Chapter 5
CASHEW DEVELOPMENTS IN OTHER COUNTRIES
5. CASHEW DEVELOPMENTS IN OTHER COUNTRIES

Cashew production takes place mainly in the Central and South American Zone, Asia and Oceanic Zone and African Zones. The total raw nut production in the world is around 1.18 million tons from a total area of 3.51 million ha. (The productive area is likely to be lower). The average global productivity is only around 500 kg/ha, although in some countries the production figures are considerably higher because of location – specific reasons.

Among 28 countries in the world involved in cashew production, 26 countries are actually engaged in production of cashew either for export or for their own consumption or for both export and domestic consumption.

The major Asian producers of raw cashew nuts account for nearly 55 per cent of world cashew production. They are, by order of importance: India, Vietnam, Indonesia and China. India alone produces 32 per cent of world raw cashew nut production.

The major African producers and exporters of raw cashew nuts account for nearly 30 per cent of world cashew production. They are, by order of importance: Tanzania, Mozambique, Guinea-Bissau, Ivory Coast, Nigeria, Benin, Kenya, Senegal and Madagascar. These African countries earn 20 per cent of the international trade's proceeds in raw nuts and processed cashew kernels.

Jake Walter, Mozambique director of Techno Serve, 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. He notes that, directly or indirectly, almost 80 per cent of the country's population is connected to the cashew industry.

India is the major importer of raw cashew in the world for the manufacture of cashew
kernel. Due to inadequate indigenous production, the industry is forced to import over 250,000 tons of raw cashewnut annually, mainly from African countries for export processing. Cashew kernel export, by and large is not stable mostly due to the non-availability of raw nut for imports and unpredictable domestic production. The processing units are not using their full capacity and working throughout the year.

Most of the cashew producing countries which were traditional suppliers of raw cashew nuts to India are revamping their cashew processing facilities to process and export cashew kernels rather than exporting raw cashew nuts to India. Development of cashew processing in those countries is bound to affect the availability of raw nuts for import into India. International development agencies have recognized cashew cultivation and processing as an effective poverty alleviation measure in developing countries. They are providing funds to Africa and Southeast Asia for the development of cashew industry. India cannot maintain its prime position in the world market by depending on imported raw cashew nut for making up the shortfall in the availability of raw cashew nut in the domestic market. Over dependence on few supplying nations will adversely reflect on India’s capacity to bargain for better prices which interm will influence the price of Indian cashew kernel.

This chapter meticulously detailed the market structure and conduct of twelve major raw cashew nut suppliers to India in the World. This research report is of immense value to Indian raw cashew nut importers, processors and cashew kernel exporters in providing an in-depth understanding of the cashew industry at raw cashew nut supplying countries. As a part of the research efforts, the data is compiled from various sources such as the press releases of seminars and workshops organised by International Trade Centre and Common Fund for Commodities, various stakeholders of cashew industry at different countries, "Cashew Journal", "Cashew Bulletins", "DGCIS Statistics", "Cashew Export Promotion Council of India", and various websites. I gratefully acknowledge all the sources. However, it must be mentioned here that there would be some discrepancy in the data collected, as it is from different sources.
5.1 TANZANIA

5.1.1 Structure

5.1.1.1 Historical perspective
Cashew, which is the main cash crop of Southern Tanzania is also grown, to a lesser extent, in other regions, particularly along the coast. Smallholders estimated at 280,000 households on some 400,000 hectares in mono or mixed-crop (casava, grain staples and legumes) production systems predominantly grow cashew nut. Large-scale private plantations occupy about 2,000 hectares in Lindi and Mtwara regions.

Most of the cashew was planted in the 1950s and 1960s with a marked decline in planting since mid 1970s; however, new plantings started again in early 1990s and by late 1990s, non-cashew growing areas (such as Singida, Mbarali and Suluti in Songea) have started planting cashew, especially with effect from 2001.

5.1.1.2 Production
Tanzanian government has been taking various measures to revive the cashew nut industry since 1987-1988 marketing season. This involved establishment of Cashew nut Production Improvement Pilot project (CIPPP) between 1987 and 1989. Prior to this, two other programs, namely, the Cashew nut Improvement Program (CIP – 1990 to 1996) and the Cashew nut Research Program (CRP) were implemented with support from cashew levies (1 per cent of the FOB price is channeled into research). However, liberalisation of cashew marketing has significantly contributed to the improvement of the industry through fair market pricing.

5.1.1.3 Marketing and Export
- Developments in cashew marketing
  - Up to 1962, the procurement and marketing of cashew was carried out by individual private merchants acting as middlemen between producers and Indian buyers. Prices varied widely from place to place, season to season and even within the same season occasionally.
• From 1960, there was a large increase in the number of co-operatives and farmers' associations representing cashew producers.

• In 1962, the Southern Region Cashew nut Board (SRCB) was set up, and this took over the marketing of the whole crop. The SRCB sold nuts to exporters at auctions, and producers were paid according to the price of the last auction. This gave more stable prices to producers.

• The SRCB was replaced in 1963 by the Southern Agricultural Products Board and then by the National Agricultural Products Board (NAPB) in 1964. By then, procurement was entirely undertaken by Primary Cooperative Societies which sold to Regional Co-operative Unions.

• This system lasted till 1974 when, with the establishment of crop authorities, the Cashewnut Authority of Tanzania (CATA) took over the role of NAPB. CATA was given wide ranges of responsibilities for developing the industry by promoting the activities of growers; stimulating processing; regulating and controlling marketing and exporting and advising the government on the industry. In spite of these powers, production underwent a catastrophic decline.

• The co-operative societies were disbanded in 1976, and since then the farmers sold their crop to the village traders who acted as an agent for CATA.

• In 1985, the Tanzania Cashew nut Marketing Board (TCMB) was formed to replace CATA, and procurement of nuts was again channeled through Regional Co-operative Unions (RCU) and village primary societies. TCMB bought the nuts from the RCU at a predetermined annual Into-Store price, arrived at after negotiations between the board and each of the RCUs.

• In 1993, the functions of TCMB were taken over by the Cashewnut Board of Tanzania (CBT).

• For most of the 1970s and 1980s the procurement and marketing system was unsatisfactory and the frequent delays in collecting nuts from villages and making payments to farmers were acting as major disincentive to growers. The inefficiencies in the system resulted in the RCUs accumulating large debts.

• However, the 1990s have seen increasing liberalisation of marketing – licensing of private buyers was started for the 1991-1992 crop, and the government relinquished its
control on pricing for the 1992-1993 crop.

- The benefits of liberalisation for farmers have been very marked and, as a proportion of the export price, farmers received a higher price for their cashew in 1993-1994 than they had ever received before.
- Unfortunately, in 1996-1997, farmers were paid less than they had been over the past few years due to the high level of taxes imposed by district authorities and export levies.

Marketing channels

Cashew nut is currently marketed under a multi-channel system. According to a study undertaken by the University of Dar es Salaam in 2001 on the “Verification of Cashewnut Statistics of the 2000-2001 harvest,” there prevailed three types of channel structures, namely, the corporate, the extended and over-extended channels. These channels are briefly described below.

- The corporate channel
  Technically, a corporate channel means that the intermediaries are either integrated into the corporate structure of the exporter or at least administered by the exporter. Hence, it is a form of a no-intermediary channel. Invariably, wherever this channel structure prevails there is only the exporter between the international buyer and producer. Typically, the exporter gets in touch with the producers through a Primary Cooperative Society, which serves as a non-trader intermediary. There was only one exporter – OLAM (Tanzania) Limited, which operated under a corporate channel in 2000-2001 marketing season. In addition, they showed that the exporter OLAM (Tanzania) limited, consistently offered better prices to producers than the rest of the dealers and was a clear market leader.

- Extended trade channel
  The extended trade channel consists of at least four members: The international buyer, the exporter, the agent and the sub-agent. Also, between the sub-agent and the producers, there is, in most cases, the Primary Cooperative Society serving as a non-trader intermediary.
The major disadvantage of this kind of a channel structure is that benefits are with the middlemen. Thus, this kind of channel structure offers a strong motive for the better-placed channel members to cheat the channel members who rely on them for the price, which the dealers are willing to offer. Consequently, the flow of market information is severely hampered. In this arrangement, the producers are at the receiving end.

- **Over-extended channel**

One of the characteristic features of the supply-demand link, which emerged following the liberalization of the cashew nut market and the resultant market situation thereof, is the creation of an over-extended trade channel. In its more extended form, the distribution channel consists of more than four members: The International buyer, the Exporter, the Regional Agent, the Regional Sub-Agent, the District Sub-Agent and the Village Sub-Agent. Also, the Primary Cooperative serves as an intermediary between the producers and the village subagents.

It has been learnt from these marketing channels that producers of cashew nuts have very weak organisations in the form of cooperatives. Therefore, the cashew nut farmers do not have strong collective organs to promote their interests during the selling of their cashew nuts resulting in lack of bargaining power when they negotiate with the traders. In order to strengthen farmers’ organizations, the Government has established the Ministry of Cooperatives and Marketing to promote and support farmers’ organizations.

- **Marketing performance**

It can be noted from the below table that the average producer price of cashew nut increased substantially in 1994-1995 after the agricultural marketing system was liberalised. The price continued to improve steadily and reached a record level of Tshs 600 (US$ 0.67) per kg in 1999-2000 (Fig 5.1.1). However, the producer price fell drastically in the following marketing season (2000-2001) due to decline in the world market prices of kernels caused by over supply of cashew nuts.
5.1.1.4 Processing

Over 95 per cent of the cashew nuts produced in Tanzania are exported in raw form to India and a small proportion goes to small-scale backyard processors. Unfortunately, to a large extent, this situation continues even today when there are 12 large-scale cashew nut processing factories in Tanzania.

Currently there are two medium-scale cashew nut processors. Mohamed Enterprises processes about 1,500 tons of raw nuts while Premier Cashew Industries processes about 4,000 tons annually. Processed kernels are exported to United Kingdom, South Africa, South Korea, Pakistan and Kenya.

