Issues and Challenges of Cashew Industry in Kerala

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DECLARATION

I hereby declare that this research report entitled "Issues and Challenges of Cashew Industry in Kerala" is an authentic record of the research work carried out by me under the guidance of Dr. Jayan Jose Thomas, Member, Kerala State Planning Board, for the Internship Programme 2017-18. No part of it has previously formed the basis for the award of any degree, diploma, associate ship, fellowship or any other similar title or recognition of any other University or Institution.

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Abstract

Cashew industry is an agro-based industry. Due to presences of low technology in the processing of Cashewnut categories the industry to be under traditional industry. The study tries to analyze the issues and challenges faced by the cashew industry in Kerala along with which the current scenario of cashew industry is also covered in this research study. The study by making possible suggestions to the issues and challenges that exist in the cashew sector.

1. Introduction

Cashew is a native of tropical America from Mexico to Peru and Brazil and also the West Indies. The Portuguese, four centuries ago, along with them bought the priceless nut tree to the Indian coasts in order to control soil erosion on the coasts. Cashew trees spread across the entire coastal region of India rapidly and many plantations came up with the deep rooted cashew trees. The cashew crop was adapted to the Indian soil and felt more homely than its homeland. Cashew was firstly introduced in Goa and from there it spread to other parts of the country's west and east coasts, especially in the states of Kerala, Tamil Nadu, Karnataka and Andhra Pradesh (Sham Singh et al., 1963). Early it was used for afforestation and for the purpose of preventing erosion, but from the early 60s, the cashew plantation began develop showing the character of commercialization. Marginal land and denuded forests landed were used as a part of commercial exploitation.

The word 'cashew' is derived from the Portuguese name for the nut 'caju', which was adopted by them from the native name 'acuju'. The cashew is a low, sprawling evergreen tree with a gnarled or twisted trunk, possessing alternate, simple, leathery, oval glabrous leaves (10-12.5 cm long, 5-10 cm wide) that are rounded and often notched at the apex. The wood of the tree exudes a yellow gum. The flowers are borne in clusters on lax terminal panicles at the end of

the branches. The fruit consists of a soft, shiny, pear-shaped, swollen, juicy basal portion or hypo carp, commonly known as cashew apple. In fact, the swollen peduncle and receptacle is reddish or yellow in color when ripe. The cashew apple bears at its summit a kidney-shaped, single-seeded nut with a hard, grey-green pericarp or shell. This true fruit attains its full size before the enlargement of the receptacle. The shell of the nut contains an acrid juice or sap that causes severe irritation of the skin resulting in painful blisters. The seeds are exalbuminous with reddish brown testa, two large white cotyledons and a small embryo. They are inedible when raw and must be cooked or roasted to drive off the volatile oil before it is opened or shelled.

In the field of international development, cashew cultivation has attracted considerable interest from the development agencies, producers, governments and advocates of sustainable economic and environmental development. As a resilient and drought resistant tree that is adaptable to poor soil conditions, it offers environmental benefits in the fight to combat deforestation and soil erosion. Most importantly, its Cultivation and exploitation are regarded as economically promising for both rural growers and urban industrial processors in terms of employment generated and value added to emerging economies.

1.1 Cashew Industry

Cashew Industry is an export oriented traditional industry that helps to generates foreign exchange to build up the share of the gross domestic product of the country. Cashew industry is an agro-based industry. Due to presences of low technology in the processing of Cashewnut categories the industry to be under traditional industry. Cashewnut was brought to India in the 16^{th} century, small-scale market interactions were carried out in the domestic Cashewnut market which includes collection of cashews from villages and distribution among small-scale processors. The economic importance of cashew industry came to be visible only by 1920s with the export of 10,160 tonnes of nuts to U.S.A. The first commercial cashew processing unit

was started at Mangalore (present day Karnataka). In 1925, Mr. Swaminathan, A native of Tamil Nadu, started the first cashew processing industrial unit in Kollam in Kerala by that the business started and Kollam later became the center of the trade.

In 1925, industrialist Joseph Periera started first Cashewnut factory in Kollam with modern methods of roasting. Factories began to get started after that due to the profitability in the cashew industry and also other factors like availability of raw Cashewnut, low wages, railway and harbor facilitated the growth of cashew processing units in Kollam. Initial they began as small scale units but at present they have become large-scale units of Kerala. India exports about 90 percent of the processed Cashewnut to other countries of which Kerala accounts 60 % of the raw nuts and about 85-95 percent of the total export of the cashew kernels which clearly shows the significance of Kerala in the Cashew Industry. And in Kerala, Kollam is having a high concentration of these industries.

