Chapter 8

SUMMARY
POLICY RECOMMENDATIONS AND CONCLUSION
8. SUMMARY, POLICY RECOMMENDATIONS AND CONCLUSION

The principal objective of the study was to comprehend the emerging issues in India’s cashew industry and connect them for the development of the cashew industry through the specific objectives which are given in the forgoing chapter. In order to accomplish the needs of the objectives of the study, and to derive at proper policy recommendation, it has been framed and tested the hypothesis for acceptance. The results are summarized and policy recommendations are made under five major headings viz, Cashew production in India; Cashew developments in other countries; Cashew processing; and Cashew marketing and trade.

8.1 Summary

8.1.1 Cashew Production in India

8.1.1.1 Establishment, management, viability and sensitivity of commercial scale cashew plantation in India

Table 8.1.1 Summary of expenses and receipts/cash flow statement of cashew plantation

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost of establishment and maintenance of 100ha for 20 years</td>
<td>Rs 59.76 million</td>
</tr>
<tr>
<td>Total receipts from 100ha for 20 years @ 6 % annual inflation in price</td>
<td>Rs 164.8 million</td>
</tr>
<tr>
<td>Total net receipts from 100ha for 20 years (Rs 30/kg of nut and Rs 200/tree, at 6 % annual inflation)</td>
<td>Rs 86.74 million</td>
</tr>
<tr>
<td>Net present value of the net receipts at 18 % discount</td>
<td>Rs 10.7 million</td>
</tr>
<tr>
<td>Total non recurring investment</td>
<td>Rs 1 million</td>
</tr>
<tr>
<td>NPV of non recurring investments with 18 % discount</td>
<td>Rs 0.848 million</td>
</tr>
<tr>
<td>B/C ratio (Normal)</td>
<td>10.7/0.848 = 12.62</td>
</tr>
<tr>
<td>The NPV of total capitalised investment up to the end of the 4th year</td>
<td>Rs 4.46 million</td>
</tr>
<tr>
<td>B/C ratio (Capitalised)</td>
<td>10.7/4.46 = 2.4</td>
</tr>
<tr>
<td>Internal Rate of Return (IRR)</td>
<td>37.27 %</td>
</tr>
</tbody>
</table>

Scientific establishment and management of cashew plantation involve certain vital decisions and skilful integration of efficient management strategies. The B/C ratio (2.4)
and Internal Rate of Returns (37.27 per cent) from cashew plantations suggest that it is an economically viable venture (Table 8.1.1). The sensitivity analysis gives clear indications that projects on cashew plantation can tolerate natural calamities and possible yield reduction to the extent of 40 per cent from the normal.

8.1.1.2 Growth and stability in India's raw cashew nut sector
In India, currently cashew is grown in an area of 0.7 million ha, with a production of 0.45 million tones, the productivity being 720 kg/ha. Cashew is grown in states like Goa, Maharashtra, Kerala, Karnataka in the West Coast and Tamil Nadu, Andhra Pradesh, Orissa and West Bengal in the East Coast. Other states which produce cashew are Manipur, Tripura, Meghalaya, Andaman and Nicobar Islands, Madhya Pradesh, etc.

The growth rates obtained using exponential growth functions were used for future projections on the assumption that same trend will continue. The cashew area would be 1.059 million hectares by 2005-06 and 1.286 million hectares by 2010-11. In case of cashew production, it would be 0.488 million tons and 0.577 million tons respectively for the same period. India should achieve more than this target, as the government has is taking various steps to bring more area under cashew crop cultivation and to increase the productivity. The growth in cashew area and production is faster in Maharashtra when compared to other states. The index of instability with respect to area (11.96 per cent), production (14.99 per cent), indicates comparatively less variation i.e., less instability.

Of the total area, 81 per cent is in private sector, contributing 87 per cent of the national production. Nearly 3 per cent area and 3 per cent production is from forest sector and 16 per cent area and 10 per cent production is from plantations owned by different state level corporations. Productivity is high in private sector compared to other sectors.