Only a small part of national production is consumed locally after processing by traditional methods. Wider local use is made, however, of cashew apples, which are eaten fresh or used to produce a local beer (ulaka) or a spirit (nipa). Nevertheless, most apples are unused, but measures are underway to make cashew juice and other secondary products such as jams, chutney, pickles, vinegar and candy.
5.1.2 Performance

5.1.2.1 Production

Quantity of production

Cashew gained economic importance in Tanzania just after Second World War when 7,000 tones of raw nuts were exported to India. Ten years later, cashew production increased by three folds, and in 1960 about 42,000 tones of raw nuts were exported. Since then, production continued to increase and reached a maximum of 145,000 tones in 1973-1974 season (Fig 5.1.2). The main reasons responsible for this increase in production were probably increase in acreage, improved management practices and good producer price.

Fig 5.1.2 Production of raw cashew nuts at Tanzania

Source: CBT

Unexpectedly, from 1974-1975 season, production trend reversed, and there was a continuous and drastic decline in cashew production falling to as low as 16,400 tones in 1986-1987. The decline in cashew production was consistent in all cashew-growing areas in the country and resulted in a large loss of revenue to growers, processors and the

**Types of cultivated cashew nut**

The Agricultural Research Institute at Naliendele in Tanzania is one of the few places in the world where cashew is given precedence.

<table>
<thead>
<tr>
<th>Cashew Genotype</th>
<th>Country of origin</th>
<th>Cashew genotype</th>
<th>Country of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>Sri Lanka</td>
<td>AZA17</td>
<td>Zanzibar</td>
</tr>
<tr>
<td>AC4</td>
<td>Sri Lanka</td>
<td>AIN62</td>
<td>India</td>
</tr>
<tr>
<td>AC6</td>
<td>Sri Lanka</td>
<td>ATA19</td>
<td>Tanzania (Tanga)</td>
</tr>
<tr>
<td>AC10</td>
<td>Sri Lanka</td>
<td>AM6</td>
<td>Malaysia</td>
</tr>
<tr>
<td>AC22</td>
<td>Sri Lanka</td>
<td>AT58</td>
<td>Tanzania</td>
</tr>
<tr>
<td>AC28</td>
<td>Sri Lanka</td>
<td>BR lines</td>
<td>Brazil</td>
</tr>
<tr>
<td>AC43</td>
<td>Sri Lanka</td>
<td>Duckie</td>
<td>Cookie Island</td>
</tr>
<tr>
<td>AZA2</td>
<td>Zanzibar</td>
<td>Cookie</td>
<td>Cookie Island</td>
</tr>
</tbody>
</table>

Source: Agricultural Research Institute, Naliendele, Mtwara, Tanzania

Two grades of cashew nuts are distinguished in Tanzania: “Standard “and “Under grade”. Standard nuts are defined as those containing no more than 0.25 per cent by weight of foreign matter and no more than 13 per cent by weight of void, damaged, immature or previous season’s nuts. Moisture content should not exceed 13 per cent. Under grade nuts are those not meeting these requirements. It is estimated that standard nuts comprised about 80 per cent of the national production.

**Principal factors influencing the production**

- Since 1960s, the cashew industry was stifled by low producer prices and inefficient centralized marketing organisations working under monopolistic conditions.
- In addition, cashew had a serious disease problem establishing itself over the same period.
The last few years have seen very encouraging increase in production, but for this to continue, inputs (chemicals and machines for disease control and improved planting materials) will need to remain readily available.

- An effective marketing system needs to remain in operation, and the farm-gate price of raw nuts must continue to be attractive.
- It is also imperative that taxation be restrained and kept to a reasonable level.
- Market liberalisation of the cashew industry, whereby inputs, crop and processing business were privatized with minimum interference from the government.
- Availability of capital and production loans from banks and the development of Savings and Credit Co-operatives (SACCOs) among cashew farmers.
- A shortage of labour has probably been one of the most important factors limiting the rehabilitation of abandoned farms, particularly those that were abandoned for many years.

5.1.2.2 Processing

- Evolution and prospects of cashew processing

Ever since the start of the industry, most of the exports have been in the form of raw cashew nuts, which have been shipped to India. The volume of raw nuts exported from Tanzania has followed closely the trend in its production.

Domestic processing of nuts for export started in Tanzania in 1950 with a small-scale plant in Mtwara. However, this failed because of labour supply problems. Mechanised processing began again in 1965 when a new factory was built in Dar es Salaam, and this was followed in 1970 with another one built in Mtwara. During the 1970s, annual processed kernel exports amounted to about 4,000 tons per annum. In 1974, loans from the World Bank and Bank of Sicily were obtained to finance 7 more factories at Lindi, Mtama, Mtwara, Nachingwea, Masasi, Newala and Dar es Salaam. Later, additional factories were built with the same financing in Mtwara, Newala, Kibaha and Tunduru. Twelve factories were fully established for the 1982-1983 season, and this gave a total processing capacity of 112,000 tons. Unfortunately, cashew production had dropped to 48,000 tons instead of increasing to 200,000 tons which was anticipated in 1974.
Throughout the 1980s, most of the factories remained out of operation due to erratic supply of nuts and raw materials, and the export of kernels averaged only about 2,100 tons per annum; as a by-product, small quantities of cashew nut shell liquid were also produced and exported. With the revival of the industry in the 1990s, there is renewed interest in processing, and arrangements are being made for leasing several of the processing factories to private companies.

**Fig 5.1.3 Raw cashew nuts exports to India, 1989-90 to 2000-2001**

One study conducted during 1998 reported that the margin was small (about US$40 per ton) when kernels are sold. Tanzania is gradually moving towards more local processing of cashew nuts. It is estimated that one per cent of nut produced in the country is processed by small-scale processors. There are several advantages of small scale processing: Realization of higher kernel out-turn percent of about 86 per cent as compared to 55 per cent in large-scale factories; low investment cost (manpower, training and machineries) and finally, income distribution particularly to women.

Apart from the government assistance, small-scale processors have been supported by various organizations like Equal Opportunity for All Trust Fund (EOTF), NGOs and respective District Councils. The Government promotion had involved setting incentives for local processors and investors in the cashew nut industry sector. Incentives include
remission of export taxes, reduction in District Council levies and support in rural infrastructure.

Types of processed product available for marketing
Cashew kernel is the only main commercial product exported from Tanzania. Cashew nut Shell Liquid (CNSL) was exported during the early 1990s when processing was undertaken.

Kernels are exported in specific grades such as whole white kernels, whole scorched kernels, whole dessert kernels and white pieces. Measures are underway to conduct secondary processing, which will lead into commercialising of more products such as apple juice, pickles jam etc.

Principal factors influencing the processing performance
Some of the factors influencing the national processing performance are:

- Low comparative advantage in processing (technology and labour)
- Low nut production below factory requirement
- Low effective demand (difficult in market penetration)

The government is addressing the situation by encouraging local nut processing and selling or leasing out the existing factories to private traders. Other incentives to encourage local processing include removal of 1 per cent cess on cashew nut intended for local processing; provision of 2 years tax holiday for the acquired factories and some relief on export taxes of kernels.

It has also been found out that most of local processing initiatives are affected by lack of capital, storage and low quality of finished goods.
5.1.2.3 Export

Exports of raw cashew nuts

Tanzania exports most of its crop in raw form. Farmers earn income only during the short season (October-January). During 1980s and 1990s Tanzania’s exports of raw cashew nut to India rose steadily to about 100,000 tons (Fig 5.1.4).

Fig 5.1.4 Exports of Cashew Kernels, 1972 to 1992 Source: Cashew Board of Tanzania

In Tanzania, export prices (f.o.b.) for raw cashew nuts have been fluctuating over the last 11 years between 1989 and 2000. However, Tanzania has also imposed an export tariff of 3 per cent on the f.o.b. value; this is neither for the purpose of promoting nor protecting local processing but as a source of revenue to the Cashew Board of Tanzania (CBT), Cashew nut Industry Development Fund (CIDEF) and research activities.

- Degree of organization and coordination of the sector

Generally, the marketing of cashew nut in Tanzania is regulated by CBT, which is the Government body. According to CBT, two key aspects of the regulations require the producer and the buyer to do the following:

- The producers to collect the nuts, grade and sell them in two grades (Standard and Under Grade) at designated buying centers.
The buyers to register themselves with the Board. They have to obtain a buying license worth Tshs 60,000 (US$ 66.7) per district.

**Quality of the exported products**

With an intention of offering fair average quality certificates to exporters based on cutting tests, Cashew nut inspection service was available with effect from 1952. Formal grading of cashew nuts was not introduced until 1995-1956. It was carried out when the cooperative societies delivered the nuts to the National Agricultural Products’ Board warehouses. In 1968-1969 farmers were required to grade their nuts at the farm level and a two-tier price system was introduced which recognised two grades of nuts at the buying posts.

In Tanzania when cooperatives served as original buyers in most cases and delivered the nuts to the Cashew board warehouses in Mtwara, farmers were required to grade their nuts at farm level before selling to the cooperatives. Since 1976, after the abolition of cooperative unions, CATA has been purchasing the nuts directly from the village societies and is also taking care of export.

The Cashew nut Board of Tanzania in collaboration with SGS Company Limited is basically doing nut quality analysis. Main tests conducted for nut quality analysis includes nut counts, percentage defective, moisture content and Percent out-turn obtained through cutting test.

The raw cashew nuts from the inland parts of Tanzania – Tunduru, Nachingwea, and parts of Masasi are reputed to have higher percentage out-turn and lower moisture content. Most Indian buyers conduct cutting tests on nut samples before they buy the product at the buying posts or collection centers. Tanzania has no established laboratories for quality control aspects as most of the tests are carried out using simple portable tools like moisture analysers, weighing scales, etc. Measures are underway to establish a quality control laboratory at the Agricultural Research Institute, Naliendele, Mtwara.
5.2 MOZAMBIQUE

5.2.1 Structure

Cultivation of cashew in Mozambique was introduced in the 17th century by the Portuguese. Enjoying privileged conditions to grow this crop, cashew became the most important cash crop among rural Mozambican households, and represents an important source of rural household incomes, in particular for female-headed households.