1.2 Present Status of Cashew Industry

The nature of cashew industry have been unpredictable over the years. From an industry which exported 250 metric tonnes of cashew kernels worth 5 lakhs to U.S.A in 1920 it has reached to a phenomenal height. But the unfavorable changes in the global market and domestic production impetus negative growth that questions the survivability of the industry. Both Kerala and India shows an increasing trend on export of processed Kernels and thereby in foreign exchange also. The export of cashew kernels of India was 96,805 metric tonnes valuing Rs.2569 crores and of that 49874 metric tonnes valuing Rs.1152 crores was that of Kerala in the year 1999-2000. And in 2013-14 it increased to 1,08,120 metric tonnes of cashew kernels valuing Rs.3105.82 crores and during 2015-16 Kerala exported increased to 63,729 metric tonnes of cashew kernels valuing also increased to Rs.1716.52crores.

Nearly 60 percent share in the total world export is currently hold by India. And it is essential to enhance the production of cashew in the country in order to minimize the drain of foreign

exchange through import of raw materials and to sustain the cashew industry. India exported almost 132,000 tonnes of shelled cashew nuts, as against 106,000 in the 2014-15. In fact, India's cashew nut exports increased from 82,000 tonnes in 2000 to 132,000 in 2015–16, which represented an annual growth of 4.45%; the exports witnessed ups and downs during the intervening years, though.

India ranks second at the global level in cashew exports falling to Vietnam which currently holds the first position in cashew exports. Even though Vietnam is a small country whose production is less than half of India it exports twice as much as India ships. Thus Vietnam appears to be India's major competitor in global cashew export trade.

Nigeria is world's leading producer of cashew but they neither export cashew nuts in shell nor cashew kernels in meaningful quantities instead it consumes most of its output of cashew in shell as well as cashew kernels as snack food domestically. Apart from domestic consumption a small quantity is exported to India. The cashew processing industry in Nigeria is not well developed and caters mostly to the domestic market. A few Nigerian processors have joint venture partnership with Indians and use Italian or Indian technology. So even being the largest producer Nigeria is hardly as yet a threat to the Indian cashew industry.

Among other nations, Brazil ranks third major exporter of cashew kernels with an export of 42,000 tonnes of shelled cashew nuts in 2016. But from the first decade of the New Millennium its export have been hovering erratically between 30,000 tonnes and 50,000 tonnes. In 2007, it peaked to its maximum at 51,500 tonnes and later fallen. The official statistics are not available yet, but it seems that Brazil's cashew kernel exports have probably dropped further in 2016. From 2009 to 2015 the production of cashews in shell has more than halved from 220,000 tonnes to 104,000 tonnes with a dismal per hectare yield of barely 140 kg which is the lowest among all cashew producing countries in the world. It was recently reported that the Brazilian investors were seeking to set up cashew nut processing plant in Ghana as the Brazilian farmers

moving away from cashew cultivation to other crops like coffee and cocoa. So it is evident that the Brazilian cashew industry is also not a serious threat to the Indian cashew industries.

The only real threat to India is from Vietnam only. The domestic supplies of raw cashew nuts in both countries are falling short of the requirements of their processing industries. And their import purchases are mainly from Cote d'Ivoirie, Tanzania, Guinea, Ghana, and to some extent from Benin, Indonesia, and Mozambique. There prevails a situation of high competition for the purchase of the raw cashew nuts. Vietnam's exports have been growing at almost 17% per annum through the past over a decade but with a low base compared to that of India's whereas the export growth rate of India is just about 1.25%. The competition is high in the global market for importing raw cashews with shells as compared to the competition in the international cashew export trade among Vietnam and India.

Table 1.2.1: Top Five Cashew Nut Producing Countries 2010

Country	Cashew production 2010 (M.T)	Percentage of world total	Percentage change from 2009
Vietnam	1,159,600	32.33	+21.044
India	613,000	17.09	-11.799
Nigeria	594,000	16.56	+2.28
Ivory Coast	370,000	10.31	+5.714
Brazil	174,300	4.86	-20.954

Source: FAOSTAT data, 2012

In India, 95 percent of the workers in cashew processing factories are women. Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Goa, Maharashtra and Orissa are the major cashew producing states in India. India produced 5.35 lakh tones of cashew nut from an area of 7.80 lakh hectares (2015-16). The average yield in India is around 1.5 kg nuts per tree. The productivity is below national average (800 Kg/ha) in many states such as Karnataka, Andhra

