	-	-	7.7	-	-	-	-
	Reasonable	-	7.7	15.4		46.2	7.7	23.1	23.1	23.1	46.2	7.7
	Expensive	46.2	38.5	30.8	76.9	7.7	46.2	-	15.4	7.7	-	38.5
	Very expensive	38.5	30.8		7.7	-	-	-	-	-	-	15.4
	Not Reported	*15.4*	*15.4*	*53.8*	*15.4*	*46.2*	*46.2*	*69.2*	*61.5*	*69.2*	*53.8*	*38.5*

7.6 Economic Performance

As per the survey, large sized firms stand foremost in the international as well as domestic sales of the cashews. In the case of medium-sized firms, the total sale (both international and domestic) is much lesser than large-sized firms. But in these firms, domestic sale is more than the international sale. As far as smaller sized firms are concerned, the overall sale is comparatively less. However, they also focus more on domestic markets than international markets. The total revenue from all these firms in 2017, is Rs.1572 crores.

The average revenue of small-sized cashew firms in Kerala was 27 crores in 2017. In the case of medium and large firms, it was 30 and 122 crores respectively. It is interesting to observe that 69% of total cashew nuts produced in Kerala is targeted to international markets. The firm size wise detailed earnings statistics are given in the Table 7.5.

Table 7.5 Company size wise sales and revenue in 2017

Company Size		International Sale (MT)	Domestic Sale (MT)	Total Sales (MT)	Total Revenue (Crore)
Small	*Total*	50	85	135	82
	Average	3	6	9	27
Medium	*Total*	1227	1759	2986	266
	Average	123	176	299	30
Large	*Total*	26115	10345	36460	1224
	Average	2009	796	2805	122
Total	*Total*	27392	12189	39581	1572
	Average	721	321	1042	71

7.7 Employment

As per the survey, cashew firms that are under a single proprietorship, employed more cashew workers. There are 12740 full-time employees out of which 11793 are women. There are 1566 part time employees and 1400 of them are women. Under the partnership firms, the number of full-time and part time employees are lesser than that in the single proprietorship. There are also more women employees than men. In the cooperative type of firms, only full-time employees are there.

On average, 750 full-time cashew workers are in Kerala per cashew processing firm. It reveals the labor intensity and employment potentiality of the cashew industry in the state. Firms which are owned by a single person (single proprietorship), it was around 671 workers per firm. In the case of partnerships

and cooperative firms, it was 1175 and 300 workers respectively. The average part-time employee per firm is 159 workers. In the case of full-time women workers, 696 workers per firm and part-time workers are 145 per firms. The legal-setup wise statistics of cashew workers are given in the Table 7.6.

Table 7.6 Legal-setup of the company wise Cashew workers

Legal Setup of the Company		Full-time Employees	Part-time Employees	Full-time Women Employees	Part-time Women Employees
Single Proprietorship	*Total*	12740	1566	11793	1400
	Average	670.53	156.60	620.68	140.00
Partnership	*Total*	7050	350	6605	340
	Average	1175.00	175.00	1100.83	170.00
Cooperative	*Total*	300		250	
	Average	300.00		250.00	
Corporation, Privately Held	*Total*	150	150	140	150
	Average	150.00	150.00	140.00	150.00
Total	*Total*	20240	2066	18788	1890
	Average	749.63	158.92	695.85	145.38

Table 7.7 shows the firm size wise cashew workers in the sample firms. The average full-time employees per small-sized firms in the region is 420. In the case of medium and large firms, it was 436 and 1150 workers per firms respectively.

The part-time employees per small firms is 95, while medium and large firms employed 260 and 142 workers respectively. In the case of full-time women workers, the average worker per small firm is 378, medium and large firm are 413 and 1067 respectively. The medium-sized firms employed more part-time women workers, 223 workers per firm, and small and large firms employs 93 and 134 workers per firm.

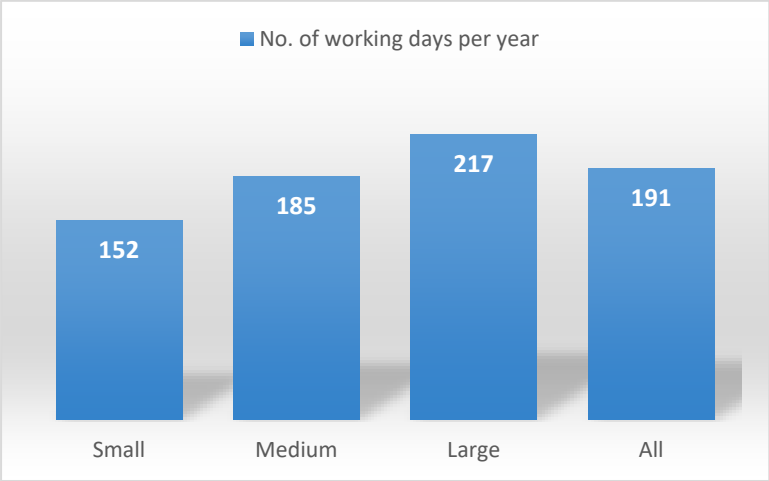
Table 7.7 Company Size-wise Cashew workers

Company Size		Full-time Employees	Part-time Employees	Full-time Women Employees	Part-time Women Employees
Small	*Total*	2520	286	2268	280
	Average	420.00	95.33	378.00	93.33
Medium	*Total*	3920	780	3715	670
	Average	435.56	260.00	412.78	223.33
Large	*Total*	13800	1000	12805	940
	Average	1150.00	142.86	1067.08	134.29
Total	*Total*	20240	2066	18788	1890
	Average	749.63	158.92	695.85	145.38

7.8 Number of Working Days Generated per Year

The Figure 7.3 shows the average working days generated at small, medium and large-sized firms in Kollam. According to the survey data, the cashew firms in the region generated an average of 191 working days per year. Among the different types of firms, the total number of working days is more in large-sized firms, 217 per year. Medium-sized firms provided employment of 185 days, and the small-sized firms provided 52 days.

Figure 7.3 Firm-size wise number of working days per year

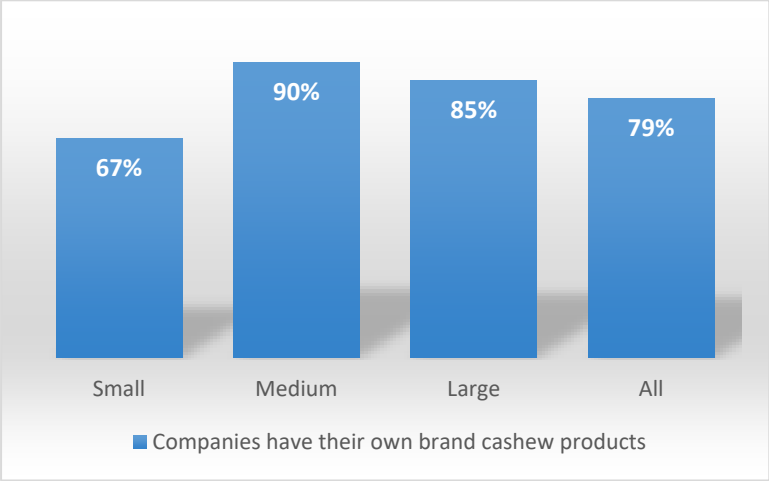


7.9 Competitiveness

The competitiveness of firms is associated with locational attributes that drive growth. Being an attractive location for investment affects prosperity indirectly and over the long run (Delgado, *et al.,* 2012). In other words, competitiveness indicates the ability of firms to produce products and services at the local and international level at a competitive price. The competitiveness of firms can only increase by increasing competition among domestic and international firms. The competitiveness of firms can be affected by factors like costs of production, and competition from domestic and international firms. In this section, we mainly analyze the competition and rivalry faced by the cashew processing firms located in Kollam region.

Private labeling of products or own brand products will help the firms to increase their competitiveness in consumer markets. It would also help the firms to optimize their profits by reducing intermediary costs. According to the survey, 79% of the cashew firms in the region reported that they have their own branded products. However, the own brand products mainly marketed in domestic markets. The firm size wise analysis reveals that 90% of the medium-sized cashew industries have their brand cashew products in the market. 85% of the large-sized firms and 67% of the small-sized firms have own brand products (Figure 7.4).