8.1.2 Cashew Developments in Other Countries
Currently, more than 60 per cent of the cashew kernel exported from India is processed from the imported nuts from South African countries. Africa currently exports an estimated 95 per cent of its cashew nuts in raw form, but this could change following
moves to boost processing on the continent and to raise the profitability of the ailing industry. The industry recently formed a continental cashew association to promote a campaign to add value to its nuts, encourage higher production and better quality, and market Africa as a source of quality organic cashews. National cashew associations have subsequently been formed, and the continental association has interested the Development Bank of South Africa in funding their processing ventures. The African cashew industry employs three million households, but is dogged by depressed prices and dwindling production. Mozambique, Tanzania, Ghana, Guinea Bissau, Kenya, Madagascar, Benin, Togo and Nigeria are the notable African cashew producers. TechnoServe, an agency that is helping to revamp the cashew industry in Africa, says cashew processing can generate annual revenues for Africa as high as US$ 500 million by 2015, of which 40 per cent would go to wages for manual labour.

Mozambican Government and Tanzanian Government have increased the tax on export of raw cashew nuts during 2001 in order to promote domestic processing and exports and to protect domestic processors.

Vietnam at present is the main competitor to India in all its traditional and major markets for cashew kernels. Vietnam had taken up cashew cultivation seriously a few years ago, progressed very rapidly and is now the third largest producer of cashew in the world. In order to promote domestic processing and export of cashew kernels, Vietnam Government imposed 15 per cent tax on export of raw cashew nuts in 1995. Vietnam meets 80 per cent of Australia's requirements overtaking India, which used to be the leading cashew exporter to Australia. With the Government support, the Vietnam exporters are exploring markets in East Europe, South East Asia and Middle East and East European countries. Of late, both Brazil and Vietnam are competing with India in East and West African countries for purchase of raw cashew nuts.

8.1.3 Cashew Processing Industry in India

8.1.3.1 Raw cashew nut
Drum roasting (66 per cent) as preliminary roasting is followed in Kerala, Tamil Nadu,
Andhra Pradesh, Orissa and West Bengal. The latest method of steam boiling (27 per cent) is practised in Karnataka, Goa and Maharashtra. Very few industries (7 per cent) are still following outdated method of oil bath roasting. This may be due to infrastructure developed for oil bath roasting and additional finance requirement to develop facilities for other methods.

Finance is the main requirement for running an industry in a smooth manner. Most of the processing industries are categorised under partnership group due to heavy capital investment and insufficient finance as running capital. Non-availability of funds also makes it difficult to maintain them as well organised units. Most industrialists rely on commercial banks and state financial agencies for running capital.

The feed rate of raw nuts and rotational speed of drum are the two important factors that decide the quality of processed kernels. On the other hand, the duration of boiling and steam pressure have the main bearing on the kernel quality in steam boiling.