Pradesh, Tamil Nadu and West Bengal. Maharashtra had the highest cashew nut acreage (1, 48,000 hectares) and also ranks first in production, with 1, 20,000 MT in 2015-16. Andhra Pradesh accounted for 17.44 per cent of the area and 18.00 per cent of the production. Orissa ranked third with respect to area and ranked fourth with respect to production of raw cashew nut in 2015-16. The output of raw cashew nut in Kerala during 2015-16 was 98,000 MT. Maharashtra and Kerala states had the higher yield levels compared to other states. The processing and exporting activities are largely concentrated in Kerala followed by Tamil Nadu and Karnataka.

1.3 Statement of the Problem

Cashew industry is a predominant agro based, export oriented traditional industry, which provides a livelihood for lakhs of people. About 94 percent of the workers in the industry are women, which makes it all the more significant. The cashew industry in Kerala have highly under pressure due to several reasons. The number of cashew processing units have been keep changing over time. The current employment scenario in the industry is also dismal as there is a persistent downfall in the performance of the industry in the years since globalization. This downfall severely batters the workers in the form of falling wages and shrinking number of working days. And in worst cases workers are even losing jobs due to the closure of the processing unit. The adaptability of the women workers in this sector to other sector is very low. The dependency of rural economy, especially of Kollam, is highly depended on the future of these cashew processing units. The uncertainty on the future of this industry is very high. So, it is at this juncture, I made an attempt to analyze the issues and challenges in the cashew industry in Kerala. Along with that I have tried to understand the overall condition of the cashew industry in India and tried to highlight feasible solution to the existing situations.

1.4 Methodology

The study comprises an institutional level understanding of the cashew industries. The study used both primary and secondary data. For the understanding the basic techniques and processes behind the cashew industry data was collected from sites of Cashew Export Promotion Council of India (CEPCI) and other research articles on cashew industry. Directorate of Cashewnut and Cocoa Development (DCCD) provided details regarding the production, export, import of cashew industry. Data regarding the public sector cashew industries of Kerala was collected from KSCDC and CAPEX.

For primary data 21 private cashew processing units were visited in Kollam district. Three of other factories owned by KSCDC (Kottiyam, Ayathil, and Paruthenpara) were also visited. Many more units were visited but most of them were closed due to lack of work. Personal interview method was used, queries were done with the unit managers of the unit and also with workers in those units. Participant observation was made to understand the conditions of the labors involved in the industry.

1.5 Objective

The main objective of the study include:

- Identify the present scenario of cashew industry in Kerala and current conditions of the international and Indian cashew market.
- To understand the major challenges of the cashew industry of Kerala.

2. Cashew Industry in Kerala

Kollam district is considered as the center of Cashew industry in Kerala as it is mainly concentrated in this district. The labor intensive character of traditional industries is evident in cashew industry as it employs more than 1.5 lakh workers and a majority of them (above 90 percent) are women, thus providing income source to a large number of low-income families. About 11 percent of cashew production and 35 percent of all cashew processing units of India happens to be in Kerala. For catering its 390 factories state needs around 6 lakh metric tonnes of raw cashew. As per the estimates of DCCD, with the productivity of 962 Kg/Ha, Kochi tops in area under cashew production and in productivity in Kerala. Before early 1990's Kerala topped among the other Indian states with regard to the production of raw cashew nuts, but its rank dropped to 5th falling behind Maharashtra, Andhra Pradesh, Orissa and Karnataka.

2.1 Number of factories

The total number of cashew factories in Kerala has been increasing over the year at a fluctuating rate. During 2015-16 period there was about 390 factories in Kerala of which about 352 is in Kollam district. From 2005-06 period the growth trend is at the slow stride, it was around 18% during 2000-01 period it declined to 6% in 2005-06 period. A massive decline happened during 2010-11 period when the growth was only around 0.2 % and in 2015-16 it slightly picked up to 1%. Many factories closed and many factories were started between these years, among these total number of factories some are non-functioning also. The number of cashew factories in Kerala over the year is illustrated in the following table.