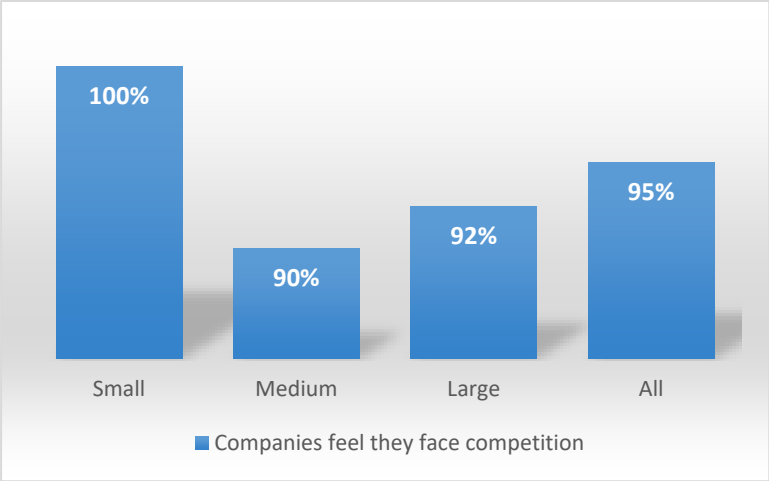
Figure 7.4 Companies reported they have own-brand cashew products in the market



7.10 National and International Competition

According to the survey data, 95% of cashew firms in the region face competition from national and international competitors. The firm size wise analysis reveals that all the small-sized firms feel tight competition at the national and international level. Most of the large-sized and medium-sized firms feel the same (Figure 7.5).

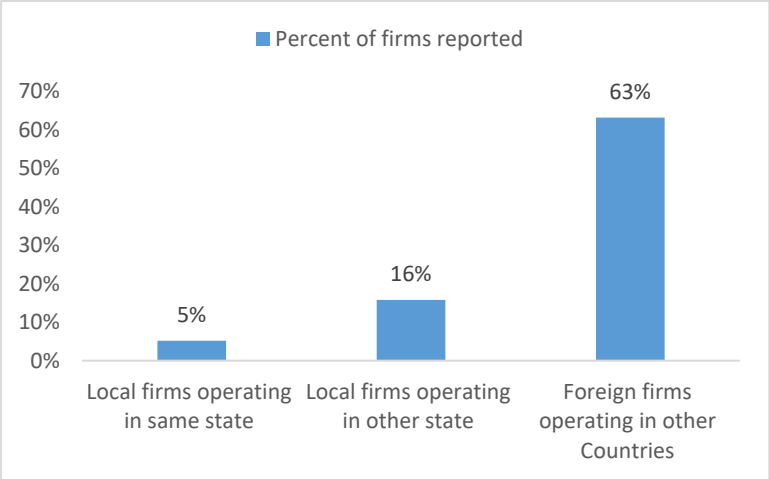
Figure 7.5 Companies felt they faced national and international competition



The major competitors of the cashew industry are foreign firms operating in other countries (Figure 7.6). 63% of the firms reported that they face severe competition from foreign firms. However, only 16% of firms reported that they face competition from the local firms in other states of India and 5% of the firms face competition from the same state. It reveals the fact that the competition of firms inside and outside of the state is relatively less, it would not make any significant

growth in the industry in the absence of local competition as economic theory says.

Figure 7.6 The major competitors of the cashew industry



The Table 7.8 demonstrates the ability of firms to compete with national and international firms. It gives insights into the competitiveness and confidence of the firms in the region in facing local and global competition. According to the survey, 60% of the small firms feel it is quite tough to compete with international firms, while 20% of the firms reported that they could stand in international competition. Furthermore, 40% of the small firms are confident in facing competition from the other states in India.

For medium-sized firms, it is tough to compete internationally, and very tough to compete with firms within the state. However, 10% of the firms think that they can withstand competition from national and international firms. Nonetheless, large firms are not confident that they can face competition from local and international firms. Among large firms, 69% of firms stated that it is *very tough* and 31% reported that *tough* to compete with international firms. No firms in the category believe that they can face competition from global companies. Furthermore, they feel that internal competition is also tough to manage. It is interesting to note that small firms are more confident in national and international competition as compared to medium and large firms. The small firms in the region believe that they have a competitive edge in cashew production as compared to national and international firms.

Table 7.8 Ability of firms to compete with national and international firms

Company Size	Competition	International Competition	Competition from other States in India
Small	Very tough to compete	60.0	26.7
	Tough to compete	13.3	33.3
	Can compete	20.0	40.0
	Can easily compete	6.7	-
	Total	*100.0*	*100.0*
Medium	Very tough to compete	30.0	60.0
	Tough to compete	60.0	30.0
	Can compete	10.0	10.0
	Total	*100.0*	*100.0*
Large	Very tough to compete	69.2	38.5
	Tough to compete	30.8	61.5
	Total	*100.0*	*100.0*

7.11 Labor Issues

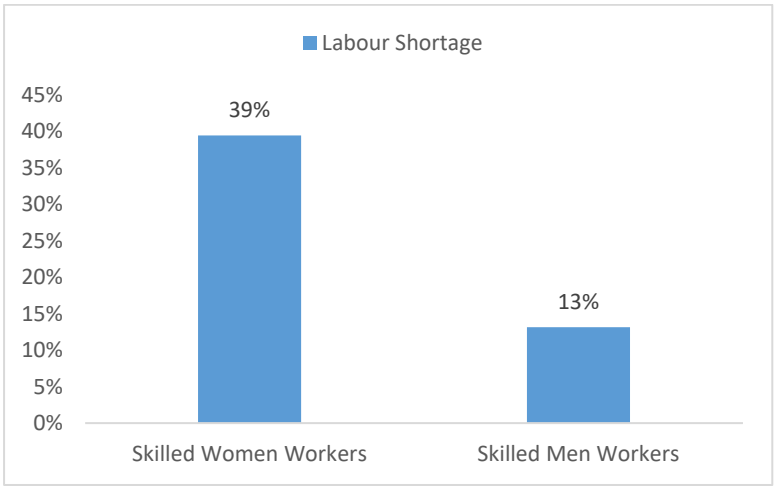
The processing of cashew as a labor-intensive industry in the region, the cost of production and competitiveness of the firms would be determined by the abundant supply of cost-effective labor. In our field survey, the major constraints raised by the entrepreneurs are expensive labor and hyperactive labor unions. Therefore, we analyzed certain labor aspects of the industry in this section.

Labor Shortage

The entrepreneurs say that the intensity of skilled women workers in the cashew processing industry makes the Indian cashews highly demanded in the international market due to the manual processing results in very less percentage of broken nuts. Therefore, the industry needs an abundant supply of women workers for various processing activities. The various stages involved in the cashew processing are roasting, shelling, drying, peeling, grading and packing. Roasting is a process to make the shell brittle and to loosen the kernel from the shell. This part of the work is mainly done by male workers. The peeling is the removal of the thin skin and the grading involves sorting of the peeled kernels into wholes, splits, broken etc., as per national and international standards and specifications. The women workers are employed in all processing activities except roasting. The processing activities like shelling, peeling, and grading are highly skill intensive. However, the entrepreneurs say that they are in a crisis of getting skilled labors these days due to various social and economic factors. According to the survey data, the cashew industry in the region currently faces a

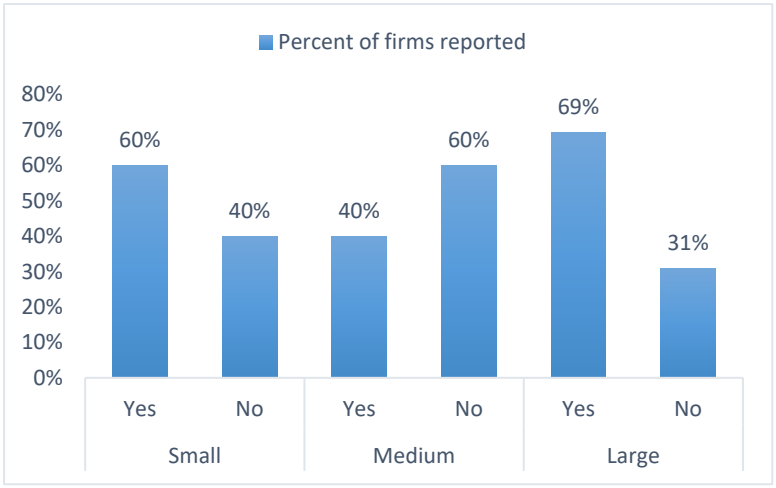
considerable shortage of skilled women workers than skilled men workers. 39% of the firms reported that they face a shortage in skilled women workers (Figure 7.7).

Figure 7.7 Labor shortage in cashew industry



Among large sized firms, 69% of the entrepreneurs observed that it is difficult to get skilled labors for various activities related to cashew nut processing. 60% of small firms also reported that they are in shortage of skilled labors in the industry, but the medium-sized companies do not feel that much deficiency in the availability of skilled workers. (Figure 7.8).