<table>
<thead>
<tr>
<th>Processing stages</th>
<th>Oil bath roasting (Calicut)</th>
<th>Drum roasting (Palasa)</th>
<th>Steam boiling (Manglore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drying raw nuts</td>
<td>0.13</td>
<td>0.07</td>
<td>0.15</td>
</tr>
<tr>
<td>Preliminary roasting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Labour wages</td>
<td>0.12</td>
<td>0.11</td>
<td>0.18</td>
</tr>
<tr>
<td>2. Fuel charges</td>
<td>0.25</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Shelling roasted nuts</td>
<td>1.39</td>
<td>1.13</td>
<td>1.28</td>
</tr>
<tr>
<td>Kernel drying (Tunnel drier)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Labour wages</td>
<td>0.20</td>
<td>0.02</td>
<td>0.19</td>
</tr>
<tr>
<td>2. Fuel charges</td>
<td>0.10</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Peeling</td>
<td>1.30</td>
<td>0.99</td>
<td>1.26</td>
</tr>
<tr>
<td>Grading</td>
<td>0.24</td>
<td>0.12</td>
<td>0.57</td>
</tr>
<tr>
<td>Packaging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wages, Container + soldering, Infusion of CO₂</td>
<td>1.54</td>
<td>1.31</td>
<td>1.53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5.27</strong></td>
<td><strong>3.85</strong></td>
<td><strong>5.16</strong></td>
</tr>
<tr>
<td>Advantage</td>
<td>Extraction of CNSL but superior quality and reuse of shell cake</td>
<td>Extraction of CNSL but discoloured oil</td>
<td></td>
</tr>
</tbody>
</table>
The quantity of kernel recovered in drum roasting is slightly lower, when compared with steam boiling, as a spoiled nut burns completely, while it is being roasted. The oil bath machine takes more space. It also takes more time for processing nuts than any other method. The colour of the final product is slightly brown and fetches lesser prices. More energy is spent in oil bath method of processing than in the steam boiling method.

Processing cost of steam boiling is slightly higher than drum roasting (Table 8.1.2). It has an added advantage of CNSL (Cashew Nut Shell Liquid) extraction as an extra benefit.

Efficiency in production of unscorched kernels and maximum recovery of CNSL are the main requirements for development of mechanised cashew plants.

8.1.3.2 Cashew Apple
Goa is the only place in India where cashew fenny has been distilled from cashew apple where as in other major cashew growing states, cashew apples are wasted. Actual cost of fenny extraction is Rs 20 to Rs 25 for 750 ml. The extractor sells the fenny for Rs 35 to the wholesalers and the wholesalers filter and bottle the fenny in their own brand name and price it at Rs 80 to Rs 125 for 750 ml.

Cashew apple can be used for preparation of various products. E.g. cashew apple juice, wine and fruit cocktails blended with other locally available and seasonal fruits, halwa, toffees, candies, cashew apple powder in wheat laddu, set dhahi, masala biscuits, sweet and masala doughnuts, sponge cake, steamed kadabu, tomato cashew apple powder soup, cashew apple powder koftas, chocolates, nutrimix, sweet and hot bread spread, syrup, jam, chutney, pickle, vinegar etc...

8.1.3.3 Cashew Nut Shell Liquid
There are around 1,100 cashew processors in the country engaged in kernel production using different methods viz., drum roasting (65 per cent), oil bath (7 per cent) and steam boiling (28 per cent). The shell obtained from oil bath and steam boiling method yields 10 and 24 per cent CNSL respectively while shell from drum roasting does not yield oil.
Steam boiling is adopted by most of the cashew processors in Karnataka and Goa, while very few processors in Maharashtra, Tamil Nadu, Orissa, Andhra Pradesh and Kerala have adopted this method. However, if all the cashew processors adopt steam boiling method the potential production of CNSL will be around 145,000 tons as against the current production of 32,000 tons, which is hardly 22 per cent of the potential (Table 8.1.3).

Table 8.1.3 Gap in CNSL production in India (Per Annum)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw nuts available for processing</td>
<td></td>
</tr>
<tr>
<td>Domestic Production (000 tons)</td>
<td>480.00</td>
</tr>
<tr>
<td>Imports (000 tons)</td>
<td>390.00</td>
</tr>
<tr>
<td>Total (000 tons)</td>
<td>870.00</td>
</tr>
<tr>
<td>Shell Availability (000 tons)</td>
<td>610.0</td>
</tr>
<tr>
<td>Potential CNSL production (000 tons)</td>
<td>145.0</td>
</tr>
<tr>
<td>Current CNSL production (000 tons)</td>
<td>32.0</td>
</tr>
<tr>
<td>Gap (%)</td>
<td>-78</td>
</tr>
</tbody>
</table>