Table 2.1.1: Number of cashew factories in Kerala

Year	Thiruvananthapuram	Kollam	Others	Total
1995-96	21	266	18	302
2000-01	20	319	20	359
2005-06	23	340	19	382
2010-11	22	345	16	383
2015-16	23	352	15	390

Source: Cashew Special Office, Kollam

The agencies in the state engaged in cashew processing sector in Kerala are Kerala State Cashew Development Corporation (KSCDC) and Kerala State Cashew Workers Apex Co-operative Society (CAPEX). Kerala State Agency for the Expansion of Cashew Cultivation (KSACC), Cashew Export Promotion Council of India (CEPCI), Directorate of Cashew nut and Cocoa Development are the other agencies involved. 30 factories with about 25,867 workers is working under the Kerala State Cashew Development Corporation (KSCDC) which deals with the processing raw cashew nuts and producing value added products. The Corporation provided employment to 16887 in 2015-16. The total turnover achieved was ₹8,499 lakh, which is 119.8 per cent higher than turnover of 3,866 lakh in the previous year. A loss of ₹1944 lakh was incurred by the Corporation, which was 18.59 per cent less than the losses made in the previous year (2,388 lakh.). Various schemes were implemented through KSCDC which include modernization of cashew sector and brand building, modernization and up gradation of facilities and international brand building. On the other hand, CAPEX's main objective is to organize cashew industry in the State on a commercial basis, in procurement and distribution of raw-nuts, render assistance to affiliated societies, make available funds for processing and marketing of kernels and other items produced in the factories of the affiliated societies. With regard to employment CAPEX employed 4,531 persons in 2016-2017 period.

₹4,588 lakh was the total turnover for 2016-2017, which was 37.76 per cent less than in the previous year of ₹7,371.5 lakh.

2.2 Import of raw cashew nuts

Kerala due to its fall in cashew cultivation had been facing many setbacks in the cashew industry. Kerala State Agency for Expansion of Cashew Cultivation was established in order promote the domestic production. The demand for cashews at the global level is escalating, this rise makes the cashew industry desperate to improve and attain self-sufficiency in domestic production. The cashew industry mainly depends on the imported raw cashew nuts from African countries. And the trend in import is illustrated in the following figure.

Table 2.2.1: Import of raw nuts of Kerala

Year	Import (MT)	% Change to Previous Year
1990-91	34060	76.57
1995-96	66292	50.46
2000-01	152516	130.06
2005-06	306765	101.14
2010-11	226741	-26.09
2015-16	213106	-6.39

Source: Cashew Export Promotion Council of India,

The numbers clearly shows the downward trend in the imports of raw nuts. During 2010-11 the import decline by 26.09 percentage and during 2015-16 it was 6.39 percent decline. This decrease could not satisfy the demand of the cashew processing units in Kerala. The supply-demand imbalance results in fluctuating working days for the labor involved in the cashew industry and even results in permanent shut down of the processing units.

2.3 Export of Cashew Kernels in Kerala

The main products from the cashew industry include cashew kernels, CSNL, raw nut etc. Cashew kernels are the most important among them as the total export of cashew kernels in India during 2016-17 valued around Rs.5, 168.78 Crores (82,302 MT) whereas the CNSL was around Rs.44 crores. Considering Kerala, the scenario is same as the cashew kernels act as the main player in the export market of the cashew industry.

Table 2.3.2: Exports of Cashew Kernels in Kerala

Year	Export (MT)	% Change to Previous Year
1990-91	44060	5.76
1995-96	34379	-21.97
2000-01	49874	45.07
2005-06	74736	199.39
2010-11	56578	-24.29
2015-16	68150	20.45

Source: Cashew Export Promotion Council of India

The export has increased from 44,060 MT in 1990-91 to 68,150 MT in 2015-16. There was a significant rise during the period 2005-06 to 74,736 MT thereafter a fall in 2010-11 and rise in the next period.

2.4 Average pricing trend of raw cashew nut in Kerala

The price of raw cashew nut have been increasing over the years, different states have different price rates. Price rates are fixed based on the availability of raw materials and by the cost incurred in producing the raw nuts. The pricing is also subject to the inflationary effects in the domestic market and also to the international cashew market fluctuations.

Table 2.4.1: Price of raw cashew nut in Kerala

Year	Price/kg	Percentage change
2017	133.03	33.45%
2016	99.68	10.75%
2015	90.00	46.77%
2014	61.32	18.37%
2013	51.80	-13.07%
2012	59.59	-16.07%
2011	71.00	-

Source: DCCD

The price for raw cashew nut in Kerala has been showing an increasing trend except for the years 2012 and 2013 where there was a decrease in the prices by 16.07 and 13.07 percent. The price increase was maximum during the period of 2015 as there was a 46.77% increase in the price of raw nuts. At present, the price of raw cashew nut is 133.03/kg which 33.45% more than the previous year's price.