Figure 7.8 Companies experiencing difficulty in getting skilled labor



Higher Wages

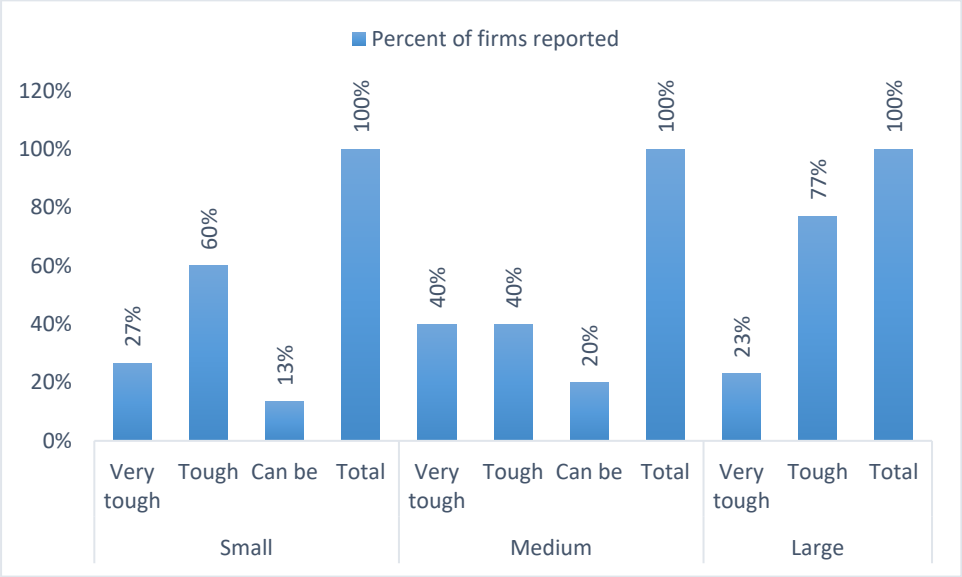
Our conversation with entrepreneurs revealed that higher wage rate and other welfare costs for workers, make severe constraints of the industry, and it is the major causes of the crisis in the sector. According to entrepreneurs, the increase

in wage rates of cashew workers of Kerala by the State Government in 2014, increased the rate of wage up to 44% including all perks. According to them, this was a destructive action from the Government. They also complained that there was no proper study done before increasing the wage to understand the real impact on the industry.

As per the survey data, 30% of the industrialist said that their firms' ability to support high wages is *very tough* and another 60% of them reported it is *tough*. However, 10% of entrepreneurs declared that they have no issues with the present wage rate.

The Figure 7.9 gives insights on firm level analysis of the high wage affordability. 60% of the small-sized firms consider it is tough to provide higher wages and salaries to its employees, while 27% considers it is very tough. Among medium-sized firms, 40% of the firms considers it is tough, and the same number says it is very tough to give higher wages to its workers. In the case of large firms, the majority of the entrepreneurs say it is tough. A small number of employers in small and medium firms say it can be possible to increase the salary of their employees.

Figure 7.9 Ability of firms to support higher wages to its employees, three years from now



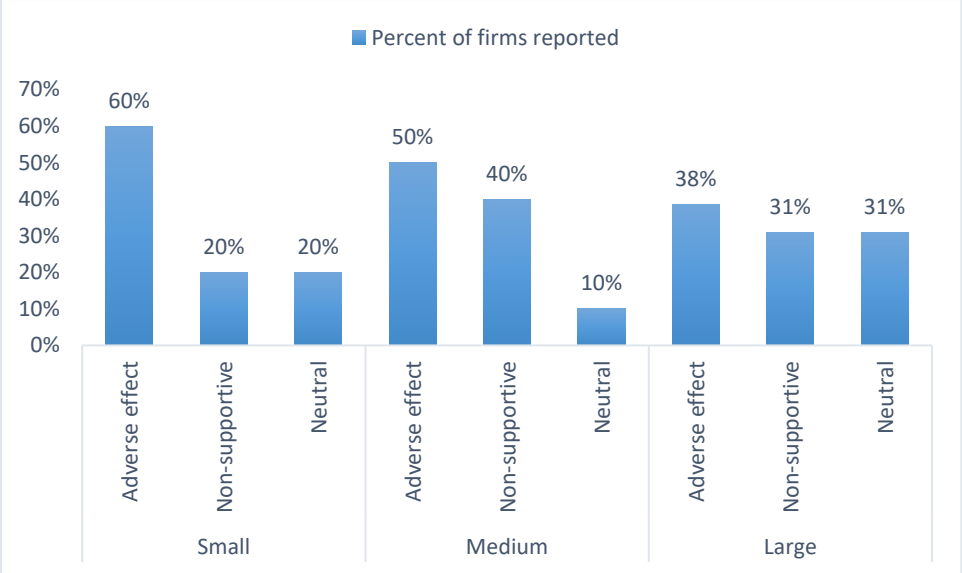
Labor Unions

We could understand from our conversation with entrepreneurs that labor unions in the industry demolished the favorable industrial environment in the cashew sector. However, most of the entrepreneurs were afraid to express it explicitly due to their fear of further issues. They mentioned that labor unions do not have any pro-industry attitude and they are not concerned about the overall development of the sector. They feel that Unions are even interfering with managerial and

business activities of the firms due to their affiliation with political parties in the State.

According to the survey data, 50% of the firms reported that the labor unions affect the industry adversely. 29% of entrepreneurs said that unions are not in support of growing the industry, and 21% mentioned that labor union role is neutral in the industry. The Figure 7.10 explains the firm size wise opinion on the matter. The majority of firms among small and medium firms reported that the labor unions' activities are non-supportive and adversely affect the industry. However, the large firms took a relatively neutral position in this regard.

Figure 7.10 Impact of Labor Unions on the cashew industry



7.12 Industrial Migration

As part of the increased cost of production and unfavorable business environment in Kerala, many of the cashew firms in the region report that they shifted their domain to other states in India. According to survey data, it is estimated that 47% of the small firms have their subsidiary units in the other states, whereas it is 46% about the large firms (Figure 7.11). Only 20% of the medium-sized firms have their units in the other states. Altogether, 39% of firms have subsidiary units outside the state. However, this is not reliable statistics as many of the big firms do not want to reveal their business in other states due to their business interests.

Furthermore, 45% of sample firms reported that they would like to relocate their business to other states in India (Figure 7.12). 53% of the small firms and 54% of the large firms in Kerala would like to shift their business to the other states, while

70% of the medium-sized firms like to do the same. It may make tremendous implications in the cashew industry in the State.

Figure 7.11 Number of companies have working units in other States of India

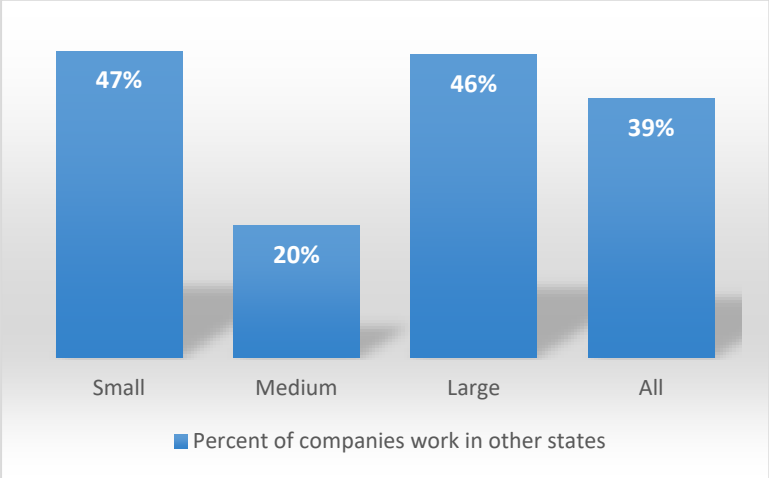
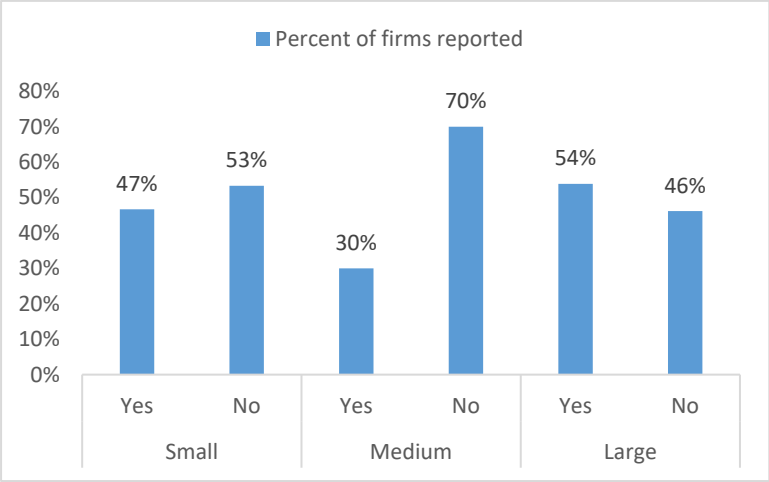


Figure 7.12 Firms in the State would like to relocate their business in other States



Reasons for Relocation

Table 7.9 lists out the major reason for relocation. We have asked certain standard questions in this regard. According to the data, the foremost reasons for the relocation of the firms in other states are the lower regulations and the supportive government policies, cheap labor availability, and quick approvals and effective bureaucracy. Also, the operating cost is much lower and there is less corruption also. From this analysis, we can clearly identify that other states in India are not good or different in many things as compared to Kerala, except certain issues

related to government policies, effective bureaucracy, cheap labor supply, and lower operating costs.