This wide gap can be bridged by slowly shifting from traditional methods of cashew kernel processing to modern steam boiling method. The processors are finding it difficult to shift from the current processing method due to the following reasons:

1. Established infrastructure for the current processing method
2. Labour is a major constraint to shift to steam boiling method in Andhra Pradesh due to perceived ill effects on health.
3. Lack of funds

CNSL is produced mostly in southern parts of the country viz., Karnataka (Uttara Kannada, Dakshina Kannada and Udupi districts), Maharashtra (Ratnagiri), Andhra Pradesh (Rajahmundry, Palassa), Tamil Nadu (Panrutti), Orissa (Koraput district) and Goa (Margoa, Bicholim). Though the production is concentrated in southern parts, the consumption is spread throughout the country.
Out of 32,040 tons of CNSL produced in India around 7,100 tons goes into Cardanol manufacturing. The export of raw CNSL is around 6,250 tons while the domestic consumption is around 18,750 tons. Out of the total 5,300 tons of Cardanol produced around 2,000 tons is exported while the rest is being consumed domestically. Recidol is also produced in minor quantities in India.

Research on development of further products from CNSL for better utilisation in various industries as a substitute for costlier petrochemicals is not catching up due to lack of funds.

The use of CNSL and its products is mainly dependent on the kind of product being manufactured rather than the price of CNSL.

8.1.4 Cashew Marketing and Trade

8.1.4.1 Trends in cashew trade

The imports of raw cashew nuts during 2004-05 was 452,398 tones valued at Rs 14.0093 billion whereas exports of cashew kernel was 100,828 tons valued at Rs 18.0443 billion. The exports of cashew nut shell liquid during 2000-01 was 2,246 tons valued at Rs 38.9 million during same period.

Taking into consideration, the trend in the last 10 years in the quantity of exports of cashew kernels, it is expected that by the years 2005 and 2010 the export will reach 129,059 tons and 176,675 tons respectively, whereas in terms of value it is expected to reach 29.16 billion and Rs 51.39 billion respectively during the same period. It is expected that during 2005 and 2010 the quantity of raw cashew nut imports will decrease to 642,318 tons and 416,863 tons respectively whereas in terms of value, it is expected to increase to Rs 31.03 billion and Rs 73.75 billion during same period. In the quantity of exports of cashew nut shell liquid, it is expected that during 2005 and 2010 the export will decrease to 1,691 tons and 1,375 tons respectively. In terms of value, it is expected to increase to Rs 73.305 million and Rs 100.87 million by 2005 and 2010 respectively.
8.1.4.2 Direction of Indian cashew trade

USA and Netherlands are stable importers of Indian cashew kernel with high probability of retention while Australia is moderately stable importer. UK, Japan, UAE and Singapore were the unstable importers.

USA and Netherlands will continue to be the major importers of Indian cashew kernel in future also although other importers like UK, Japan, UAE, Singapore and Australia are likely to increase their share at the cost of USA and "Other countries".

The US is the major importer with around 52 per cent share followed by Netherlands with 19 per cent. It is a known fact that the Indian cashew industry is heavily dependent on international markets. Over dependence on one or two nations will adversely affect India's capacity to bargain for better prices even with a quality product, considering the size of the major market.

8.1.4.3 Price behavior of cashew

The results amply proved that there is a long-run equilibrium of the prices of cashew kernel in India and USS markets. This explains the tendency of domestic cashew prices to move in-unison with the international market prices in the long-run confirming the Law of One Price (LOP). The reasons for India-Netherlands may be due to short-term disturbances. However the same shall be studied with rigorous analyses procedures and it has to be established, whether this out of co-integration result is temporary or permanent. In that case there might be some inefficiency in the price transfer between Netherlands and Indian Market.