5.2.1.1 Historical Perspective

Table 5.2.1 Historical perspective of cashew at Mozambique

<table>
<thead>
<tr>
<th>Year</th>
<th>Event/ Policy Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>Caju Industrial (present day Polycaju) processing factory was established in Maputo</td>
</tr>
<tr>
<td>1965</td>
<td>Cajuca de Machava (present day Mocaju) was established</td>
</tr>
<tr>
<td>1965</td>
<td>Anglo American established Mocita processing factory in Xai- Xa</td>
</tr>
<tr>
<td>1965</td>
<td>Procaju-Manjacaze processing factory was established</td>
</tr>
<tr>
<td>1965</td>
<td>Procaju-Inhambane processing factory was established</td>
</tr>
<tr>
<td>1969</td>
<td>Antonio Eanes processing factory (present day CC- Nacala Ango facility) was established</td>
</tr>
<tr>
<td>1969</td>
<td>Socaju processing factory (present day CC- Nacala -Nacala facility) was established</td>
</tr>
<tr>
<td>1971</td>
<td>Cajuca de Angoche (present day Angoca) processing factory was established</td>
</tr>
<tr>
<td>1971</td>
<td>CC- Monapo processing factory was established</td>
</tr>
<tr>
<td>1973</td>
<td>Inducaju processing factory was established</td>
</tr>
<tr>
<td>1975</td>
<td>Mozambique gained independence from Portuguese</td>
</tr>
<tr>
<td>1975</td>
<td>Owners of Cajuca de Angoche, Cajuca de Machava, Polycaju, Procaju Inhambane and Manjacaze abandoned processing factory</td>
</tr>
<tr>
<td>1975</td>
<td>The Frelimo Government intervened in Cajuca de Angoche, Cajuca de Machava, Polycaju, Procaju Inhambane and Manjacaze</td>
</tr>
<tr>
<td>1978</td>
<td>Raw cashew exports banned</td>
</tr>
<tr>
<td>1979</td>
<td>Government created Caju de Mocambique, a state-owned holding company</td>
</tr>
<tr>
<td>1979</td>
<td>Government incorporated Cajuca de Angoche, Cajuca de Machava, Polycaju, Procaju Inhambane, Manjacaze into Caju de Mozambique</td>
</tr>
<tr>
<td>1979</td>
<td>Antonio Eanes processing factory went into receivership and was managed by Caju de Mozambique</td>
</tr>
<tr>
<td>1979</td>
<td>Socaju processing factory went bankrupt and was managed by Caju de Mozambique</td>
</tr>
<tr>
<td>1981</td>
<td>Anglo-American pulled out of Mozambique</td>
</tr>
<tr>
<td>1981</td>
<td>Mocita entered voluntary receivership and Caju de Mozambique took over the daily management of the factory</td>
</tr>
<tr>
<td>1982</td>
<td>Civil war in Mozambique begins</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1984</td>
<td>Mozambique joined the IMF and World Bank</td>
</tr>
<tr>
<td>1987</td>
<td>The period of structural adjustment began with the announcement of the Programa de Reabilitacao Economica (PRE)</td>
</tr>
<tr>
<td>1987-88</td>
<td>The government-established producer price increased from 10mt/kg to 105mt/kg</td>
</tr>
<tr>
<td>1989</td>
<td>Privatization program for all SOEs begins</td>
</tr>
<tr>
<td>1991-92</td>
<td>Export ban on raw cashews lifted</td>
</tr>
<tr>
<td>1991-92</td>
<td>QR 10,000 tons and tax of 60% on difference between FOB and factory gate price</td>
</tr>
<tr>
<td>1991</td>
<td>Bankruptcy court sold Socju to CC- Nacala</td>
</tr>
<tr>
<td>1992</td>
<td>Bankruptcy court sold Antonio Eanes to CC- Nacala</td>
</tr>
<tr>
<td>1992</td>
<td>Civil war ended</td>
</tr>
<tr>
<td>1992-93</td>
<td>Tax on difference between export FOB and factory gate price was lowered to 30%</td>
</tr>
<tr>
<td>1993-94</td>
<td>QR of 10,000 tons was maintained</td>
</tr>
<tr>
<td>1993-94</td>
<td>Export tax (difference between export FOB and factory gate price) was maintained at 30%</td>
</tr>
<tr>
<td>1993-94</td>
<td>QR was loosened - initial QR remained 10,000 ton, but 2 additional 5,000-ton lots were auctioned off to registered exporter</td>
</tr>
<tr>
<td>1994</td>
<td>World Bank commissions study of cashew industry by Hilmar Hilmarsson</td>
</tr>
<tr>
<td>1994</td>
<td>Cajeiba processing factory was established</td>
</tr>
<tr>
<td>1994</td>
<td>Government sold Cajuca de Machava (Mocaju) to the HAS-NUR Group</td>
</tr>
<tr>
<td>1994</td>
<td>Anglo-American re-entered Mozambique and partnered with Oltremare in rehabilitating the Mocita processing factory</td>
</tr>
<tr>
<td>1994</td>
<td>WB commissioned cashew industry study by Hilmar Hilmarsson</td>
</tr>
<tr>
<td>1995</td>
<td>World Bank required Mozambique to liberalize cashew marketing and exporting in order to satisfy the “base case” lending condition</td>
</tr>
<tr>
<td>1995</td>
<td>Government enters into formal agreement with WB to reduce export taxes</td>
</tr>
<tr>
<td>1994-95</td>
<td>Government- established minimum producer price increased from 700mt/kg to 1,500mt/kg</td>
</tr>
<tr>
<td>1994-95</td>
<td>Quantitative restrictions on exports were removed</td>
</tr>
<tr>
<td>1994-95</td>
<td>Government introduced a graduated export tax equivalent to about 30-32% of the FOB export value</td>
</tr>
<tr>
<td>1995</td>
<td>Adil-IC processing factory was established</td>
</tr>
<tr>
<td>1995</td>
<td>Government sold Polycaju processing factory and Procaju factories at Inhambane and Manjacaz</td>
</tr>
<tr>
<td>1995</td>
<td>Korea-Mozambique Cashew (KMC) began operating</td>
</tr>
<tr>
<td>1995-96</td>
<td>Export tax (on FOB value) of raw nuts was 20%</td>
</tr>
<tr>
<td>1995</td>
<td>Trade in raw cashews was liberalized, allowing new traders and exporters</td>
</tr>
<tr>
<td>1996</td>
<td>Cabo Caju processing factory was established</td>
</tr>
<tr>
<td>1996-97</td>
<td>Export tax was reduced to 14%</td>
</tr>
<tr>
<td>1997</td>
<td>CC-Nacala ceased operations</td>
</tr>
<tr>
<td>1997</td>
<td>Invape processing factory began operation</td>
</tr>
<tr>
<td>1997</td>
<td>Wolfensohn visited Mozambique and announced the Bank’s commitment to a domestic processing industry</td>
</tr>
</tbody>
</table>
1997 | World Bank commissioned an independent study of the cashew processing sector by Deloitte and Touch
1997-98 | Export tax remained 14%
1998 | KMC ceased operating
1998 | Procaju/ Inhambane and Manjacaze ceased operating
1998 | Madecaju processing factory began operation
1998-99 | Abt Associates performed study on the cashew processing industry for the Mozambican Ministry of Industry
1999 Sept 30 | Parliament approves law calling for export tax between 18- 22% for the next 5 years
1999 | Export tax raised to 18%
2000 | KMC was renamed Socaju and resumed operations
Jan 2001 | Government temporarily bans raw nut export
2001 | Mocita factory closed
2001 | World Bank Consultant Jaikishan Desai completed a study on cashew production and marketing

5.2.1.2 Area & Production

**Raw cashew producing regions**

The coastal zone of the provinces Cabo Delgado, Nampula, Zambezia and Inhambane, Gaza and Maputo are the most important areas of production in which approximately 26 million cashew trees exist, with 37 per cent of the cashew trees located in Nampula Province in the North, where 40 per cent of the total production is marketed. The other three important provinces are Gaza and Inhambane in the South and Zambezia Province in the centre. There are approximately 2 million farmers involved in the production and collection of cashew nuts, for whom this cash crop is the main source of income.

**Fig 5.2.1 Trends in raw cashew production in Mozambique**  Source: International trade centre
Mozambique has been the important cashew nut producer in the world, having achieved its peak in 1972 with the marketing of 217,000 tons of cashew nuts, and more than 95 per cent of the production originated from the smallholder producers within the so called ‘family sector’. Internal capacity to process cashew nuts had reached 80,000 tons per annum.

From the mid 1970s, when Mozambique became an independent country, cashew nut production started to decline (Fig 5.2.1), due to a lack of a strategy able to guide the development of the sub-sector. This was aggravated by the devastating consequences of the severe civil war that lasted for several years, leaving the rural areas isolated and without any attention. The Nadia cyclone destroyed in 1994 about 40 per cent of the existing trees, thus reducing the population from 45 million to around 26 million trees at present. The impact of all these factors caused the decline of the cashew nut commercialisation to levels of close to 50,000 tons per annum, as observed during the last few years.

Sale of raw cashew nut constitutes an important source of income for the average rural household in the main cashew growing provinces. Additionally they process some cashew into alcohol (31 percent), juice (34 percent), dry apple (25 percent), and kernel (62 percent). In the South income from sales of alcohol is an important source of income.

5.2.2 Sector Performance
5.2.2.1 Production

- **Types of cashew cultivated**

  Mozambique cashew tree orchard is composed mostly by a common tree variety whose gestation period lasts roughly 5 to 6 years.

- **Main factors influencing production and harvesting performances**

  There are several factors influencing negatively cashew production such as:
  - Great incidence of diseases and plagues;
  - Very low yields per tree (about 3 Kilos/per tree)
• Uncontrolled fires that destroy every year a portion of the orchard;
• Weak use of best cultural practices
• Weak extension network to support smallholder producers;
• Insufficient economical incentives for cultivation and maintenance of cashew trees, due to relative low prices offered to smallholder producers;
• Lack of credit for the smallholder producer because financial institutions consider them as high risk group;
• Very weak research program to introduce improvements on cashew production;
• Weak structure of the rural communities and the producers organisations;
• In most of the cases unavailability of labour to handle cashew culture, due to the fact that, they are allocated to other crops normally food crops.
• Limited technology to process the fruit.