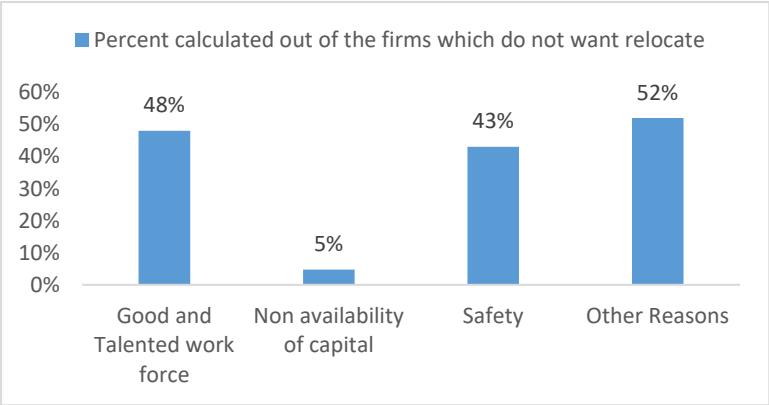
Table 7.9 Major reasons for re-location among firms which like to relocate to other States

Reasons for Relocation	Percent of firms reported
Safety	-
Low Corruption and Transparency	11.8
Lower Regulations and supportive government policies	58.8
Quick approvals and effective bureaucracy	35.3
Better Infrastructure and communication facilities	-
Larger availability of inputs like technology, labor and machinery	-
Bigger Market to cater	-
Closeness to customers	-
Lower operating costs	29.4
Good & Talented workforce	-
Lower taxes	5.9
Proximity to clusters, suppliers and related firms	-
Proximity for exports	-
Availability of capital	-
More access to natural resources	-
Cheap labor availability	58.8

7.13 Factors Which Stop to Relocate

The survey data also revealed that a handful of industries does not want to shift their cashew processing firms from Kerala to other regions. 55% of the companies mentioned that they are not interested in relocating their business from Kerala. Among them, 48% of firms reported that the reason for not relocating is due to the availability of the good and talented workforce. Another 43% of firms said that safety is the primary concern which prevents them from relocating. Likewise, 5% of firms reported that they do not have sufficient capital to start a business in other states.

Figure 7.13 Factors stop to relocate firms from the State



7.14 Technology

Our discussion with entrepreneurs reveals that the technological underdevelopment in the cashew processing industry is adversely affecting the competitiveness of the industry. According to them, Kerala lost its competitive advantage against countries like Vietnam largely due to the hesitation in adopting mechanized production practices. Studies reveal that the reasons for the rejection of adopting new technologies in production is higher level fixed investments for mechanization and the lack of institutional support (Harilal, et al., 2006). However, entrepreneurs say that non-mechanization is an outcome of trade unionism in the sector. They informed that the Government's anti-mechanization attitudes also created hurdles to adopt technologies in the sector.

According to the survey, only 5% of cashew processing factories are mechanized among sample firms. 84% of firms reported that they introduced some semi-mechanization practices in production, especially activities like roasting and shelling. They say that these are all minimal and inferior technologies as compared to advanced technologies used in Vietnam. 11% of firms reported that they still work in traditional methods of processing. 95% of the entrepreneurs are dissatisfied with the government for lacking policies that support mechanization.

7.15 Future of the Industry

Our questions regarding entrepreneurs' perspective on the future of the cashew processing industry in Kerala, 58% of entrepreneurs replied that they foresee a good future for the cashew industry in Kerala if the Government formulates appropriate policies to revive the industry. Among small firms, 53% of entrepreneurs said that they do not feel good about the future of the industry in the present business environment. However, the rate of optimism is high among medium and large firms. 70% of medium-sized firms reported that they see a good future in the cashew processing industry, and 62% of large firms believe the industry has got a good future in the State.

7.16 Summary

Under microeconomic competitiveness, we analyzed the various factors of the business environment in the state, ease of doing business, labor issues, technology adoption and the factors behind the industrial migration. Our analysis reveals that the State should formulate some immediate policy measures to address the various issues of the industrial environment in the State.

8.

Policy Suggestions and Recommendations

Regional industrial development is possible only through a tripartite agreement among the entrepreneurs, workers, and the state rather than a bipartite agreement between entrepreneurs and workers. Industrialists believe the current crisis in the cashew industry in Kerala is the end result of inconsistent policies and cognitive biases of the different stakeholders as well as the state's and unions' attitudes. Conversely, labor unions believe that the crisis is the upshot of unethical profit strategies of the industrialists. In this scenario, the state's role in making unbiased judgments in protecting the interests of both industrialists and workers is very important for the general welfare of the industry. Here, we propose some policy suggestions and mitigation actions to revive the cashew industry from the present crisis.

5.1 Reduce Production Costs

According to cashew entrepreneurs, the increased costs of production are mainly due to two reasons – the *increased wage rate of workers* and the *increased price of imported raw nuts*.

Wage Rate and Cost of Mechanization

According to industrialists, the major reason for the increased costs of production in the industry is the government's decision to increase the minimum wages of workers, which is now 35% higher than it was in 2014. The Cashew Export Promotion Council of India (CEPCI) documents report that the processing costs in Kerala of a standard 80 kg bag of raw nut is between ₹3200 to ₹3400, while it is ₹1000-₹1500 in other states, and ₹700-₹750 in other countries like Vietnam. The costs of production are low in other Indian states mainly due to low basic wages, while it is mainly due to technology intensive production practices in Vietnam. However, reducing production costs in Kerala by lowering the wage rate is not possible due to the strict labor welfare policies practiced in the state. Entrepreneurs believe mechanization is the only way out of the present crisis as it would drastically reduce productions costs and help to increase the economies of scale in production and productivity, without reducing the labor force. They say

that 40% of the workforce in the cashew-processing industry in the region are below the age of 45, and thus can be trained in technology-intensive production practices, while the other 60% can be deployed in traditional processing. This would double the production of processed nuts and productivity.

The minimum cost for automation/mechanization of a small cashew processing firm is around 38 Lakhs. However, so many of the units in Kollam region do not have financial capability to meet this cost. The mechanization can be practiced at different stages of production activities like cutting, pealing and boiling of raw nuts. The average cost of a cutting machine is around ₹ 350000. A small processing firm may need at least five cutting machines to operate. The average cost for automating the peeling stages of the cashew processing is ₹1000000, and the cost of a boiler and steam line is approximately ₹1000000. Therefore, the cost of mechanization is unaffordable to small and medium scale processing units. The machinery of the government (MoG) should provide adequate financial support to adopt new technologies in the cashew production industry. A liberal terms and conditions needs to be implemented for such financial support with transparent selection methods. Various criteria like the operational history of the firm, cash flow, organizational structure, managerial capacity, international consignments, and education of entrepreneurs could be considered for providing such financial support or grant-in-aid to acquire new production mechanization.

Cost of Imported Raw Nuts

The cost of imported raw nuts is fundamentally determined by international demand and supply, thus the role of regional governments in this regard is minimal. The raw cashew nut is the major input for the cashew processing industry and Kollam is currently dependent on imported raw nuts from the African continent. However, the imported raw nuts based industry is financially not viable due to increasing competition from global importers from African countries and the emerging domestic cashew processing industry in Africa. The only way out of this problem is strengthening domestic raw nut production. The government should formulate policies to expand the scientific cashew cultivation practices using the state's agricultural innovation system. Also, the state should take policy measures to enhance the cashew cultivation practices of existing farming institutions like the State Farming Corporation. However, we do not recommend that the government invests public money in state-owned cashew farming activities due to the non-sustainability of such farming practices.

The cashew is presently considered as a wasteland crop in Kerala, so new policies should be formulated to incentivize the cashew as a lucrative main crop in available barren areas. As part of area expansion and re-plantation of old farms with high yield varieties, the state may formulate policies to promote private

cashew plantations by providing subsidies in the same way they do for rubber plantations. Furthermore, the present institutional mechanism for incentivizing cashew cultivation is very slow to react and the activities of different institutions like DCCD, KSACC and other private investors need to be integrated and reformed.

Long-term bilateral and multilateral agreements with cashew-cultivating African countries may also reduce the risk of price inflation in international raw-nut markets. Industry associations like CEPCI should liaison with the central government to explore such opportunities. In addition, the state government and CEPCI may request that the central government facilitates duty free imports of raw cashew nuts until the industry is revived.