8.1.4.4 Strength, Weakness, Opportunity and Threat (SWOT) of the Indian cashew industry

Table 8.1.4 Strength, Weakness, Opportunity and Threat of the cashew industry

<table>
<thead>
<tr>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative advantage over other countries.</td>
</tr>
<tr>
<td>Good quality, size, colour and taste of the kernel.</td>
</tr>
<tr>
<td>Availability of cheap labour.</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>Fast growing domestic and international demand.</td>
</tr>
</tbody>
</table>

**Weakness**

- Very low yield of the raw cashew nuts.
- Non-availability of raw nut for imports and unpredictable domestic production.
- Number of over-aged plants are more.
- Processing units are not utilized to its maximum capacity and throughout the year.
- Gender difference in wage rates and other benefits.
- Database on cashew is weak.
- Exports of cashew kernel in bulk packaging and as plain cashew kernel without value addition.
- Very less institutional support for the industry.
- Ban on manufacture of liquor from cashew apple except in Goa state.

**Opportunity**

- Huge potential to develop cashew as a plantation crop on commercial basis.
- Bright future in developing cashew plantations in wastelands.
- The good interest of cashew processors in promotion of cashew cultivation.
- Cashew apple processing and exploitation of byproduct CNSL.
- Value addition for kernels.
- Address wrong perception about fat content of cashew kernel.
- Government support in increasing area under cashew cultivation.
- Strengthening the market in low-intake countries.
- Brand promotion.
- Good demand for organic food.
- No import tariffs in importing countries.
- Market information systems.

**Threat**

- Vietnam emerged as a threat not only in buying raw cashewnut, but also in selling kernels to our traditional buyers.
- Competition for cashew in the international market from other tree nuts.
- Deteriorating terms of trade.
- Stringent quality requirements and standards from importing countries.
- High tax rates on cashew industry in the domestic market.
8.2 Policy Recommendations

8.2.1 Cashew Production

8.2.1.1 Establishment, management, viability and sensitivity of commercial scale cashew plantation in India

It is important that depending upon the climatic conditions, the fertilizers are to be used at the right time in the right dose. To achieve higher productivity, technology package for every agro-ecological zone and a technology pattern for every state are to be popularised. To combat the incidence of pests and diseases, control measures through proper management of phytosanitation, proper surveillance and adoption of bio-control measures are to be adopted. Since, flooding of chemicals is hazardous, reducing the usage of chemicals by shifting to organic farming is better.

Government of India is providing substantial assistance for promoting micro-irrigation in cashew, but it has not reached the real beneficiaries, the farmers to the desired extent. Besides, research studies on canopy management system and water management need to be conducted.

Organic farming in cashew should be encouraged. Farmers should be in a position for to get proper certification easily. The guidelines being developed by Directorate of Cashewnut and Cocoa Development should be tested on a pilot scale in a few areas and then applied with suitable suggestions in implementing the programme on a large scale.

There is a need to develop model cashew farms. The farms could be owned by progressive farmers. Research and developmental practices should be tested in progressive farmer's field to transfer the benefit to other farmers.

There is an urgent need to exploit cashew apple for commercial purpose, which will give added revenue to the farmers. It is necessary to take a policy decision to promote setting up of distilleries for fenny. Subsidies available from Food Processing Department for the establishment of processing units can be availed for this purpose.
8.2.1.2 Growth and stability in India's raw cashew nut production

The cashew industry has hardly had any institutional support. There is a need for institutional support for this industry. Classified as a luxury nut, it has been mostly left to trade and industry to fend for itself.

The fundamental action called for making Indian cashew the world leader is to declare it as a plantation crop and exempt it from land ceiling laws so that even the wastelands lying idle are brought under cashew cultivation, and all the interested individuals and corporate units can take up cashew production on a large scale.

The international market for organic food is booming. In Europe, Japan, United States and other regions of the world, the consumers are becoming more and more health and environment conscious which in turn has increased the demand for organic food. Major areas under cashew cultivation in India do not receive any regular fertilizers /pesticides /fungicides, but it is not differentiated from non-organic raw cashew and hence there is very vast potential of bringing those areas under organic farming practices to exploit the marketing avenues available globally for organic foods.