5.2.2.2 Processing
The cashew industry in Mozambique has a long tradition. The first cashew business was set up by an Indian trader as a cottage industry, among black women in the south of the country which grew up to become the first processing unit in Mozambique. At the time this factory was known as “the factory for women”, since the majority of its work force were women.

5.2.2.3 Price

Tax structure
• In 1991-92, the export ban on raw cashew nuts was lifted and limited quantities of raw nuts were allowed to be exported. However, a 60 per cent tax on the difference between the FOB and factory gate prices and a quantitative restriction of 10,000 tones were imposed.
• In 1992-93, the tax (on the difference between the FOB and factory gate prices) was lowered to 30 per cent, but the quantitative restriction was maintained at 10,000 tones.
• In 1993-94, the export tax was maintained, but the quantitative restriction was loosened. While the initial export quota remained fixed at 10,000 tones, additional quantities were auctioned off in 5,000-tonne lots to registered exporters.
• In 1994-95, the quantitative restriction was lifted and the export tax was reduced to 20 per cent of the FOB value in 1995-96 and then 14 per cent in 1996-97 and 1997-98.
• Faced with domestic opposition to the reductions of the export tax, Mozambique’s parliament passed a bill in 1999 that increased the tax to 18-22 per cent, the exact amount to be determined each year, depending on market conditions. In both the 1999-00 and 2000-01 seasons, the export tax was 18 per cent.

Fig 5.2.2 Trends in producers share of world price  
Source: Technoserve Report

Trends in producers share of world price
Producer prices were significantly increased in 1987-88 from 10 Meticais/kg to 105 Meticais/kg (Fig 5.2.2). The government continued to significantly increase the minimum producer price throughout the 1990s until 1998-99 when it was fully liberalized. During this period, there was near parity between the actual nominal producer price and the government-established minimum price. During the period of the export ban, the government also fixed the "factory gate price" or the price processors paid for their raw nuts. Government control over prices paid by the processing industry for raw nuts was eliminated at the time of privatization, in 1991.
Types of processing plants

An American consulting firm, which undertook a study in 1999, “Assessment of the Status of Competitiveness and Employment in the Cashew Processing Industry in Mozambique”, an original characterisation of the Mozambican Industry by type of technology used, includes each of the 15 existing factories into three main clusters.

- **Former State Owned Plants:** Using Impact Shelling Technology, which includes: Angocaju, Mocaju, Procaju/Inhambane, and Procaju/Manjacaze

- **Traditionally Private Companies:** These use Cutting Technology, which includes Companhia de Caju do Monapo (CCM); the Angoche Division of Companhia de Caju de Nacala (CCN-Angoche); and Mocita

- **New Private Plants:** These use Semi-Mechanical Technology, which includes Cabo Caju, Cajeba, Invape and Madecaju. Recently three new factories using Semi-Mechanical Technology, were installed within the rural areas, 2 in Nampula and one in Gaza. These are small/medium unit, beginning with a capacity under 500 tones supposed to be increased to at least 1500 tones of raw nut.

According to this typology, there are 4 factories that do not fit neatly into any one cluster. Adil IC new private company, which uses impact technology. Inducaju and Polycaju employ mix of different technologies. Inducaju would be a member of the second cluster were it nor for the fact that its semi-mechanical technology accounts for only about a third of its capacity. Polycaju is a former state-owned company. Impact technology accounts for about two-thirds of its shelling capacity, but it also uses manual shelling. Finally Socaju, the former KMC, is the only existing factory that uses manual shelling exclusively (Table 5.2.2).

The trend regarding processing perspectives is not optimistic. It is foreseen that, unless the present structure of the cashew industry is changed, and adequate labour-intensive technologies are introduced, Mozambique will loose its cashew processing tradition.
Table 5.2.2 List of cashew processing units

1. Cashew nut processing factories in Nampula & Cabo Delgado

<table>
<thead>
<tr>
<th>Factory</th>
<th>Owner</th>
<th>Location</th>
<th>Capacity Tons of Nuts</th>
<th>Technology</th>
<th>Last month of operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM (Monapo)</td>
<td>Entreposto</td>
<td>Monapo, Nampula</td>
<td>8000</td>
<td>Oil Bath, Mechanical Shelling</td>
<td>1999 Mar</td>
</tr>
<tr>
<td>CCN (Nacala)</td>
<td>Entreposto</td>
<td>Angoche, Nampula</td>
<td>6000</td>
<td>Oil Bath, Mechanical Shelling</td>
<td>1999 Mar</td>
</tr>
<tr>
<td>Angocaju</td>
<td>Enecomo, Gani, State</td>
<td>Angoche, Nampula</td>
<td>5000</td>
<td>Oil Bath, Mechanical, Hand Shelling</td>
<td>1997 Oct</td>
</tr>
<tr>
<td>Geba</td>
<td>JFS</td>
<td>Memba, Nampula</td>
<td>2000</td>
<td>Steam Roasting, Hand Shelling</td>
<td>1999 June</td>
</tr>
<tr>
<td>Inducaju</td>
<td>AGT, Gani</td>
<td>Lumbo, Nampula</td>
<td>3000</td>
<td>Oil Bath, Mechanical, Hand Shelling</td>
<td>1999 May</td>
</tr>
<tr>
<td>Cabocaju</td>
<td>Jurg Reiser</td>
<td>Pemba, C Delgado</td>
<td>2000</td>
<td>Steam Roasting, Hand Shelling</td>
<td>Currently Operating</td>
</tr>
<tr>
<td>Morrupula</td>
<td>L Rafique</td>
<td>Nampula</td>
<td>1500</td>
<td>Steam Roasting, Hand Shelling</td>
<td>Currently operating</td>
</tr>
<tr>
<td>Mogincua</td>
<td>A Miranda</td>
<td>Nampula</td>
<td>750</td>
<td>Steam Roasting, Hand Shelling</td>
<td>Currently Operating</td>
</tr>
</tbody>
</table>

2. Cashew nut processing factories in Maputo & Gaza

<table>
<thead>
<tr>
<th>Factory</th>
<th>Owner</th>
<th>Location</th>
<th>Capacity Tons of Nuts</th>
<th>Technology</th>
<th>Last month of operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mocita</td>
<td>Anglo- American ED&amp;F Mann Oltremare</td>
<td>Xai-Xai Gaza</td>
<td>7000</td>
<td>Oil Bath, Mechanical Shelling</td>
<td>Currently Operating</td>
</tr>
<tr>
<td>Polycaju</td>
<td>Omare Amade State</td>
<td>Machava, Maputo</td>
<td>3500</td>
<td>Manual, Mechanical</td>
<td>1998</td>
</tr>
<tr>
<td>Mocaju</td>
<td>Grupo Has Nur State</td>
<td>Chamanculo, Maputo</td>
<td>3000</td>
<td>Mechanical</td>
<td>Dec-98</td>
</tr>
<tr>
<td>Procaju I</td>
<td>Carlos Borrhalho State</td>
<td>Manjacaze, Gaza</td>
<td>3000</td>
<td>Mechanical</td>
<td>1996</td>
</tr>
<tr>
<td>Madecaaju</td>
<td>Madeira</td>
<td>Laulane, Maputo</td>
<td>2000</td>
<td>Manual</td>
<td>Currently Operating</td>
</tr>
</tbody>
</table>
3. Cashew nut processing factories in Inhambane Province

<table>
<thead>
<tr>
<th>Factory</th>
<th>Owner</th>
<th>Location</th>
<th>Capacity Tons of Nuts</th>
<th>Technology</th>
<th>Last month of operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invape</td>
<td>V.Rosario</td>
<td>Macuacua, Gaza</td>
<td>2000</td>
<td>Steam Roasting, Hand Shelling</td>
<td>Currently Operating</td>
</tr>
<tr>
<td>Caju do Blene</td>
<td>Mussa</td>
<td>Bilene, Gaza</td>
<td>1500</td>
<td>Steam Roasting, Hand Shelling</td>
<td>Currently Operating</td>
</tr>
<tr>
<td>Procaju II</td>
<td>C.Boralho</td>
<td>Inhambane</td>
<td>3500</td>
<td>Mechanical and Manual</td>
<td>1997</td>
</tr>
<tr>
<td>Adil</td>
<td>V.Chandulal</td>
<td>Maxixe, Inhambane</td>
<td>2500</td>
<td>Mechanical</td>
<td>1997</td>
</tr>
<tr>
<td>KMC</td>
<td>Viriato</td>
<td>Inhambane</td>
<td>1500</td>
<td>Mechanical and Manual</td>
<td>Currently Operating</td>
</tr>
</tbody>
</table>

**Types of processed products commercialised**

Although secondary processing is not usual in Mozambique, some new small processors are selling processed cashew nuts either plain, salted or seasoned with piri-piri (type of red pepper), to local supermarket chains in locally manufactured packaging materials or in vacuum sealed plastic packaging. Individual packaging varies from 100 to 1000 grams. Normally, these products are sold under factory name and the use of a well defined brand name still does not form a part of the marketing strategy, mainly due the fact that domestic market is very small and low demanding in terms of product outlets presentation.

Cabo Caju is the only firm that entered into a marketing agreement with Delta Café to market its products under its own name, but for some reasons the agreement did not work out.

**Main factors influencing the national processing performance**

Most of the affected entrepreneurs blame the Government measures of liberalisation to be the main cause for lack of raw material perceived by them as the main problem. However several studies indicate other reasons and state that even if most of the factories get sufficient raw materials they would not be able to generate profits. These factories have many inherent weaknesses, which can write the death of these factories, unless they
change completely their structure. Some of the problems are:

- Obsolete technology and equipment
- Mixed technology manual (Indian) with automatic (Oltremare-Italian)
- Inefficient lay-out
- Lack of management skills (pointed out as the more serious problem)
- Low out-turn and percentage of whole and white kernel
- Mostly located far from sources of raw nut
- Lack of credit appears today as one of the most important constraints, mainly for small/medium scale processors.