5.2 Make Available Adequate Working Capital and Access to Credit

Efficient access to capital is important for companies to make the long-term investments needed to raise productivity. The cashew processing factories in the region are mainly coming under the category of micro, small and medium companies (SMEs), and Access to working capital is inadequate. Public and private sector banks hesitate to give loans to cashew processors due a lack of consistent cash flow, insufficient collateral, and a weakening industry. Industrialists say that the majority of the region's processors pledge their assets like land and houses. Therefore, they may get into severe social and financial difficulties if anything adversely affects the industry. The state should take necessary actions to arrange industrial loans for weakening cashew firms with the support of central financial institutions.

5.3 Ensure a Pro-Industry Business Environment in the State

An ease-of-doing-business environment is very important for reviving the cashew industry as it competes with global companies. The business environment in the cashew industry is currently worsening due to bureaucratic red-tape and political interventions. The government should ensure a better business ecosystem in terms of ease of entry and exit. The attitude toward the industry and industrialists should be reformed and informalized. Industrialists should be considered as prominent local investors and employment-generators rather than petty capitalists. To ensure a good business environment, the state should frame policies to instigate pro-industrialist attitudes of bureaucrats, politicians, and labor unions. Furthermore, the state should take measures to eliminate the illicit nexus among industrialists, politicians, bureaucrats, and labor unions in terms of unethical business practices. As part of improving the business environment, the government may consider factors like improved quality infrastructure, liberal taxation policies, ease of access to working capital, quality bureaucracy, access to advanced technology, incentives in adopting new technologies in production,

corruption free government services, less labor activism and trade unionism, fewer political interventions, and liberal international trade policies.

5.4 Enhance the Skilled Labor Supply and Regulate Activism

Labor is the most important production factor in the cashew industry. The competitiveness of the industry in the state is mainly attributed to abundant, cheap female workers. However, the industry currently faces shortage of skilled labors as the majority of active workforce is aged above 45. This will affect the sustainability of the industry, and the state should take immediate measures to increase the skilled-labor supply in the sector. The vocational education system may be explored in this regard.

According to industrialists, the labor unions and their interventions create barriers to reviving the industry. They cite it as one of the major reasons to relocate their factories to other states with more liberal working environments. The state should take some industry friendly measures to protect the industry without impacting the welfare of poor workers. The labor laws implementing machinery should be strengthened and the welfare of cashew workers should equal that of other industrial sectors. At the same time, the state should discourage and regulate the intervention of labor unions from the day-to-day activities of the industry. If the workers have any issues or concerns, they should be heard by labor law making bodies of the government rather than participating in direct conflicts with industrialists.

5.5 Formulate a Cashew Industrial Policy (CIP)

The prevailing policies in the cashew industry are fragmented and inadequately address the multidimensional issues. Therefore, the state needs to formulate an exclusive cashew-industrial policy (CIP) to revive the industry. We can perceive the CIP in two dimensions: regional (local) policy and national policy.

The regional policy needs to address the local plans and regulations to protect the cashew cluster in the Kollam region. As part of the regional policy, we recommend that the government declares Kollam as an official cashew-industrial district in Kerala. The state may also introduce some initiatives to establish a Cashew Industrial Park in Kollam based on the model of Technology Parks in the state with the support of private investors.

Furthermore, the local plans envisaged under CIP may embody the immediate needs, values, and aspirations of the industrialists and laborers, as expressed through a process of public engagement. The MoG should identify current issues related to the crisis, patterns, and implications as well as areas where future interventions should and should not occur. Local governments and institutions

should play important roles in this regard, and they should delegate emergency managers, planners, bureaucrats, and others in the industry to prepare, coordinate, and execute revival plans with the support of the state. However, the state should ensure the consistency across such targets, policies, and strategies. While formulating policies, plans, ordinances, and regulations; the state should focus on three aspects: *incorporation of new policies into existing policies, integration of the policy outcomes with the overall industrial development in the region, and implementation of the policy actions through existing mechanisms to speed up the process*. The implementation of new policies is important because the industry is under multifaceted threats. Therefore, while executing revival plans and ordinances, the state should take special care to *implement agencies, resources, and timeframes*. This is essential in the present business environment of Kerala. The monitoring of policy implementation should be coordinated with the offices of the industry minister and the chief minister. This is because, according to cashew industrialists, the major constraints to improving the quality of the business ecosystem in the state are related to the attitudes of bureaucrats and supporting institutions.

National Cashew Policy (NCP)

The state may formulate policies to protect and incentivize the interests of cashew processors and exporters at the national level. In this regard, the state should exert pressure on the central government to bring a national level policy to promote cashew farming, cultivation, processing and its overall trade in India. The NCP may cover issues like *export incentives for exporters, raw nut import duty, unethical imports of finished kernels, scientific cultivation, and labor issues and welfare in the sector*.

5.6 Industrial Intervention and Market Innovation

As mentioned, industrial development in a region is a tripartite process. The responsibility of increased production costs and competitive disadvantages in the industry cannot be attributed to the state's policy deficiency alone. The industry should strive to reinvent itself to increase its ability to compete in the global market by enhancing production efficiency and innovation. The industrial attitude toward competitiveness is still misguided and misinterpreted as unethical profit-booking strategies. In the present scenario, the entrepreneurs of the cashew industry are relocating to neighboring states due to cheap labor availability and non-regulatory working environments. However, this kind of strategy is not sustainable for the future as the industrial regulatory environment is changing over time in different regions, according to new legislations. Therefore, the industry should focus more on sustainable strategies to increase competitiveness by adopting new technologies and market innovation.

The windfall-gain strategies and unethical business practices should be avoided in the industry by formalizing the industry and enhancing managerial capabilities. Entrepreneurs in the sector should undergo professional training in cashew-processing and international trade and any new entrepreneurs and startups should be promoted. Isolated lobbying should be avoided and the industry as a whole should move toward the development, despite the disparities between small and big entrepreneurs.

The industry should also formulate strategies to promote cashew cultivation in the state. Collective large-scale methods like group farming and corporate farming could be adopted for increasing the raw-nut supply. The domestic market for quality kernels should be expanded through marketing innovations. The potential west Asian markets should be explored using our own brand of value-added nuts. Furthermore, the industry should acquire international quality standards and Phytosanitary measures to compete with global brands. New possibilities like *organic nuts, geo-branding, ethical and environment friendly production practices, etc.* can be explored to add values to cashew products from Kollam in national and international consumer markets. The industry should also focus more on the extraction of cashew nut shell liquid and Cardanol. Mechanization is important for this and it would generate additional revenue for the industry.

5.7 Institutional Intervention and Innovation

Kerala has adopted various institutional mechanisms to promote and protect cashew production, processes, trade, and employment. However, these institutions function in isolated environments, and activities are fragmented in the absence of collective interventions and common objectives. The integrated and collaborative actions of institutions can generate innovation in industrial sectors and draw out sectoral-innovation systems (Pavitt, 1984; Malerba, 2002). However, the fragmentation in their activities and bureaucratic red-tape restricts the potential innovation in the sector.

The Kerala State Agency for the Expansion of Cashew Cultivation (KSACC) and the Directorate of Cashew and Cocoa Development (DCCD) are the two agencies responsible for expanding cashew cultivation and production in the state. However, our research and discussions with officials of these institutions indicate that they are underperforming due to a lack of appropriate policies and monitoring mechanisms. The activities of KSACC and DCCD need to be integrated with cashew industrial organizations like the CEPCI to enhance production and productivity of cashew cultivation in the state. These institutions should formulate their working plans according to industrial demands and market insights.

The Kerala Cashew Board (KCB) is the agency responsible for procuring and importing raw cashew nuts, and redistributing them to domestic processors at fair prices. However, the industrialists in the region do not appreciate the activities of KCB due to its political affiliations and malpractices. Even though the CEPCI protects the interests of cashew processors and exporters, there is a general apprehension that it does not represent the interests of the whole industry in the state. In this scenario, we recommend the integration and collective actions of all these institutions to move toward the general welfare of the industry.

5.8 Reform the Public Sector Cashew Industry in Kerala

Two public sector factories are involved in the cashew processing industry in Kerala. The first one, the Kerala State Cashew Development Corporation (KSCDC), was established in 1969 under the ownership of the government of Kerala. The major aim was to protect the interests of workers and provide maximum employment with statutory benefits. Furthermore, to increase the production of indigenous raw nuts with the aim of increasing total working days, the KSCDC began cashew plantations in the state. According to available statistics, 30 factories are currently operating under KSCDC with approximately 21,500 employees. However, the company is undergoing a severe financial crunch and is currently operating under the charity of the government. The accumulated loss of the company is 1181.89 Crores as of 2017. According to our estimates based on State Planning Board (SPB) statistics, the average loss per worker at KSCDC is approximately ₹70003 per year. This indicates how much money the government spends per year to retain an employee at KSCDC. Furthermore, the auditors' reports reveal that the company is not following any accounting standards as per the prevailing national Companies Act and it should take immediate measures to strengthen the internal control procedures for the purchase of inventory, fixed assets, and sale of goods, according to the size of the company and the nature of business.