8.2.2 Cashew Development in Other Countries

The Indian raw nut production continues to hover around 5 lakh tonnes when the raw nut requirement of the processing industry in the country is estimated to be around 12 lakh tonnes a year. In spite of all efforts, the industry could not find adequate raw cashew nuts to meet its requirements in full forcing many units to remain closed either round the year or for a considerable part of the year. The developments in cashew industry at African countries is in full swing and India may face more problems in getting raw material at good price in the near future. All the possible ways should be used to increase the domestic raw cashew nut productions to make the country self sufficient in raw nuts requirements.
8.2.3 Cashew Processing

8.2.3.1 Raw cashew nut processing

Procuring quality raw nut: Procurement of raw nuts is mostly based on personal experience and floating or cutting results form the criteria for fixing the price. Raw nut moisture content also has to be taken into consideration along with prescribed quality standards, while fixing up the price.

Increasing raw cashew nut shelf life: The warehouse for raw nuts must be treated with special/utmost care for maintaining the nuts at a safer level of moisture by exercising control over the warehouse environment. Control can be achieved by good ventilation and using new fumigated bags. For adequate aeration, free space must be there between two stacks in a row. The quality of nuts and their environmental condition during storage is also a factor on which the storage life of raw cashew depends. Moisture condensation in godowns at certain pockets and consequent microbial growth result in delirious fluctuating temperatures at the godowns. Relative humidity of the atmosphere plays a vital role in safe storage of raw nuts. The nuts absorb or desorbe moisture for maintaining equilibrium with relative atmospheric humidity.

Increasing recovery of white kernels: In the case of steam boiling, steam pressure and duration must be optimised for various origin nuts with rotational speed (rpm) of drum and feed rate. In borma dryer, the temperature and duration of drying must be optimised and thermostatic control must be included in the design of borma dryer for uniform drying.

Minimisation of labourers' drudgery: An improved cashew-shelling unit must be developed for minimising the drudgery of the labourers who operate the shelling unit and to avoid the CSNL effect on the hands of the operator.

Kernel scorching in borma dryer: Uniform circulation of hot air must be maintained at constant temperatures all through the process in the tunnel dryer by providing thermostatic control.
Maximising whole kernel recovery in peeling process: One can try mechanical means for peeling the testa automatically, i.e., puncturing the testa layer and peeling through forced air.

Overcoming cumbersome vita packing system: For this, the flexible packaging system with NO$_2$ gas infusion or moulded vacuum packaging may be followed. This will bring down the packaging cost to a great extent.

Hygiene in the processing place: Authorities issuing license for setting up cashew processing industries must be very strict with regard to cleanliness.

Upgradation of technology: Only a few processors have gone in for oil bath roasting that has the advantage of obtaining CNSL. This is probably because of the capital investment that is required for adopting technology that is 10 times more than the drum roasting.

Number of processing units: The number of raw nuts available for processing has dropped short of the requirements for full use of the capacity. The insufficient raw nuts have brought about reduction in the days of employment for the large number of workers who depend on cashew processing. Less capital investment and huge profits have acted as incentives for creation of additional capacity. However, under-utilisation of capacity and severe under-employment of labourers in the existing factories is increasing. Due to this, creation of additional capacity in the industry and emergence of new industry must not be encouraged.

Upgradation of technology: The drum roasting method of cashew nut processing which is followed at Palasa region of Andhra Pradesh, currently in vogue, creates public health hazard due to emission of smoke during nut roasting. Existing large number of cashew units create unhealthy atmosphere in raw nut procurement. Processors should make up their mind to gradually switch over to the cost-effective method of processing i.e. steam boiling method, for higher qualitative and quantitative output. Commercial banks and
agencies should extend possible help for the change in the system and growth of cashew sector in this region, as rural economy is closely associated with this industry.