It is important to understand that the old state owned enterprises, which were later privatised, had borrowed funds from Financial Institutions, for the purpose of recovering the old plants. Unfortunately, due to the above mentioned facts, most of these factories went bankrupt.

5.2.2.4 Distribution channels

![Cashew distribution channels diagram]

Small Producers (ca. 52000 tons of raw nut 2000/01)
Raw cashew nuts, kernel and CNSL exports from 1991 to 2001

Raw cashew nut production in Mozambique decreased sharply from the mid-seventies to 1996-97, when some programs intended to reverse the situation were introduced. However, despite the efforts being done by the stakeholders of the sub-sector, Mozambique is still far away from the glory days of cashew production.

Taking advantage of the end of cashew raw nut exports prohibition, a handful of commodity traders and wholesalers, with networks countrywide, entered the business and began to handle huge amounts of raw nut. Gani, Casa Modi, Export Marketing, Gordhandas, Casa Domodar, Golam, Euragel, Olam, and recently ICM, are some of the
most important players. Although this situation translated into an opportunity for exporters, they were not able to benefit from the premium prices for raw cashew nut, due to the poor quality of the export products.

In fact, the prices of raw nut in Mozambique are highly influenced by the Indian market prices. Therefore, after the liberalization and deregulation of internal prices, raw nut prices began to increase sharply in real terms. From 1996-97 producers were steadily increasing their share of the export price.

Between 1980-97 the Government used to fix the minimum price for cashew below market prices to protect the processors. In 1997, the minimum price was replaced by a referential price, apparently without any impact on the alteration of the usual margins for stakeholders. In fact, this was generally ineffective, since the actual prices were on average lower than the minimum price, and most producers did not know the minimum price. In 1996-97, the mean producer price paid to farmers was 36 cents per kilogram, whereas the official minimum price was 35 cents per kilogram.

Farmers do not have formal credit to trade cashew raw nut, except for small amounts available through NGO’s or small Financial Institutions operating randomly throughout the country. As it is virtually impossible for farmers to get credit for their business, they depend heavily on buyers, leading to the oligopolistic structure of the wholesale cashew marketing. This situation gives them very low bargaining powers, and does not allow them to get good prices. They have to accept the prices that the main wholesalers offer to them, as they are the most powerful market players.

Although after the liberalization, farmers are getting a higher share of the export prices, producer price in Mozambique remains low in comparison with those prevalent in Tanzania. Producer price increased by 60 percent between the 1993-94 season and the 1996-97 season. As a share of the world price, producer prices increased from 29 percent in 1993-94 to 45 percent in 1995-96 and to 49 percent in 1996-97.
- **Cashew Kernel**

The decrease in export prices, coupled with the scarcity of the domestic offer, made exports unattractive in the last few years.

When compared with the world market prices, export prices from Mozambique are low, mainly due to the low quality of the kernel. Kernels from Mozambique have a lower percentage of WW (Whole Whites) than those of the main other exporters, namely India, Brazil and Vietnam.

This assessment maintains the hypothesis that Mozambican exporters reduce their potential earnings because they ship less full containers of the same grade of cashew. The standard 20-foot container holds 750 cardboard boxes, weighing 50 pounds each, amounting to a total of 17,010 metric tones.

**Fig 5.2.5 Trends of exports of raw cashew and cashew kernel (quantity in tons)**

![Graph showing trends of exports of raw cashew and cashew kernel](image)

Source: CEPC, Cochin
Fig 5.2.6 Exports of cashew kernels, quantity in ton (1996-2001)  Source: CEPC

Fig 5.2.7 Exports of cashew kernels, quantity in ton (1996-2001)  Source: CEPC

Table 5.2.3 Exports of cashew nut shell liquid, quantity and value (1995-2001)

<table>
<thead>
<tr>
<th>Years</th>
<th>Qty (Ton)</th>
<th>Value (UDS 000)</th>
<th>Unit price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>31000</td>
<td>61.92</td>
<td>0.20</td>
</tr>
<tr>
<td>1996</td>
<td>138460</td>
<td>156.19</td>
<td>0.11</td>
</tr>
<tr>
<td>1997</td>
<td>16200</td>
<td>26.48</td>
<td>0.16</td>
</tr>
<tr>
<td>1998</td>
<td>10800</td>
<td>34.28</td>
<td>0.32</td>
</tr>
<tr>
<td>1999</td>
<td>20000</td>
<td>26.00</td>
<td>0.13</td>
</tr>
<tr>
<td>2000</td>
<td>-</td>
<td>-</td>
<td>No Exports</td>
</tr>
<tr>
<td>2001</td>
<td>-</td>
<td>-</td>
<td>No Exports</td>
</tr>
</tbody>
</table>

Source: CEPC, Cochin
Table 5.2.4 Schedule of export tax (Proposal & Actual)

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry Proposal</th>
<th>WB/Industry Negotiated Proposal</th>
<th>Actual Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995-96</td>
<td>25</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>1996-97</td>
<td>20</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>1998-99</td>
<td>16</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>1999-00</td>
<td>12</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>2000-01 &amp; Continuing</td>
<td>8</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: ITC

According to some industry sources, buyers do not apply a discount as long as a single container holds no more than three different grades of kernel. However, brokers in the U.S. and Europe will apply a discount in the case where the number of grades exceeds three. It is much more profitable and easier for the broker to simply forward a container full of the same grade to the end user.

However, studies suggest that the Mozambican kernel exporters sell at a substantial discount to world market prices. This conclusion is reached by comparing the price Mozambican exporters received over a 12-month period (1998-1999), to FOB export prices of India. The discounts ranging from a low of 8.68 per cent for scorched whole kernels (SW), to a high of almost 27 per cent for Fancy Splits (FS).

- **Degree of organization and coordination of the sector and its effect on the export performances**

  INCAJU introduced an institutional structure that created conditions for the participation of all stakeholders at different levels of the sub-sector, in order to co-ordinate the sector.

- **Quality of the exported products**

  There is no quality control system in Mozambique, which takes care of quality control throughout the whole chain (raw cashew nuts, kernel, products from false fruit etc.)

  This is an area, which INCAJU is trying to organise; by considering the introduction of control/security systems like HACCP/ISO, in order to adhere to the increasingly restrictive regulations adopted by USA and European Union.
5.3 GUINEA-BISSAU

5.3.1 Structure

5.3.1.1 Historical perspective

There are two groups of cashew cultivators in Guinea Bissau: the traditional or family cultivators and the “ponteiros” or farmers. For the family cultivators, it is agriculture for living, whereas the farmers focus on the market. The bulk of the planted area (85 per cent) belongs to the traditional cultivators, whereas the relatively smaller plots belong to the “ponteiros”.

5.3.1.2 Production

In the cashew network, there is a clear division of labour between the different social groups, especially between men and women. The role of men is in land clearing, plantation, maintenance, protection against bush fire and marketing of the nuts. Women take care of tasks related to harvest, making and marketing of wine and rum from cashew, etc. Children too take part in the picking activities as a help to the women.

Table 5.3.1 Work schedule for the cashew activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvesting</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

5.3.1.3 Marketing and export

Marketing depends mainly on the collection of cashew nuts from the growers. Small and medium tradesmen or any person holding a license issued by the Ministry of Commerce can participate in procuring the harvests.

In general, the most common practice to procure is the barter system. The merchants generally exchange rice to procure nuts from the growers. This commercial activity is
done through different permutations between rice and cashew nut. In 1984, for example, 1-kg rice was exchanged for 2 kgs of cashew nut. When the cultivators became organised and started obtaining information about the cashew nut price in the international market, they were able to demand better barter ratios. This is how the barter ratio became 1-kg cashew nut for 1-kg rice. Cash transaction is also done in many cases. But this normally takes place in the middle of a cashew cycle, when the cultivators have stored enough rice for one year’s consumption.

The cycle is structured in the following way. The importers finance the exporters and the national wholesalers and they in turn finance (rice/cash) the small and medium merchants – the intermediaries – who work with the cultivators.

5.3.2 Sector Performance

5.3.2.1 Production

Quantity of production

The annual volume of national production of cashew nut is not exactly known. There is no national institution to register exact information on the subject. In spite of the difficulties regarding the exact determination of the volume of the production, the Fig 5.3.1 shows the rough estimation of area and production.

Fig 5.3.1 Evolution of the national production over the period 1990-2001 Source: CEPC
**Types of cultivated cashew nut**

Two varieties of cashews are cultivated in Guinea-Bissau: Ground cashew, Mozambican cashew.

- **Ground/local cashew**: The ground cashew or local cashew had come to this country from Brazil in the 17th century. This is the one that is mostly cultivated, and it probably covers more than 90 per cent of the area in the total national territory under cashew plantation. The cashew apple is medium-sized, red and very sweet. The size of the nuts is small to very small, and average weight varies from 4 to 5 grams.

- **Mozambican cashew**: The Mozambican cashew, as its name suggests, had been introduced from Mozambique less than twenty years ago by ADPP, an NGO from the northern countries, which has been operating in the country since many years. The pseudo fruit is yellow in colour, and the nut weighs from 6 to 8 grams.

**Principal factors influencing the production**

Many factors can influence the production including the price of the nut and the cultivators’ associations.

- **The price of the nut**

For many years, the cultivators had not shown any interest in cashew cultivation. In the earlier days, one kg of cashew nut was exchanged for one kg of rice, the basic food product for the majority of the Guinean population. The expansion of cultivated area under cashew began in the 1980s when the price of the nut considerably increased and one kg of cashew nut could be exchanged for 2 to 3 kg rice.

In the course of a season, the price fluctuates starting with a lower price that increases considerably by the middle and end of the cycle. Thus, the price will be around 150 CFA francs/kg at the beginning of the cycle, reaching up to 300 CFA francs/kg in the middle and may be even going up to 450 to 500 CFA francs/kg by the end of the cycle. Due to these price levels, there has been an impulse for cashew cultivation in Guinea-Bissau, making cashew the staple agricultural product cultivated in the country.
• **The associations**

Thus, ANAG, the National Association of Guinean cultivators, plays a decisive role in the development of the cashew sector. With the ANAG’s interventions, the peasants started getting the best prices for their nuts. This contributed to the expansion of total cultivated area under cashew. Before this organisation came into operation, the revenue from cashew nut cultivation used to go, to a great extent, into the pockets of the merchants and the exporters, leaving a very low margin for the farmers.