2.5 Area, Production and Productivity of Cashew nut in Kerala

Kerala, which used to be the leading producer of cashew nuts in the 1960s and 1970s, witnessed a decline in production, area under cultivation and even in yield per hectare during the last two decades. The area under cultivation and production in Kerala almost halved during the last 20 years while the productivity declined marginally. Currently, Kerala accounts for 11 per cent of cashew production in India.

Table: 2.4.1 Total Area, Production and Productivity of Cashew Nut in Kerala

Year	Area of Cultivation of Cashew Nut (000 ha)	Production of Cashew Nut (000 tonnes)	Productivity of Cashew Nut (kg/000 ha)
1990-91	155.50	142.10	925
1995-96	118.60	140.00	1000
2000-01	122.00	76.00	765
2005-06	80.00	67.00	900
2010-11	78.00	71.00	947
2015-16	84.53	80.00	946

Source: Directorate of Cashew nut and Cocoa Development, 2016

It is clear that the area and production and productivity in Kerala show in a deteriorating trend. From the table it can be concluded that during 1993-94 the area of cultivation of cashew was 156 thousand hectares but in 2015-16 it shows a decreasing trend of 84 thousand hectares, it means about half of the area of cultivation of cashew shifted to the other purposes. The production of cashew during 1993-94 was 140 thousand tonnes and it also decreased to 75 thousand tonnes, it reveals that about half of the output decreased due to the lack of high yielding variety of crops and senility of the trees. The productivity shows a decreasing trend from 925 kg per thousand hectares in 1993-94 to 896 kg per thousand hectares in 2015-16. The area, production and productivity of cashew in Kerala shows a deteriorating trend mainly because the farmers shifted the cashew cultivation to more lucrative crops like rubber and other plantations

.

3. Findings and Analysis

The survey was conducted with sample of 21 private units in Kollam district. The questions were mainly focusing on the economic aspects of the units. The variables includes the total number of workers, working days, wage, nature of export, number of factories under a single owner, mechanization, status of bank credit. Apart from this visits were also made in 3 factories under KSCDC, a report on the current condition of this units are also included. Among those 3 factories, the factory in Kottiyam has initiated an alternative employment program and that is Ayathil has a value addition unit. Special focus was to understand this initiatives. An observant report on the conditions of labors is included.

3.1 No. of Workers

The total Number of workers are categorized into three: factories having below 100 workers, between 100 to 200 workers and above 200 workers. The size of each factory was different and also the activities carried out also varied according to the size of the factory.

Table 3.1.1: No. of workers in the factory

Workers	No. of Factories	Percentage
Below 100	4	19.04
100-200	11	52.38
Above 200	6	28.57

Source: Primary data

52.38 percent of the factories were having the workers size between 100 to 200 and about 28.57 percent of the factories were having a worker size above 200 and rest were below 100 workers. The variation in these numbers were mainly of two reasons, one

due to size of the factory and other is due to mechanization. Some factories having more 200 workers reduced there worker strength by mechanizing their units.

3.2 No. of Working days

The Number of working days that each factory is having is different due to incapability in sustaining work throughout the year due to lack of raw materials and due to loss making conditions. The number of working days are categorized into those with less than 120 days per year, between 120-150 days, between 150-180 days, and more 180 days.

Table 3.2.1: No. of working days per year

No. of working Days (per year)	No. of Factories	Percentage
Less than 120 days	3	14.28
120-150	12	57.14
150-180	4	19.04
More than 180 days	2	09.52

Source: Primary data

About 57.14 percent of the factories are having working days between 120-150 days. Most of the factories earlier had working above 200 days but they had to cut short the working days mainly because of the lack of raw materials. Around 14 percent of factories are having less than 120 days of work per year. And 9.52 percent factories are having 180 plus working days. The condition in government sector is different as the working days are more due to the welfare motive.

3.3 Salary of Workers

The wages of workers in cashew factory depends on the nature of work they are doing. The type of work includes shelling, peeling and grading. Shelling and peeling are comparatively requiring more effort and salary is slightly higher than grading. Here,

the workers are completely paid according to their productivity, that is, wage is fixed based per kilogram that one worker processes per day which will be around Rs.25 to Rs.35. On an average the workers processes between 5 to 14 kg per day. And there daily wage has been categorized into less than 150, between 150 and 200 and more 200 per day.