**Technology development:** There is a need for greater institutional look at the industry form academic and support angle. The constraint is that industry sponsorship will not be forthcoming. Reluctance of scientists and academicians is understandable, as it will not further their interests. At the moment an Indian initiative for technological improvement looks bleak. The industry has inertia in respect of developing any technology of its own unless it is absolutely necessary. The industry should take initiative for seeking or hunting for new technology.

8.2.3.2 **Raw apple processing**

**Awareness about the usage of cashew apple:** Nutritional education on end use of cashew apple varieties and products for children, adults and elderly of specific products created by scientists of State Agricultural Universities, especially of University of Agricultural Sciences, Bangalore, where there is a project specifically funded by the ICAR has contributed in this useful aspect of the crop. Its research outcome should be widely popularized in local languages. Vocational institutes should teach how to utilize lesser utilized fruits and their products in value added products. All mass communications media should be intensively and persistently used for some five years to imbibe in the minds of people regarding benefits of cashew apple and products technologies available for use by the concerned.

**Promotion of small scale cashew apple processing units:** Intensive training program and support for small scale processing units with local participation of planters is a must. Highly negligent handling of cashew apple should be stopped by making cashew owners to have a mandatory fruit processing center from Cashew Development Board or whoever could enforce in reality this act by farmers.

8.2.3.3 **CNSL processing**

**Identify new buyer/source for CNSL:** There are few numbers of CNSL buyers from
India. CNSL producers should identify the new buyers and new destinations for exports of CNSL.

Currently around 64 per cent of the CNSL exports to USA is from Kerala, and from different sister concerns of the same firm. Importer can explore the possibility of sourcing CNSL from other regions also like Karnataka, Goa, Orissa and Maharashtra. This is because Karnataka is the largest producer of CNSL in India followed by Tamil Nadu, and Orissa is having an uptrend in CNSL production in recent past and exports from these regions are almost negligible. Proximity of Mangalore port to CNSL producing regions in Karnataka is an added advantage for exporting the same to different destinations. Though Maharashtra is the largest producer of raw nut, CNSL production is not showing any upward trend.

**Long - term supply contract:** CNSL producers can explore the possibility of entering into a long - term supply contract with the major CNSL buyers from abroad as there are very few number of CNSL buyers in the world. This kind of long - term supply contract would lead to assured supply of CNSL for the company at pre fixed prices, which would also intern motivate the manufacturers to produce it.

Some of the large CNSL producers are open to such concept, as it would give them an assured level of off - take at regular intervals. In Goa M/s Zyante Company is interested in exploring CNSL exports with some reliable party. While in Karnataka, Giridhar Prabhu of Achal Industries, Mangalore has initiated a drive to make it a profitable venture by bringing together 7 – 8 major CNSL producers in the state in an effort to book export consignments.

**Production of value added product from CNSL:** Value addition of CNSL at the producer’s end in the form of Cardanol with definite specifications through buy back arrangements should be promoted. This would be viable and lucrative proposition for established CNSL suppliers from India like VLC in Kerala and Fernandes Brothers in Karnataka. Also cheap labour in India complemented with technological inputs and
quality consciousness will provide sufficient quantities of a value added product at a cheaper rate for importers.

**Promotion of research activity:** Research on CNSL, its uses and products dates back to 1960’s in India. This research has been undertaken by the various Central Research Organisations located at different parts of the country. Regional Research Laboratory (RRL), Trivandrum, National Chemical Laboratory (Pune), Indian Institute of Chemical Technology (IICT, Hyderabad), Ravenshaw College (Cuttack) and Indian Institute of Technology (IIT, Kharagpur) have done research on uses and applications of CNSL in different forms long back and have stopped now due to lack of funds. These organisations are ready to do any kind of Research on CNSL if financial support is provided. The outcome of the research already done is available for transfer to industries on payment of a stipulated license fee.