**TIPS/USAID**

Developed and financed by the Government of the USA for supporting the promotion of investment and commerce since 1994, this TIPS/USAID project played an important role in the expansion of the cultivated area and in increasing the yields of cashew over the last few years. This project has allotted substantial amounts for training, research and technology transfer for the cultivators in the country.

TIPS/USAID did not concentrate only on production but also on local processing of the product by creating Training Center of Quinhamel, 50 km away from Bissau. The role of this center was to transmit knowledge in field of cashew nut processing to cultivators and local processors. These initiatives did indeed contribute, as a whole, to the development of cashew in the country.

5.3.2.2 Processing

**Evolution and prospects of cashew processing**

The country has huge potential in the field of raw cashew processing. After the armed conflict of 1998, and due to the instability in the price of cashew nut in the international market, the interest shown by entrepreneurs is increasing towards processing.

The cashew processing evolution here has been interesting. Till 1994, the country did not have any processing units in spite of the fact that in the 1980s an entrepreneur “Mandinga” had started a modern industrial unit. This unit never became functional in spite of possessing advanced technology imported from Italy. The failure of this
pioneering project contributed significantly towards discouraging any further investments in processing.

In 1994 the TIPS/USAID project became functional after importing cottage, industrial and semi-industrial technologies from Brazil. In this project, due to the interest shown by certain small entrepreneurs towards new technology, local production of some processing equipments and other promotional activities took place. Continuing this spirit of promotion and technology transfer, TIPS/USAID installed the “Training Centre of Quinhamel”. This centre offers training courses on both processing and management as well as in the field of production of equipments (stoves, tables, trays). Since 1997, this centre has provided training to hundreds of citizens till date. Training has also been provided to citizens of the neighbouring countries like Senegal, Guinea/Conakry and Gambia. In general, the training has been to people interested in starting their own processing units.

At this pace, a reasonable increase in the number of units can be envisaged. At present, there are only about 18 small processing units with an average capacity of 1.82 kg per day. The motivation for this is essentially the price fall of raw cashew nuts in the international market.

**Types of processed product available for marketing**

- **Fruit juice:** The cashew apple is crushed with a wooden stick, specially made for this job, in a boat shaped vessel. The liquid obtained is then filtered through a strainer and loincloths to obtain cashew juice. The juice thus obtained is heated on fire to destroy microorganisms. The end product, ready for consumption, is stored in a cool place.

- **Cashew wine:** The wine making follows the same steps as in juice making till the filtering. After that, the juice is stored in barrels and left for fermentation for a few days to obtain cashew wine.

- **Rum:** The process of rum making too follows the same steps of wine making. After filtering, however, the juice is distilled. The distilling process is primitive. The rum is mixed with ethyl alcohol, which is very harmful for health.
• **Cashew kernel:** The main steps for producing cashew nut are - Selection of nuts, Cooking, Cutting, Drying on stove, Peeling, Grading, Packaging and Preservation

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**Principal factors influencing the processing performance of national companies**

The cashew nut processing started in 1994 when small processing units came up in the country. In spite of their importance for the country’s economy, these units faced a number of factors negatively influencing their development.

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• **Government policies lacking encouragement**

For increasing local processing of cashew nut, lowering of taxes on imported equipments and tax exemptions on packaging and on nuts meant for exporting would be the policies encouraging local processing.

The owners of the processing units face some difficulties with logistics even during the cycle. For example, all the way along the roads connecting the production centers with the processing factories, the agents of the Ministry of Finance stop the trucks at the check posts for tax collection. Similarly, the loan accessibility for the small promoters is difficult.

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• **Lack of support structures for small industrial cashew growers**

There are no support organisations or institutions to look into the specific problems of the cashew processors. Frequent power cuts and the lack of support organisations or institutions for assembling a large number of small cashew growers also add to their woes.

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• **Difficulties in accessing the global market**

The internal market has only limited capacity to absorb the total production of the existing processing units. In other words, the installed capacity of production is too high, which is really too discouraging.
The only solution to this is the export market. The production of each unit is too low to satisfy the minimal amount required for exporting. So the creation of a co-ordination unit could be a solution. A North American NGO “Enterprise Work”, settled in the country from few years, is currently researching for a solution to this problem.

**Lack of a national laboratory for analysis and certifying quality**

The lack of a national laboratory for quality control and certification of exportable products is one of the greatest obstacles in increasing exports. The small amount of converted products exported by the company “Hosson Lda” in 1999 (6 tons in total) had to be analyzed in Portugal. Conducting such analyses outside the country is associated with its own risk in addition to the possibilities of refusal of the product and the added costs.

**Lack of financial resources**

One of the greatest obstacles that the potential investors have to confront with is the difficulty in getting funds.

Institutions for providing funds are practically non-existent. Until 2001, there were only three banks in the country: 2 commercial banks and 1 investment bank (Totta & Açores, BIGB, BAO) and also a credit house, “Fundeir”. At present, the first two banks do not operate. Totta & Açores, a Portuguese franchisee, has shut down and BIGB, which is a national bank, is in bankruptcy.

In general, access to loan is very difficult for the small operator. For most of the operators, it is very difficult to satisfy the conditions imposed by banks. One of these conditions is the guarantee demanded, which most of the operators do not have. Another discouraging factor is the very low reactive power of the banks.

**5.3.2.3 Exports**

The export of cashew nut is extremely important for the country’s economy. It currently represents 90 per cent of the country’s revenue from exports.
Problems in raw cashew nut exports

Cashew nut exports had continually fluctuated over the last decade except for the last three years (Fig 5.3.2). These fluctuations were caused by variations in the global prices from year to year, smuggling, the system of marketing etc.

Fig 5.3.2 Exports of raw cashew nut from 1990-2001  

• Fluctuations in the raw cashew nut prices

The prices had a decisive effect on the country's exports. When the international prices did not suit them, the exporters stocked the products in their stores awaiting better quotations. Sometimes, the products ended up staying one or more years in the stores. This happened, for example, in 1993. The exports continued going down in 1995, 1996 and 1998, being 28.3, 13 and 33.8 tons respectively.

• Illegal trade

A substantial amount of cashew nut is being smuggled over the borders, mainly through the northern border. When prices are better outside the borders, the cashew growers and small merchants cross the border somehow in spite of the risks involved. In 1999, a merchant of Indian origin settled for a job at Kolda in South Senegal and bought more than 15,000 tons of cashew from Guinea-Bissau. A significant part of the nut in question came from the cycle of 1998, the year of the politico-military conflict. The war of 1998 also prevented, in a large way, the cashew nut exports, as a result of which it fell from 58,100 tons in 1997 to 33,800 tons. Nonetheless, thousands of tons were illegally
exported, mainly from regions less affected by the armed conflict.

- **Government policies**

The taxes imposed on cashew nut export are rather heavy when compared with other countries. The taxes and duties currently paid by the exporters of Guinea-Bissau are as follows:
- Special tax 10 per cent
- Rustic land contribution (tax) 2 per cent
- Customs duty 1 per cent

That is, a total of 13 per cent tax has to be paid to export cashew; in other words, for each ton of cashew nut exported, the State is paid 106 EU $.

These taxes were lowered to 13 per cent from the initial 22 per cent, but still they are considerably high resulting in cross-border smuggling. In Senegal, cashew nut export is not taxed. This allows the established exporters from Senegal to offer better prices to the cashew growers and small merchants of Guinea-Bissau.

Given the important loss to the State’s revenue from exports, the authorities have taken certain measures to discourage illegal exports. Only exports by sea from the port of Bissau are permitted. Exports by land are prohibited. People caught red-handed crossing borders with cashew nuts are heavily penalised along with total confiscation of the product.

- **Cashew kernel exports**

The processed products did not contribute to a major share of the exports for two reasons. The technological upgradation and processing units started in the country only in 1994. Even these installed units were too small and did not produce the required amount for profitable exports, but still cashew kernels were exported twice to Portugal, in 1997 (2.5 tons) and in 1999 (nearly 6 tons).
PROCAJU, National Association of Cashew Nut Processing Agents, gets regular demands for cashew kernels from different parts of the world. But unfortunately, PROCAJU’s associates are not ready to satisfy the importers’ demand.

Therefore, the lack of a market is not the only actual limitation factor for the development of the cashew kernel exports, but some other factors like lack of financial resources, adequate processing technologies and lack of organization in the cashew sector also contribute to this.

This situation of exports of cashew kernels from Guinea-Bissau can change radically in the next few years as the sector is getting organised. As a result, even the small cashew growers can export small quantities through an intermediary centre that would purchase for exports. The packaging industry is also flourishing, which will significantly contribute towards increased exports of processed products. In these revised situations, the exporters themselves can be expected to show an increased interest towards investment.

Degree of organisation and coordination of the sector and its effect on the export performance

Many organisations are a part of the cashew sector, notably: ANAG, the Chamber of Commerce, Industry and Agriculture (CCIA) and AGEX (Guinean Association of Exporters). These organisations, however, did not have any desired impact on the development of exports. In fact, some conflicts did arise in the last few years between cashew growers and exporters. During the years 1992, 1993 and 1994, a majority of the harvested cashew nut was not exported, but was stored in the warehouses of the exporters. During these years, the exporters suffered from damages due to costs of storing, arrears and interests to pay for the loans on contract etc. The State has been a loser too because significant amounts did not reach the public revenue department. A better coordination between the exporters and the authorities can avoid the hazards of non-exports in the future.
Quality of the exported products

- Quality standards

Guinea Bissau uses the international standards of classification for nuts. (Table 5.3.2)

**Table 5.3.2 International standards of classification of raw cashew nut**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Size in gm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cashew</td>
<td>Below 3.35</td>
</tr>
<tr>
<td>Very small</td>
<td>3.35-4.5</td>
</tr>
<tr>
<td>Small</td>
<td>4.51-7.81</td>
</tr>
<tr>
<td>Medium</td>
<td>7.82-10</td>
</tr>
<tr>
<td>Large</td>
<td>10.01-15</td>
</tr>
<tr>
<td>Very large</td>
<td>more than 15</td>
</tr>
</tbody>
</table>

Source: Trade source

- Existing laboratories for analysis

The country does not have any laboratory specialized in analysis of nuts. The importers, largely Indians, usually send their own “specialists” to observe and analyse the quality of the raw nuts they want to buy from the cashew growers and local intermediaries.