The second public company involved in cashew processing and trade is the Kerala State Cashew Workers Apex Industrial Co-operative Society Ltd (CAPEX). CAPEX was founded in 1984 to work as an apex society to take care of the operations of the 10 primary co-operative societies under the Government of Kerala. It procures raw nuts, distributes them to the primary societies, and processes and markets the kernels. Ten factories work under CAPEX with 5,000 employees as of 2018. The CAPEX is also undergoing tremendous operational losses and only sustains the industry with the support of public money. The average loss at CAPEX per worker is ₹11257.

In this scenario, the government should take immediate actions to reform the present production and marketing practices of the public sector companies with

the support of private sector investors. Companies should also focus more on exploring domestic and international consumer markets and retail chains to distribute their value added cashew products. However, the companies should also improve their quality of products according to global food quality standards. The government should initiate independent studies to inspect issues in the sector and to formulate reforming strategies to be adopted.

Appendix

English Questionnaire

The Causes of Abating Cashew Industry Cluster in Kollam

Section A: General Information

A1. Name of Firm or Company:
A3. Location
A5. Name of the Respondent:
A6. Designation:
A7. Firm/Company Size: Number of Full time employees:
Number of part-time employees:
Number of Full time women employees:
Number of part time women employees:
A8. Year of Establishment:
A9. Share of foreign ownership or investment (If any):
A10. Total Revenues of the company (2017 in Lakhs):
A11. Total quantity of cashew nuts sold internationally (In MT in year 2017):
A12. Total quantity of cashew nuts sold domestically (In MT in year 2017):
A13. Legal set-up of the Company, Tick from the option below

a.) Single Proprietorship
b.) Partnership
c.) Cooperative
d.) Corporation, privately held
e.) Corporation, listed on stock exchange
f.) Others, specify

A14. Activities involved in this unit?

1. Shelling
2. Cutting
3. Peeling
4. Grading
5. Packing
6. Steaming
7. Roasting
8. CNSL extraction
9. Exporting
10. Domestic trade
11. Others, Please mention_____

A15. Whether your unit is currently working? [1.Yes 2.No] If No, Why

A16. In general, how many days work your unit per year?

A17. Does your firm operate in other countries? [1.Yes 2.No] If Yes, write details

A18. Does your firm operate in other States? [1.Yes 2.No] If Yes, write details

A19. Does your firm face national/international competition? [1.Yes 2.No] If Yes, write details

A20. Do you sell nuts in your own brands in the local/internatinal market? [1.Yes 2.No] If Yes, write details

A21. Any other interesting details, please explain

B: State-level Business Environment

B1. How do you rate the different components of business environment of your state for your industry mentioned in the table below?

	Very Poor (Needs urgent attention)	**Poor** (Doesn't require urgent attention but needs attention in near future)	**Satisfactory** (No need to concern at present but will need attention in future)	**Good** (Doesn't require any attention in future)	**Excellent** (No need to concern at all)
Presence of Quality Infrastructure (Roads, Railways, Airports and ports)					
Tele-communication Facilities (Internet, phone)					
Taxation Policy (Corporate tax, Excise, VAT & other indirect taxes)					
Availability of talent labor					
Availability of cheap labor force					
Access to capital					
Innovation (Ease of getting Patents & Trademarks, support from research institutions and scientists)					
Environmental Regulations					
Regulatory Framework (Company Laws and Other Binding laws for operating a business)					
Ease of Land Acquisition					
Quality of Bureaucracy					
Availability of advanced Technology					
Presence of raw-material suppliers and other related industrial clusters					
Availability of logistics partners and other service providers required to run the business smoothly					

	Very Poor (Needs urgent attention)	**Poor** (Doesn't require urgent attention but needs attention in near future)	**Satisfactory** (No need to concern at present but will need attention in future)	**Good** (Doesn't require any attention in future)	**Excellent** (No need to concern at all)
Stability and effectiveness of the political system					
Crime-free environment, Security and effectiveness of legal system					
Corruption in the government system					
Presence of sophistication in firm management, making strategies, management practices and effective management skills					
Electricity, Power (Availability)					
Government support in exports and marketing outside the country					
Presence of Industry body (Supportive, effective in convincing government to make supportive policies)					
Quality control measures (Technical assistance, government support and ease of getting certifications)					
Availability of universities, training facilities and vocational training centers					
Ease of closing down the business					

B2. What do you feel about the different components of the business environment of your state for your industry mentioned in the table below in the context of last five years?

	Declining	**No Change**	**Improving**
Presence of quality Infrastructure (Roads, Railways, Air and ports)			
Tele-communication Facilities (Internet, phone)			
Taxation Policy (Corporate tax, Excise, VAT & other indirect taxes)			
Availability of talent labor			
Availability of cheap labor			
Access to capital			
Innovation (Ease of getting Patents & Trademarks, research institutions and scientists)			
Environmental Laws			
Regulatory Framework (Company Laws and Other Binding laws for operating a manufacturing business)			
Ease of Land Acquisition			
Quality of Bureaucracy			
Availability of advanced Technology			
Presence of raw-material suppliers and other related industrial clusters			
Availability of logistics partners and other service providers required to run the business smoothly			
Stability and effectiveness of political system			
Lack of transparency, protection of property and intellectual property			
Crime-free, Security and effectiveness of legal system			
Corruption in the government system			
Presence of sophistication in firm management, making strategies, management practices and effective management skills			
Power Supply (Availability)			
Government support in exports and marketing outside the country			
Presence of Industry body (Supportive, effective in convincing government to make supportive policies)			
Quality control measures (Technical assistance, government support and ease of getting certifications)			

Availability of universities, training facilities and vocational training centers			
Ease of closing down the business			

B3. What do you feel about the ability of firms operating in your state and industry to compete in global market place, three years from now?

a.) Very Tough to compete
b.) Tough to compete
c.) Can compete
d.) Can easily compete
e.) Very easily compete

B4. What do you feel about the ability of firms operating in your state and industry to compete in other Indian states, three years from now?

a.) Very Tough to compete
b.) Tough to compete
c.) Can compete
d.) Can easily compete
e.) Very easily compete

B5. What do you feel about the ability of firms operating in your state and industry to support high wages and salaries to its employees, three years from now?

a.) Very tough
b.) Tough
c.) Can be
d.) Easy
e.) Very Easy

B6. Are you optimistic about the future growth of your cashew business and industry in your state?

1. Yes 2. No

B7. Why you are/aren't optimistic about the future growth of business & industry in your state? (Please Answer in Points below)

B8. Are you experiencing difficulty in getting skilled labor? 1. Yes 2. No

B9. Please rank the shortage of skills mentioned in table below in the ascending order, 1 being the most required.

Skills Shortage	**Rank**
Technicians	
Marketing	
Administration & Management	
Accounting	
Skilled Women Workers	
Skilled Men Workers	
Others, Please mention	

B10. Does any labor union exist in your industry or area which is also affecting your business and operations? 1. Yes 2. No

If Yes, go to next question else switch to B12

B11. How do you see the labor union in context of your cashew business and industry?

a.) Adverse effect
b.) Non-supportive
c.) Neutral
d.) Supportive
e.) Very supportive

B12. Who are main competitors for your business, rank in the ascending order, 1 being the biggest competitor.

Foreign firms operating in India	
Local firms operating in same state	
Local firms operating in other state	
Firms at national level or operating from other states	
Foreign firms operating in other Countries	
Others (explain)	

B13. How much time do you spend in dealing with the following requirements, as mentioned in the table below?

	Less than a Month	1-3 Months	4-6 Months	7-12 Months	1-2 Years	2-3 Years	3-5 Years	More than 5 Years
Taking all required approvals from government to start new business or expanding new business related to cashew								
Dealing with government officials over regulatory requirement								
Clearing all environmental regulations								
Acquire a new land for business								
Taking permission for exports								
Taking permission for imports								
Registering a property								
Enforcing a legal contract								
Closing a Business								

B14. What is the total number of approvals which you need to take for the following requirements, as mentioned in the table below?

Opening or Starting a new business	
Environmental Regulations	
Acquiring land and take construction permission	
Registering property or land	
Exports	
Imports	
Enforcing a legal contract	
Closing a Business	

B15. Please mention the following answers in the space provided in right coloum, as mentioned in the table below.

% of total cost incurred in meeting all the regulations	
Interest rate at which loan is available or taken	
Total tax Paid (Including all direct and indirect taxes) (in %)	
Cost of Raw-Material/ Total Cost (In %)	
Power Cost/ Total Cost (In %)	
Logistics Cost/ Total Cost (In %)	
Total cost incurred for registering a business	
Total cost incurred in registering a property	
Total cost incurred in enforcing a legal contract	
Total cost incurred in taking export permit	
Total cost incurred in taking import permit	
Total cost incurred in meeting all laws and regulations while closing down the business.	