Table 3.3.1: Average daily wages of workers

Average salary of workers (Per day)	**No. of workers**	**Percentage**
Less than 150	2	09.52
150-200	6	28.57
Above 200	13	61.90

Source: Primary data

61.90 percent of the workers have salary of above Rs.200 per day and their average productivity is about 8 kg/day. 28.57 percent fall in the category of 150-200 and 9.52 percent in less than Rs.150 per day.

3.4 Years of experience of the factory owner

Cashew factory owners are have different years of experience and this experience level shows the ability of these cashew units to sustain in the industrial framework and most significant point is that, none of the surveyed factory owners are having below 5 years of experience. This clearly shows the absence of entry of new industrialist into cashew industry. The years of experience is categorized as those with experience below 5 years, those with experience between 5-10 years and those above 10 years.

Table 3.4.1: Years of experience of factory owners

No. of years of experience In cashew industry	No. of factories	Percentage
Less than 5	0	0
5-10	9	42.85
Above 10	12	57.15

Source: Primary data

The majority of the factory owners' fall into the category of experience above 10 years, that accounts about 57.15 percent and the rest falls under the category of between 5 to 10 years of experience.

3.5 Nature of export

The nature of export is identified using three variables. One is the volume of export that the factory makes per year, next is the marketing method that the factory adopts to create the export demand. And finally the exposure of export, that is, the nature of exporting factory which calculated on the basis of the percentage of export of the total production of that particular factory.

Volume of Export

The volume of export is mainly calculated in terms of number of containers that a factory export per years. Generally a container comprises of 700-750 cartels of cashews. And factories export around an average of 100 to 250 containers per year.

Table 3.5.1: Volume of export per year

Volume of Exports per year	No. of factories	Percentage
<100 containers	6	28.57
100-200 containers	12	57.14
>200 containers	3	14.28

Source: Primary data

Majority of the factories, that is around 57.14 percent, exports 100 to 200 containers per year. Only 14.28 percent of the factories make an export of more than 200 containers. And the rest 28.57 falls in the category of less than 100 containers.

Method of marketing

The cashew exporters surveyed were marketing their products abroad using mixed strategies viz. direct marketing, marketing through an intermediate agent and using a mix of the above strategies.

Table 3.5.2: Method of marketing

Marketing Method	No. of factories	Percentage
Direct	2	09.52
Through agencies	5	23.80
Both	14	66.67

Source: Primary data

Around 66.67 percent of the cashew exporters' use both direct marketing and marketing through an intermediate agent and about 23.80 percent use marketing only through intermediate agents. Rest 9.52 percent use only direct marketing for the export marketing.

Exposure of export

The level of exposure to exports of the cashew Exporters are analyzed by grouping then into four categories viz. casual (with less than 25% by volume), occasional (between 25-50% by volume), regular (between 51-75% by volume) and export oriented (above 75% by volume). The casual group normally concentrates on domestic market and occasionally exports to meet the bank's requirement (as they avail the export finance from banks). The second group also concentrates on the domestic market, but exports those grades which find a better price in the export market. The third group concentrates on export market and sells those grades which find a better price in the domestic markets. They are more quality concerned as they concentrate on the export market. The last group concentrates only in the export market and is quality oriented and sells the rest in the domestic market

Table 3.5.3: Exposure of export

Percentage of Export	Classification	No. of factories	Percentage
Less than 25%	**Casual**	2	09.52
25-50%	**Occasional**	7	33.34
51-75%	**Regular**	4	19.04
Above 75%	**Export oriented**	8	38.09

Source: Primary data

Majority of the cashew producers are export oriented, around 38.09 percent of the survey fall in the category of export oriented cashew units with more than 75% of their total products being exported. About 33.34 percent of the cashew units comes under the category of occasional exporters.

3.6 No. of factories under one single owner

The owners involved in the cashew industry use to have more one factory under their ownership. This helps them to meet the shortages or loss that occur in one factory and the experience in the field also had helped them to acquire more number of factories. They also diversify their production activities among different units. There also exist single factory owners who are satisfied by single cashew processing unit.

Table 3.6.1: No. of factories under a single owner

No. of factories	No. of Owners	Percentage
Single Unit	3	14.28
1-5 Units	4	19.04
More than 5 Units	14	66.67

Source: Primary data

Majority of the factory owners are having more 5 units under their ownership which accounts about 66.67 percent of the total surveyed samples.