The local merchants who sell these raw nuts are generally not satisfied with these “specialists”. Everybody complains that the opinion given by these “specialists” on the quality of the cashew nuts is often negative so that the growers are paid less. This pressure on the local merchants becomes more pronounced at the beginning of the rainy season, when pressure increases to sell off quickly. Also the opinions and decisions about the quality of the nuts given by the “specialists” cannot be ignored because they are the employers of the importers.

- Quality certification

In spite of the non-existence of appropriate laboratories for the analysis of the raw cashew nuts to be exported, some certificates essential for exports are issued by the authorities. These are: Certificate of Origin issued by the Ministry of Commerce, Industry and Cottage Industry; Phytosanitary certificate issued by the Ministry of Agriculture, Forest, Hunt and Breeding; Weight certificate, issued by the representative of the Lloyd Agency at Bissau.
5.4 IVORY COSTA

5.4.1 Structure

5.4.1.1 Historical Perspective
Cashew crop covers a significant part (30 to 40 per cent) of the Ivorian territory. In Ivory Coast, there is a supervision mechanism called Anader, which directly helps the growers. Due to inadequate supervision of technical practices several problems are encountered like poorly maintained cashew orchards, improper storage, etc. The high price levels and the increase in production and exports resulted in this sector is attracting more and more attention of the Government authorities and professional organizations since 1994.

5.4.1.2 Production
Cashew nut harvest season is normally spread from March to June. A perfect drying operation takes a week’s time at the most. When the nuts are well dried, they are packed in jute bags of 80 kg and are stored in a well-ventilated place before being marketed.

5.4.1.3 Marketing and Export

Traditional circuit of cashew marketing
The overall functions and activities of the different agents can be summarized in the Fig 5.4.1. The role of the agents varies widely. Some purchasers sell the products directly to the commercial bodies.

Description of the flows and role of the different personnel
The people involved in purchasing cashew nut can be divided into four categories. Apart from the growers, the main agents found along the cashew network are the middlemen, the purchasers and GVC, the merchants and GVC unions, the commercial bodies and the Cajouci factory workers (at Korhogo) and Sodiro (at Odienné). These units are located in the regions of Savane and Denguélé.
• **The middlemen**

They are generally found in the same locality as the growers. They live in villages and are familiar with the planters and the village environment. They are the one who interact with the purchasers. The latter pay them in advance a sum of money necessary for buying nuts at a price fixed in advance. The middlemen therefore play a decisive role in cashew collection.

**Fig 5.4.1 Traditional circuit of cashew marketing**

![Diagram of the traditional circuit of cashew marketing]

- **Physical flow**
  - Grower
  - Trackers
  - Purchasers
  - Cooperative Agencies
  - Traders Federations

- **Financial flow**
  - Societies
  - Machine CAJOUUC
  - Machine SODIRO

• **The purchasers and GVC**

The purchasers work for the merchants, who pay them in advance so that they can pre-finance the nut purchase at a price corresponding to a quota (tonnage). The cooperatives that supply cashew nuts to their federations can also be ranked in the category of the purchasers.

• **The Merchants and cooperatives**

The merchants are directly related to the commercial bodies that back them up with funds for the running cost necessary for each contract at prices fixed in advance. Thus, the nuts collected for the merchants by the purchasers will be routed to the warehouses of the commercial bodies. The number of purchasers can vary from 10 to 50 for each merchant. The cooperatives can come under the same category since they also supply nuts to the commercial bodies mentioned above. The sole difference lies in the fact that unlike the
merchants, the cooperatives are not pre-financed by the commercial bodies. The cooperatives operate on their own funds.

- **The commercial bodies and processing units**

The commercial bodies and processing units Cajouci and Sodiro are the last links from where the product, raw and/or processed, leaves Ivory Coast.

Some of the commercial bodies are present on the field during the crop year from February to July. Others (Olam-Ivoire, Afreco, Ciciv) remain permanently on spot, talking to other traders and preparing for the next crop year.

- **Olam-Ivoire**: It is a multinational with head office at London and owns a processing unit in India. It is present in Africa, specifically in Nigeria, since 1920 and has been present in Ivory Coast since April 1994. Here, its operations include purchase and export of agricultural and forest products (Cashew nut, Shear butter, wood, rice). The operations linked with cashew cover four regions: Kroger, Bondoukou, Katiola, Odienné. Until 1998, Olam-Ivoire had remained the biggest exporter of cashew nut followed by Afreco. From 1999, Afreco has become the leader in export of cashew nut from Ivory Coast.

- **Afreco (African Commercial Exchanges)**: Ivorian company for the exports of cashew nut, coffee, cocoa and other products started in 1972 and has permanent representatives in the regions of Korhogo, Ferké and Katiola. At present, it is the most important exporter of cashew nut in Ivory Coast.

- **Ciciv (Ivorian Company for Commerce and Industry)**: This company occupies the third position in cashew nut exports from Ivory Coast.

### 5.4.2 Sector Performance

#### 5.4.2.1 Production

**Quantity of production**

The yield of nuts and its evolution are difficult to measure as no records are maintained.
**Types of cultivated cashew nut**
In Ivory Coast, two varieties of cashews are planted: the small nut variety cultivated in the old days and the Brazilian big nut variety ‘jumbo’. The average yield observed in Ivory Coast is between 400-500 kg per hectare.

**Principal factors influencing the production**

- **The price of the nut:** The lucrative grower’s price levels vary from 100-150 CFA francs/kg at the beginning of the crop year and 175-250 CFA in the middle and end of the crop year. This is equivalent to 0.385-0.577 US $/kg and 0.311-0.445 US $/kg respectively. Due to these price levels, new orchards have been created, maintenance has improved and losses have reduced. On the contrary, there hasn’t been any increase in yield.

- **Export demand:** Ivorian exports increased from 5,901 tons in 1990 to 10,000 tons in 1992, 16,000 tons in 1994, 26,000 tons in 1996 and about 75,000 tons in 1999.

- **National policy:** With a national policy to support the development of the cashew sector, it would be possible to optimize the production level.

5.4.2.2 Processing

**Description and organization of the processing**
There are two cashew nut processing units in Ivory Coast.

- **Cajouci:** The older one is based at Korhogo in North Ivory Coast in the region of Savane. From Cashew Industry, S.A., it became Cajouci in May 1998 and is using the Italian technology Oltremare. Its annual processing capacity is 1500 tons of nuts. Cajouci does the first processing, from nut to kernel, and exports all its production in South Africa and France.

- **Sodiro:** The second processing unit is of the Sodiro group and is installed in the North West in the region of Denguélé. With an annual capacity of 2,500 tons of nuts, it
carries out the first and the second phases of processing. The biggest part of the production is plain cashew kernel and salted and roasted ‘ready-to-eat’ nuts circulated in super stores and in Europe through distributors with who the Sordico has built up business and partnership rapports. It uses Indian technology. Sodiro is working towards acquisition of ISO 9002 certificate from AFAQ.

**Evolution and prospects of cashew processing**

Ivory Coast has two factories with an overall capacity of 4,000 tons/year, which is only 5 per cent of the estimated production in 1999.

The factory Sodiro, the modern one, functions at reasonable production costs while high production costs at the old factory at Cajouci brings down the return on the processing activity. So, adoption of proper technology and equipment is very essential for expansion of the cashew industry.

**Types of processed product available for marketing**

The processed products can be divided into two categories: Fresh nuts from the two factories and salted and roasted nuts from the Sodiro group.

**Principal factors influencing the processing performance**

With only two units, the industry is not quite yet in full swing. Both the units get a return of at least 23 percent to 25 per cent, which is quite satisfactory. Moreover, the man power, especially in the shelling sections, gives good results by producing shelled whole nuts and nuts in two or three pieces within acceptable margins.

The grades usually obtained are of the order of 70 per cent whole nuts, 20 per cent for nuts in two pieces and the remaining 10 per cent for nuts in many pieces.
5.4.2.3 Exports

Export quantity
The packaging of the nuts is done in jute bags of 80 kg, and the transportation is done by ship in containers of 20 feet, the weight of which varies between 15 to 18 tons.

From 5,900 tons in 1990 to nearly 16,000 tons in 1993, the nut exports have gone up by about 2.8 times. From close to 16,400 tons in 1994 to 75,000 tons in 1999, the exports have grown by 4.5 times and by 12.7 times in 10 years. The exports in the year 2001 were at a record level of 87,573 tons, that is a growth of 38 per cent with respect to 2000. With this expansion boom, the Ivorian cashew sector emerges strong and is coming out of its minority status by gaining the position of a very promising sector for the future.

The amount of exports has increased in the last three years, viz., 1999, 2000 and 2001 because of the great interest shown in the crop and the adoption of new means of production.

Export value
The revenue generated has become more and more significant in the course of years starting from nearly US$ 4 millions in 1990 to US$ 6.6 millions in 1994 to reach more than US$ 6 millions in 1992, 1993 and 1994 respectively, and US$ 17.8 millions in 1995. Except for the year 1996, which showed a slight fall, the years from 1997 to 2001 have scored very high revenues (Fig 5.4.2). The devaluation of CFA francs in February 1994 was favourable to this increase in revenue.

In 1999, the total revenue reached US$ 64 millions due to the double effect of a good price for the nut and the increase in the exchange rate of the US dollar. In 2001, in spite of the record level of 87,000 tons, the revenue dropped down due to the degradation of the exchange rates.
Fig 5.4.2 Cashew nut exports from Ivory Coast

Sources: 1) Average exchange rate of $/CFA francs extracted from Jeune Afrique Economie (young Africa economy) 2) Ivorian customs statistics

- **Export destination:** India remains the most important destination with absorption levels of 94 per cent to 100 per cent between 1990 and 1995, and 88 per cent to 95 per cent between 1996 and 2001.