B16. Are you looking to relocate your some or all business activities to other states?
1. Yes 2. No
If Yes, go to next question else switch to B21.
B17. Which are the states which you are considering to relocate your business activities? Please mention the name to top two states and the locations below

B 17.1

B 17.2

B18. Which of the following factors mentioned below plays a critical role in considering (the name of states mentioned in the above question) to relocate your business activities?

a.) Safety
b.) Low Corruption and Transparency
c.) Lower Regulations and supportive government policies
d.) Quick approvals and effective bureaucracy
e.) Better Infrastructure and communication facilities
f.) Larger availability of inputs like technology, labor and machinery
g.) Bigger Market to cater
h.) Closeness to customers
i.) Lower operating costs
j.) Good & Talented workforce
k.) Lower taxes
l.) Proximity to clusters, suppliers and related firms
m.) Proximity for exports
n.) Availability of capital
o.) More access to natural resources
p.) Cheap labour availability
q.) Others, please specify_____

Repeat the question for all two states mentioned in B17.

B19. Which of the following activities from the list below you wish to relocate from your current state?

a.) Human Resource Management
b.) Production/processing cashew nuts
c.) Customer Support
d.) Marketing
e.) Procurement
f.) Distribution
g.) Research & Development
h.) Others, _____

B20. How many net jobs will be created from the business activities that are planned to be or will be relocated as mentioned in B19?

a.) Less than 100
b.) Between 100 and 1000
c.) More than 1000

B21. Which of the following factors from the list below stops you to relocate your business activities from your current state?

1. Safety
2. Low Corruption and Transparency
3. Lower Regulations and supportive government policies
4. Quick approvals and effective bureaucracy
5. Better Infrastructure and communication facilities
6. Larger availability of inputs like technology, labor and machinery
7. Bigger Market to cater
8. Closeness to customers
9. Lower operating costs
10. Good & Talented workforce
11. Lower taxes
12. Proximity to clusters, suppliers and related firms
13. Proximity for exports
14. Availability of capital
15. More access to natural resources
16. Others, please specify_____

B22. Do you have any quality certification, If Yes please mention below

_____

B23. How do you rate the technology your firm is using currently?

a.) Outdated
b.) Latest available in the market
c.) Upcoming in Future
d.) No Idea

B24. Do you get adequate support from the government for technological up-gradation?

1. Yes. 2.No

B25. If Yes, Please mention about the kind of support (Incentives, rebates, tax holidays etc)

B26. If No, what kind of support do you need from the Government for technological upgradation?

B27. How do you rate the cost of the following items as mentioned in the table below?

	Very Economical	Economical	Reasonable	Expensive	Very Expensive
Raw-materials (which are sourced locally)					
Raw-materials which are imported (Sourced Internationally)					
Technology					
Skilled Labor					
Power					
Other Fuels like Coal etc					
Machinery					
Land					
Certifications and Quality control measures					
Marketing and Selling (Domestic Market)					
Marketing for getting exports order (Serving International Markets)					
Logistics					
Access to capital					

B28. For your firm, what is the biggest bottleneck in growth and stopping you to create more employment opportunities in your state?

B29. What is one of the most important factor that is killing your state's competitiveness in your cashew industry?

B30. Which one specific change would you like from the Government that will help in the ease of doing business and improve overall competitiveness of your industry in your state?

B31. What action or particular strategy would you adopt to improve your firm's competitiveness?

B32. According to you, which one action firms in your state should take to improve the business environment and overall competitiveness of the state?

B33. What initiatives/policies of the state government do you feel are helping in increasing the competitiveness of your industry sector and exports?

If you have any additional information/comments to improve the business ecosystem of cashew in India, please explain

Malayalam Questionnaire

പഠനം: കൊല്ലം പ്രദേശത്തെ കശുവണ്ടിവ്യവസായ മേഖലയിലെ നിലവിലെ പ്രശ്നങ്ങളും പരിഹാരമാർഗ്ഗങ്ങളും

A.	**തിരിച്ചറിയൽ**
1.	സ്ഥാപനത്തിന്റെ പേര്, സ്ഥലം, ആരംഭിച്ച വർഷം
2.	വ്യവസായിയുടെ പേര്, പ്രായം, വിദ്യാഭ്യാസം, ഈ രംഗത്തെ അനുഭവ പരിചയം (വർഷത്തിൽ)
3.	സ്ഥാപനത്തിന്റെ വാർഷിക ഉത്പാദനം: അളവിലും (MT) തുകയിലും (Lakhs)
4.	ഈ സ്ഥാപനം പൂർണ്ണമായും കയറ്റുമതി ലക്ഷ്യമാക്കി പ്രവർക്കുന്നതാണോ? [അതെ/അല്ല] വിശദീകരിക്കുക
5.	കശുവണ്ടി കയറ്റുമതി ചെയ്യപ്പെടുന്ന രാജ്യങ്ങൾ
6.	കേരളത്തിനു പുറത്തു താങ്കൾക്കു കശുവണ്ടി വ്യവസായ സ്ഥാപങ്ങൾ ഉണ്ടോ? ഉണ്ടെങ്കിൽ എവിടെ? വിശദീകരിക്കുക.
B.	**തോട്ടണ്ടി ലഭ്യതയുമായ് ബന്ധപ്പെട്ട പ്രശ്നങ്ങൾ പരിഹാരമാർഗ്ഗങ്ങൾ**
1.	കഴിഞ്ഞ വർഷം ആകെ വാങ്ങിയ തോട്ടണ്ടിയുടെ അളവും തുകയും
2.	ആകെ ആവശ്യമുള്ള തോട്ടണ്ടിയുടെ എത്ര ശതമാനം ഇറക്കുമതി ചെയ്യുന്നു? എവിടെ നിന്നും ഇറക്കുമതി ചെയ്യുന്നു (രാജ്യങ്ങൾ)? ആരുവഴി ഇറക്കുമതി ചെയ്യുന്നു?
3.	തദ്ദേശീയമായ് വാങ്ങുന്ന തോട്ടണ്ടിയുടെ അളവും, തുകയും. അവ എവിടെ നിന്നും വാങ്ങുന്നു?
4.	തോട്ടണ്ടിയുമായ് ബന്ധപ്പെട്ടു സർക്കാർ ഏജൻസികളിൽ നിന്നു എന്തെങ്കിലും സഹായങ്ങൾ ലഭ്യമാകുന്നുണ്ടോ? [ഉണ്ട്/ഇല്ല]. വിശദീകരിക്കുക

5.	തോട്ടണ്ടിയുമായ് ബന്ധപ്പെട്ടു സർക്കാർ ഇതര ഏജൻസികളിൽ നിന്നു എന്തെങ്കിലും സഹായങ്ങൾ ലഭ്യമാകുന്നുണ്ടോ? [ഉണ്ട്/ഇല്ല]. വിശദീകരിക്കുക
6.	കൊല്ലം പ്രദേശത്തു നിന്നും കശുവണ്ടി വ്യവസായം മറ്റു സംസ്ഥാനങ്ങളിലേക്ക് കുടിയേറുന്നതിനുള്ള പ്രധാന കാരണം തോട്ടണ്ടിയുടെ ലഭ്യതയുമായ് ബന്ധപ്പെട്ടതാണോ? [അതെ/അല്ല] വിശദീകരിക്കുക.
7.	തോട്ടണ്ടിയുടെ ലഭ്യതയുമായ് ബന്ധപ്പെട്ട പ്രധാന വിഷയങ്ങൾ താങ്കളുടെ അഭിപ്രായത്തിൽ/അവയുടെ പരിഹാര മാർഗ്ഗങ്ങൾ
C.	**വ്യവസായവുമായ് ബന്ധപ്പെട്ട പ്രശ്നങ്ങൾ പരിഹാരമാർഗ്ഗങ്ങൾ**
1.	കശുവണ്ടി വ്യവസായവുമായ് ബന്ധപ്പെട്ട ഏതെല്ലാം മേഖലകളിൽ താങ്കളുടെ സ്ഥാപനം പ്രവർത്തിക്കുന്നുണ്ട്? i.e. Shelling, Cutting, Peeling, Grading, Packing, Steaming, Roasting, CNSL extraction, etc.
2.	കശുവണ്ടി വ്യവസായവുമായ് ബന്ധപ്പെട്ട ഏതെല്ലാം സർക്കാർ ഏജൻസികളെ താങ്കൾക്കറിയാം? അവയിൽ നിന്നു താങ്കൾ എന്തെങ്കിലും സഹായങ്ങൾ സ്വീകരിച്ചിട്ടുണ്ടോ?
3.	കശുവണ്ടിയുടെ ഉത്പാദനവുമായ് ബന്ധപ്പെട്ട ആധുനിക സാങ്കേതികവിദ്യകൾ താങ്കൾ സ്ഥാപനത്തിൽ നിലവിലുണ്ടോ? [ഉണ്ട്/ഇല്ല]. വിശദീകരിക്കുക.
4.	ഉല്പാദനവും, കാര്യക്ഷമതയും വർദ്ധിപ്പിക്കുന്നതിനായ് എന്തെല്ലാം നൂതന ആശയങ്ങളും, സാങ്കേതിക വിദ്യകളും താങ്കൾ നടപ്പിലാക്കിയിട്ടുണ്ട്? അതിനായ് കഴിഞ്ഞ ഒരു വർഷം താങ്കൾ ചിലവാക്കിയ തുകയെത്ര? കഴിഞ്ഞ അഞ്ചു വർഷത്തിനുള്ളിൽ ചിലവാക്കിയ തുകയെത്ര (വിശദീകരിക്കുക)
5.	കശുവണ്ടി വ്യവസായത്തിനാവശ്യമായ സാങ്കേതികവിദ്യകൾ ലഭ്യമാക്കുന്നതിനു സർക്കാർതലത്തിലോ, സർക്കാർ ഇതര ഏജൻസികളിൽ നിന്നോ കഴിഞ്ഞ അഞ്ചു വർഷത്തിനുള്ളിൽ എന്തെങ്കിലും സഹായങ്ങൾ ലഭിച്ചിട്ടുണ്ടോ? വിശദീകരിക്കുക.
6.	കശുവണ്ടി വ്യവസായം തുടങ്ങുന്നതിനും, വിപുലീകരിക്കുന്നതിനും ആവശ്യമായ സഹായങ്ങൾ സർക്കാർതലത്തിലോ, സർക്കാർ ഇതര ഏജൻസികളിൽ നിന്നോ കഴിഞ്ഞ അഞ്ചു വർഷത്തിനുള്ളിൽ ലഭിച്ചിട്ടുണ്ടോ? വിശദീകരിക്കുക.