3.7 Mechanization

The cashew industry in Kerala complete lack in mechanization process. They completely depend on manpower but due to high competition in the international and domestic market form the mechanized cashew sectors the necessity to get mechanized increased. As a result, firms tried to adopt machineries for shelling, peeling, roasting and other value added purposes. The machineries are available in the market under varies price category depending upon the quality of the machineries. A complete mechanization of the cashew industry is not possible due to issues like lack of quality products, labor strikes, huge capital requirement etc.

Table 3.7.1: value of machine purchases of factories

Machines Worth	No. of Factories	Percentage
Completely manual	10	47.61
Up to 10 lakhs	7	33.34
10-50 lakhs	4	19.04
More than 50 lakhs	0	0

Source: Primary data

About 47.61 percent of the total surveyed sample workers completely depending on manual power, and around 33.34 percent have installed machineries that worth up to 10 lakhs. And none of the factories have installed machineries worth more than 50 lakhs.

3.8 Bank Credit

Any industries requires huge capital to get established and for its smooth functioning. The major source of this capital is bank credit and majority of the industry have depended on bank credits. There occurred issues related to repayment of credits and the shutdown of factories has caused huge loss to the bank.

Table 3.9.1: The status of Bank credit of factories

Status	No. of factories	Percentage
No Bank credits	5	23.80
Cleared all credits	12	57.14
Yet to clear bank credits	4	19.04

Source: Primary data

About 57.14 percent of the total surveyed samples have cleared the bank credits that they have taken and about 23.80 percent have no bank credits and rest yet to clear the bank credits.

3.9 Alternative employment program at Kottiyam unit of KSCDC and Value addition unit of KSCDC Ayathil

KSCDC Kottiyam was facing an issue of meeting the minimum working days for getting the labor benefits during the 2015-16 period. The total number of labors employed in the Kottiyam unit was 395, with around 95 % percent being women. Under this condition the Kottiyam unit has tried to initiate a program of alternative employment within the factory compound. The program first initiated was vegetable farming, a labor force of 35 women volunteered themselves to be part of it. But later the program extend to the start of cashew nursery were cashew tree grafts were prepared from variety of breeds collected from the agricultural farms. Initial cost for setting up the program included that for creating the greenhouse sheds and for the purchase of the raw materials. Special training was given to the labors. Currently the plant has a capability of storing about 1 lakh grafted cashew trees, which is planned to be extend to 5 lakh within 2 years. The unit is progressing as the demand for the cashew grafts are increasing for planters side as the price of other plantation crops is fluctuating.

The value addition unit of KSCDC Ayathil has started to improve the cashew products and to extend its hold in the domestic market. It produces different products of cashews including roasted cashew, cashew vita (energy drink powder), cashew soup, powdered cashew, cashew chocolate etc. The unit was started with installation of machines worth 20 lakhs for roasting and other purpose. But the unit failed to capture the domestic market due to poor marketing strategies. The products are mainly marketed through agents and through the KSCDC outlets near the factories. The cashew from all other KSCDC factories are collected at the Ayathil factory and value added and supplied through the same factory unit.

4. Problems faced by the cashew industry

The cashew industry in Kerala face many issues and challenges which makes them hard to regain the lost dominance over the past decades. The main challenges can be categorized as the external challenges and internal challenges. Here issues of both private and public sectors of cashew industry is considered. The internal challenges include those challenges which could be solved through internal institutional changes. The internal challenges include mechanization issues, marketing issues, and managerial issues whereas the external challenges include that are effecting the cashew industry externally and could not be solved through institutional corrections like fluctuations in the international markets, price changes, import and export issues etc.

Internal challenges

- **Low domestic production:** The import of raw cashew nuts have become more costly over the years due to high competition from Vietnam. And the domestic production of cashew have been facing a steady decline over the years. The current production rate could not run the cashew industry of Kerala for not more than 30 days. The number of working days of both private and public factories have been reduced due to lack availability of raw materials.
- **Mechanization issues:** The cashew industry of Kerala highly traditional in nature as the average number of workers in each units is around 150 to 200. The technique of production is also labor intensive. This increases the cost of production of each production unit thus making it hard for the firms to survive in competition with low priced products from the mechanized units of other states and other countries. The firms are expect to face a shortage of skilled labor in the future thus a gradual mechanization of cashew industry needs to be promoted.