**8.2.4 Cashew Marketing and Trade**

**8.2.4.1 Degree and direction of Indian cashew trade**

There is a need for diversification of the market by strengthening the market in low intake countries like Japan, Australia, Saudi Arabia, Kuwait etc and developing new ones like South Korea, Sweden, China, Belgium, Norway, Turkey etc.

At the same time, India should sustain its relationship with the buyers in the traditional and established markets. This can be achieved by laying emphasis on quality, reliability of supply and promoting the image of Indian cashew.

**8.2.4.2 Strengths, Weakness, Opportunities and Threats (SWOT) of the Indian cashew industry**

There should be a Technology Mission on Cashew, commencing from next FYP (10th FYP), with clear cut goals and objectives and with time-bound activities. The possibility of extending and exploiting cashew cultivation in non-traditional areas should be explored.
Suitable mechanism to replant or upgrade senile trees and plantations should be evolved. The state governments should earmark sufficient funds in the Work Plan under the Macro Management Scheme for this purpose. Acquisition of superior germplasm from other countries and within the country to diversify the genetic base should be a priority area in cashew research. There is a need to develop model cashew farms. The farms could be owned by progressive farmers. Research and developmental practices should be tested in progressive farmers’ field to transfer the benefit to farmer. Efforts need to be made to popularize micro-irrigation in cashew through demonstration and awareness campaign. Government of India is providing substantial assistance for promoting micro-irrigation in cashew, but it has not reached the farmers. Wherever feasible and possible, inter-cropping the cashew plantation with appropriate crops to derive additional income by the farmers should be widely propagated. Integrated pest management should be explored with biotechnological options to avoid environmental hazards emanating by the use of chemicals. Development of village industries for value addition from cashew apple and nut byproducts, and farmers’ union must be encouraged in this direction. Policies on land ceiling giving plantation status for cashew and taxation on cashew nuts and kernels prevalent in various states should be reviewed to obtain better incentive oriented approach for cashew promotion. There is a need to promote organic farming in cashew, for which pilot scale projects could be taken up for studying the impact and economics. A scientific method for estimation of area and production of cashew should be evolved. Cashew apple presently going as a waste should be explored for effective economic utilisation. The DCCD, NRCC and CFTRI together should bring out a feasible strategy in this regard. It is necessary to take a policy decision to promote setting up of distilleries for fenny. Subsidies available from Food Processing Department for the establishment of processing units can be availed for this purpose. There is a need to tap the cashew market in non traditional countries.
8.3 Conclusion

Instead of spending nearly Rs 9 billion on raw cashew nut imports every year, processing it and re-exporting, India can develop commercial cashew plantation on wastelands and forest areas by following the recommended package of practice. By this, there will be stability in raw cashew availability, and thus exports will be stabilized and valuable foreign exchange can also be saved along with wasteland development and employment generation.

India enjoyed a monopoly in the international cashew kernel trade supplying 95 per cent of the kernels until three decades ago, but the same has declined to around 50 per cent of the global trade at present. India will not be able maintain its prime position in the world market by depending on imported raw cashew nut to make up for the shortfall in the availability of raw cashew nut for processing as supplier country are starting processing in their own countries. The production of raw cashew nuts in the country is far below the requirement of the processing sector and potential available for export.

All said and done, there is no single solution for the problem the Cashew industry is facing in the country. Indeed, they require cohesive integrated strategies, which can drive solutions, and their proper execution. In this context, the industry participants such as the domestic growers, processors, marketers, exporters and the Government are at the vanguard of a great task and they must embrace with passion for a real change. The risk factor is more in the cashew processing industry. Inspite of the efforts of the various state governments, the production is going up at a very slow pace. One may not be surprised if Vietnam takes the lead position in cashew production and exports in the near future. Till the production is stepped up, the future of the industry is in question. The tools such as large scale cashew production, economic processing technology, marketing, branding, generic promotion etc will gain due importance and create a total win-win situation for cashew industry in India.