7.	കശുവണ്ടി വ്യവസായത്തിനാവശ്യമായ സാങ്കേതിക വിദ്യകൾ താങ്കൾക്കു എങ്ങനെയാണ്, എവിടെ നിന്നാണ് ലഭ്യമാകുന്നത്? അതിനുള്ള സാമ്പത്തിക സഹായം എങ്ങനെയാണ് സ്വരൂപിക്കുന്നത്? വിശദീകരിക്കുക
8.	വ്യവസായത്തിന്റെ വിപുലീകരണത്തിനു താങ്കൾക്ക് താൽപര്യമുണ്ടോ? ഏതു മേഖലയിലാണ് വിപുലീകരണം ഉദ്ദേശിക്കുന്നത്? വിശദീകരിക്കുക
D.	**കയറ്റുമതി മേഖലയുമായ് ബന്ധപ്പെട്ട പ്രശ്നങ്ങൾ പരിഹാരമാർഗ്ഗങ്ങൾ**
1.	ആർക്കാണ് താങ്കൾ കഴുവണ്ടി വിൽക്കുന്നത്? Eg. രാജ്യങ്ങൾ, വിദേശ ഏജന്റുമാർ, സൂപ്പർമാർക്കെറ്റുകൾ, etc. വിശദീകരിക്കുക
2.	കയറ്റുമതി ചെയ്യപ്പെടുന്ന കശുവണ്ടിയുടെ അളവും വിലയും (വാർഷിക ശരാശരി കഴിഞ്ഞ അഞ്ചു വർഷത്തിന്റെ അടിസ്ഥാനത്തിൽ)
2.	ഇവരുമായുള്ള സാമ്പത്തിക ഇടപാടുകളിലുള്ള പ്രധാന പോരായ്മളും, പ്രശ്നങ്ങളും വിശദീകരിക്കുക
3.	CEPCയുടെ പ്രവർത്തനങ്ങളിൽ താങ്കൾ സംതൃപ്തനാണോ? അതെ/അല്ല വിശദീകരിക്കുക
4.	ഏതു തുറമുഖം വഴിയാണ് താങ്കൾ കശുവണ്ടി കയറ്റി അയയ്ക്കുന്നത്? കാരണങ്ങൾ വിശദീകരിക്കുക
5.	കൊല്ലം മേഖലയിൽ നിന്നുമുള്ള കശുവണ്ടി കയറ്റുമതി കൂടുതൽ മെച്ചപ്പെടുത്തുന്നതിന് താങ്കളുടെ നിർദ്ദേശങ്ങൾ എന്താണ്?
E.	**തൊഴിൽ മേഖലയുമായ് ബന്ധപ്പെട്ട പ്രശ്നങ്ങൾ പരിഹാരമാർഗ്ഗങ്ങൾ**
1.	താങ്കളുടെ സ്ഥാപനത്തിലെ ആകെ തൊഴിലാളികളുടെ എണ്ണം.
	സ്ത്രീകൾ: പുരുഷന്മാർ: സ്ഥിരം തൊഴിലാളികൾ: താൽകാലിക തൊഴിലാളികൾ: തദ്ദേശിയ തൊഴിലാളികൾ: അന്യ സംസ്ഥാന തൊഴിലാളികൾ:
2.	താങ്കൾക്ക് വ്യവവസായത്തിനാവശ്യമായ തൊഴിലാളികളുടെ ക്ഷാമമുണ്ടോ? ഉണ്ട്/ ഇല്ല. വിശദീകരിക്കുക
3.	തൊഴിലാളികളുടെ ദിവസക്കൂലി എത്ര – സ്ത്രീകൾ, പുരുഷന്മാർ - വിവിധ പണികളുടെ അടിസ്ഥാനത്തിൽ - വിശദീകരിക്കുക

	Shelling (m/f): Cutting (m/f): Peeling (m/f): Grading (m/f): Packing (m/f): Steaming (m/f): Roasting (m/f):
4.	തൊഴിലാളികളുമായ് ബന്ധപ്പെട്ട എന്തെല്ലാം പ്രശ്നങ്ങളാണ് ഇപ്പോൾ കൊല്ലം പ്രദേശത്ത് നിലവിലുള്ളത്? അത്തരത്തിലുള്ള പ്രശ്നങ്ങൾ എങ്ങനെ പരിഹരിക്കാം, താങ്കളുടെ അഭിപ്രായത്തിൽ
5.	കൊല്ലം പ്രദേശത്തു നിന്നും കശുവണ്ടി വ്യവസായം മറ്റു സംസ്ഥാനങ്ങളിലേക്ക് കുടിയേറുന്നതിനുള്ള പ്രധാന കാരണം തൊഴിലാളികളുടെ ലഭ്യതയുമായ് ബന്ധപ്പെട്ടതാണോ? [അതെ/അല്ല] വിശദീകരിക്കുക.
F.	**കൊല്ലം പ്രദേശത്തു നിന്നും കശുവണ്ടി വ്യവസായം മാറുന്നുന്നതിനുള്ള കാരണങ്ങൾ**
1.	കൊല്ലം പ്രദേശത്തു നിന്നും മറ്റു സംസ്ഥാനങ്ങളിലേക്ക് കശുവണ്ടി വ്യവസായം മാറുന്നത് താങ്കളുടെ ശ്രദ്ധയിൽപ്പെട്ടിട്ടുണ്ടോ? ഉണ്ട്/ഇല്ല. വിശദീകരിക്കുക
2.	മാറുന്നുണ്ടെങ്കിൽ അതിനുള്ള പ്രധാന കാരണങ്ങൾ താങ്കളുടെ അഭിപ്രായത്തിൽ എന്താണ്?
3.	താങ്കളുടെ അഭിപ്രായത്തിൽ കൊല്ലം പ്രദേശത്ത് കശുവണ്ടി വ്യവസായം വളരാൻ ഭാവിയിൽ സാധ്യതയുണ്ടോ? ഉണ്ട്/ഇല്ല. വിശദീകരിക്കുക
4.	താങ്കളുടെ അഭിപ്രായത്തിൽ കശുവണ്ടി വ്യവസായത്തിന് അനുയോജ്യമായ അന്യസംസ്ഥാന പ്രദേശങ്ങൾ ഏതൊക്കെയാണ്? കാരണങ്ങൾ വിശദീകരിക്കുക.
5.	താങ്കളുടെ അഭിപ്രായത്തിൽ കൊല്ലം പ്രദേശത്തെ കശുവണ്ടി വ്യവസായത്തിന്റെ വളർച്ചയ്ക്ക് സർക്കാർ ഏജൻസികൾ ചെയ്യേണ്ട പ്രവർത്തങ്ങൾ എന്തൊക്കെയാണ്? വിശദീകരിക്കുക.
6.	താങ്കളുടെ അഭിപ്രായത്തിൽ കൊല്ലം പ്രദേശത്തെ കശുവണ്ടി വ്യവസായത്തിന്റെ വളർച്ചയ്ക്ക് സ്വകാര്യ ഏജൻസികളും വ്യവസായികളും ചെയ്യേണ്ട പ്രവർത്തങ്ങൾ എന്തൊക്കെയാണ്? വിശദീകരിക്കുക.
7.	ചോദ്യകർത്താവിന്റെ നിരീക്ഷണങ്ങൾ

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