- **Managerial issues:** The private outlets stays in the industry due to the managerial efficiency as the basic motive is profit. They act according to the fluctuation in order to reduce the cost and maximize the profit. This managerial skills lacks in the public sector and become inefficient to act accordingly to the changing situations because the rules and regulations binding the public sector. This inefficiency of the public sector effect the cashew industry as whole in case of demand determination and market capturing.
- **Marketing issues:** Majority of the private cashew factories are export oriented and they use their marketing strategies to compete with the international exporters. In case of public cashew sector, there is a lack of proper marketing strategies. As they have failed to captivate the domestic market if even if they have the quality to do so. International cashew brands play an important role in the domestic cashew consumption market. The cashew industry could only succeed if they build a dominate brand name for their value added products. Once the domestic market is captured then it could try to market its value added products in the international market.

External challenges

- High level of competition from Vietnam has completely deprived the cashew industry of Kerala as it effect both supply side and demand side of the cashew industry. Vietnam, which was earlier a major source of import of raw cashew nuts, has been using there domestic production to make cashew kernels and other value added products from there highly mechanized units with low price.
- The development of substitute products like almond, walnut in the international setup has affected the demand of cashew industry of Kerala. The indigenous development of these products in their domestic market has made a negative impact over the demand.

5. Suggestions

- Promotion of alternative employment within the processing units. The Kottiyam unit of KSCDC have tried to implement a provision for alternative employment within the factory. They started a unit for cashew plant drafting and also vegetable farming within the factory thus providing the employment opportunity to the labor in that particular unit. Promoting the concept of alternative employment which is related to the cashew industry would boost the production level.
- Governmental support for stage by stage mechanization of the cashew factories. As now the mechanization process being in a stagnant path. And due to the lack of mechanization the brand value of Indian cashews gets lowered. More productivity and mechanization would ensure the quality Indian cashews.
- The marketing and branding of different cashew products should made more consumer oriented, as of now, the diversified products of the cashew industry of Kerala is categorized to be less demanded.
- Special packages should be introduced by the government for securing better working conditions and to raise the living conditions of cashew workers.
- The government should implement the policies and programs especially for the weaker sections of women cashew workers for sustaining in the industry.
- The officials should be made free from bias- corruption, partiality, and illegal activities through proper inspections.
- Government should implement permanent and fixed wage system to the cashew workers.
- Government should provide ample measures to regenerate the cashew industry for sustaining the socio economic conditions of women cashew workers.
- Women empowerment programs must be strengthened further among the cashew

workers particularly in the private sector.

References

1. Yadav, Shalini (2010), Economics of Cashew in India, Occasional Paper – 50, Department of Economic Analysis and Research, National Bank for Agriculture and Rural Development, Mumbai.
2. Sengupta, B., Akolkar, A. B., Saxena, R. C., & Srivastava, A. (2007). Comprehensive Industry Document for Cashew Seed Processing Industries New Delhi.
3. Senthil, A., & Mahesh, D. M. (2013). Analysis of Cashew Nut Production in India, Asia Pacific Journal of Marketing & Management Review, II (3), 106-110.
4. Eapen, M.; Jeyaranjan, J.; Harilal, K.N.; Swaminathan, Padmini and Kanji, Najneen (2003), "Liberalisation, Gender and Livelihoods: The Cashew-nut Case", *Working Paper 3*, IIED, London (*http//www.iied.org/sarl/research projects/t3proj01.html*).
5. Kannan, K.P. (1983), *Cashew Development in India: Potentialities and Constraints,* Agricole Publishing Academy, New Delhi.
6. Balasubramian, P.P. and Singh, H.P. 2002. Cashew development in India: an integrated strategical approach. Indian Cashew Industry, Directorate of Cashew nut and Cocoa Development, Cochin.
7. Crossely, T., S. Jones and P. Kuhn (1994), "Gender Differences in Displacement Cost: Evidence and Implications". *The Journal of Human Resources,* Vol. 29, No. 2, pp. 461-480.
8. Farber, H. (1999), "Alternative and Part-time Employment Arrangements as a Response to Job Loss", *Journal of Labor Economics*, Vol. 17, No. S4, pp. S142-S169.

9. Ruhm, C. (1991), “Are Workers Permanently Scarred by Job Displacements?” *American Economic Review*, 81(1), pp. 319-324.

10. Sethulekshmi,J.R and Ambily,A.S(2018),“The Quality of Worklife of Employees in Cashew Industry:An empirical study” International Journal of Pure and Applied Mathematics, Vol.119,No.12.

11. “Indian Cashew Handbook” (2002), www. Commodityindia.com

12. Binukmar,B.J,(2017) “Problem and Prospects of Cashew Based Industry In Kerala”, swaranjali publications