- **Exports of cashew kernels**
  - **Export quantity:** The processing potential of the two units is from 800 to 920 tons of cashew kernels on the hypotheses that the material returns are 20 to 23 per cent. Till 1998, there was only one processing unit of 1,500 tons with a capacity of providing 300 tons of kernels. With 150 tons in 1995, 37.4 tons in 1997 and 89.47 tons in 1998, the processing level has gone down.

In 1999, a second unit based in Odienné became operational, and processing went up to 70.7 per cent with 722.24 tons. In 2000, a fall of production by 51 per cent had been recorded. It was due to the general depression of activities in Ivory Coast during this time period. In 2001, a pick-up of 46 per cent took place with production of 517 tons, though not touching the level it reached in 1999 (Fig 5.4.3).
• **Export value:** The export revenue has increased accordingly, but it had been relatively stronger compared to the quantity because of a growing price level of the kernels until 1999. Thus, whereas the average price per kg was US$1.755 in 1995, it continually increased in the course of the following 3 years to US$ 3.493/kg in 1997, US$ 4.565/kg in 1998 and US$ 6.118/kg in 1999 respectively (i.e. 99 per cent, 31 per cent and 34 per cent). The devaluation of CFA combined with the growing demand for good quality kernels from Ivory Coast went in its favour.

On the contrary, in 2000 and 2001, the price levels dropped to –16 per cent and –40 per cent. This was because of the difficult situations in Ivory Coast during this period. It should also be specified that the major constraint that the factory faced is the mobilization of the running cost for purchasing the raw material (nuts).

**Fig 5.4.3 Exports of cashew kernels**

Sources: 1) Ivorian customs statistics 2) Average exchange rate US$/ CFA: Jeune Afrique Econome

- **Export destination:** From 1995 to 2001, Ivory Coast exported cashew kernels to 11 countries: In 1995: 3 countries (Netherlands, United kingdom, Burkina Faso); In 1997: only 1 country (Netherlands); In 1998: 3 countries (France, Netherlands, South Africa); In 1999: 8 countries (Ireland, France, Netherlands, United kingdom, USA, south Africa,
Burkina Faso, Senegal); In 2000: 6 countries (France, Netherlands, United kingdom, USA, Norway and south Africa); In 2001: 7 countries (France, Netherlands, United kingdom, USA, Canada, India, south Africa)

The steadiest market of the above is Netherlands, which has been present all through the export period, i.e., from 1995 to 2001. It’s from 1999 that a diversification of market took place.

From 1999 to 2001, the overall volume of cashew kernel exports was close to 1,593 tons to over 10 destinations. During this period, the United States remained the most important market with a market for 511 tons (32 per cent). France occupied the second place with an 18 per cent share (290 tons), then came the United Kingdom with 16.7 per cent share for nearly 266 tons and South Africa was in the fourth position with 14 per cent and 225 tons. Netherlands, although present all along the period, came fifth with a 12 per cent share and total market for 192 tons. These five countries are the most important markets and represent 92.7 per cent of the market for Ivorian cashew kernels.

- **Degree of organization and coordination of the sector and its effect on the export performances**

As mentioned earlier, the Ivorian cashew sector suffers from a lack of organization. In 1997, an organization by the name GIENA (Group of Industrialists and Cashew Nut Exporters) had been established right after the Government authorities instituted an export tax of 150 CFA francs/kg, that is, 0.256 US$/kg at that time. It was an organization set up only for protesting this tax as it disappeared as soon as the tax, the DUS (Unique Exports Right), was brought down to 10 CFA francs/kg, i.e., US$ 0.017.

Disorganization and lack of coordination in the sector is reflected on exports too, especially in the variations in prices of nuts meant for different destinations in the course of the same crop year. As a consequence of the lack of organization, the parameters for quality assessment of the nuts are not based on a standardised quality chart.
Quality of the exported products

- Quality standards: The quality standards that are demanded in general are:
  - Grade or humidity ratio: It should not cross 10 per cent. Excessive humidity complicates the processing process. Suction causes some kind of colourings that can bring down the product value.
  - Size of the nut: Between 120-180/kg (ideal). The numbers also vary between 180-200, 200-220 and 220-240 per kg. The bigger the nut, the higher is its value. In total, the Ivorian nuts are in average ranges with variations that depend on the regions and harvests. The Ivorian nuts are rather soft and nice.
  - Defective nuts: The defectiveness boils down to abnormalities such as spotted, dried up, shrunk, oily, empty, premature, brown, rotten spoilt or partly damaged nuts. The maximum authorised limit is 10 per cent.

- Existing laboratories for analysis: The companies that work in the quality control and quality certification in Ivory Coast are SGS (General Supervisory Body) and Bureau Veritas. The Indian purchasers send their own quality control agents throughout the crop year.

- Quality certification: An analysis report after three analysis is to be issued for the products to be consumed in the country.

For the products to be exported such as raw nuts or cashew kernel, a certificate of weight and quality control has to be issued. The analysis is conducted in the shop of the exporter or the forwarding agent of SGS. This certificate validates the weight and the quality of the product in terms of standards. If at the destination a variation in weight or quality of the product is found out, the exporter’s responsibility is shifted to the insurance agency that intervenes for the compensation. The control certificate should carry the references of the delivery slip, the name of the ship, the names of the exporter and the importer, as well as the destination.
5.5.1 Structure

5.5.1.1 Historical perspective
Cultivation of cashew started in the early 1950s through the efforts of an organisation named then as Eastern Nigeria Agricultural Development. The initial objective of the program was to use cashew trees for erosion control because of the massive erosion problems. The realisation that cashew nut is a potential revenue-earning commodity compelled the defunct Eastern and Western Nigeria Governments to start commercial plantations in most towns of these regions.

5.5.1.2 Production

Production area: Major cashew growing areas in Nigeria are, by order of importance: Enugu, Abia, Imo, Anambra, Ebonyi and Cross River States in the eastern part of the country; Oyo, Osun, Ondo, Ekiti and Ogun States in the Western part; as well as Kwara, Kogi, Nassarawa, Benue, Taraba, Niger and FCT in the Middle Belt; and also Sokoto and Kebbi States in the North West part of the country. The majority of export-quality nuts come from the Western and Eastern parts of the country.

Harvesting: Cashew nut setting begins in the middle of dry season while harvesting takes place mainly in February or March. The entire harvest period occupies about 16 weeks. After picking, the nuts are dried in the sun for 2 to 3 days to reduce their moisture content to about 12 per cent. Properly dried nuts are packed in jute bags and can be kept for 6 to 10 months if stored suitably.

Grading: In the cashew producing areas, the products are graded according to market requirements. The nuts are graded into two categories by visual determination of the grade according to their surface appearance and size.
- Standard grade nuts – they are sound, mature, thoroughly dried nuts, which apparently show no defect or deformity. Their colour is usually light grey or light brown.
• Under-grade nuts – they do not conform to the requirements of the standard grade. However, they are also mature and thoroughly dried. They may have surface blemishes, spots or somewhat tolerable discoloration. These small-sized nuts are a part of this grade.

After harvesting and grading, the nuts are packed in good jute bags and further stored in proper, rodent proof storage areas. The storage structures are well ventilated in order to control humidity, which may cause the nuts to rot.

5.5.1.3 Marketing and export
Prior to the Structural Adjustment Program that commenced in 1986, the export of cashew nuts was not given prominence. Very few firms were in the business and the acreage under cashew cultivation was reduced, producing below 2,000 tons. Since 1987, however, cashew nuts became prominent among the exported commodities.

5.5.1.4 Processing
Nuts can undergo primary and secondary processing.
• Primary processing is as old as cashew in Nigeria. It involves the roasting of nuts through traditional methods. This processing method is predominately a cottage type of industry, and most of the products processed by this method are consumed locally in semi and urban areas. About 200 to 300 tones of primary processed cashew kernels are marketed locally.

• Secondary processing entails a higher level of processing, which targets mainly exports markets and quite recently the local urban markets too. Since liberalization of the commodity market in 1986, many companies ventured into cashew nut processing, but majority have left the industry due to some problem or the other.

5.5.2 Sector Performance
5.5.2.1 Production
🌟 Evolution of national output and perspectives
The first Nigerian cashew plantation dates back to 1954 with 800 hectares in the present Enugu State and 200 hectares in the Western part of Nigeria. Its production did not greatly increase during the early 1960s, with harvests below 200 tones. However, since the deregulation of the economy in 1986, its production has substantially increased.

According to the Federal Ministry of Agriculture and Rural Development, currently Nigeria produces 30,000 metric tones of cashew nut annually from a total holding of 50,000 hectares, which are mostly under smallholdings. These are planted with varieties whose yield is estimated at 1,000kg/ha.

**Types of cashew cultivated**

New, high-yielding cashew varieties with low gestation period and bigger nuts have been introduced. The Cocoa Research Institute of Nigeria (CRIN), with mandate to research into cashew, has developed an improved variety of cashew called “Brazilian Jumbo” with nuts maturing within one year in contrast to the local, wild varieties which mature after 5 years. Besides, the CNSL oil is higher in quality. Already, the local price for the new nut amounts to the double of the existing varieties.

**Main factors influencing production and harvesting performance**

Like several other cash crops, production of cashew nuts is influenced by various internal and external factors. They are-

- **Price** plays a major role in the production of cashew. Higher prices act as incentives to farmers and vice versa.
- As far as the **climatic conditions** are concerned, the better the weather during the flowering season the better the harvest. When there is a shortfall in rainfall or sunshine, the quality of the cashew is lowered.
- **Local buying agents** play a vital role in the cashew supply chain in Nigeria, and there is a tendency for production to increase whenever there are many agents trying to secure supplies. The agents penetrate into the villages in producing areas in order to source supplies. Competition, especially when export prices are attractive, tends to develop between established buyers and local firms.
• *Diseases and pest* lower production and harvest while *fire outbreaks* are common in the Guinea Savannah ecological zones where cashew production takes place. Bush burning occurs especially during the dry season, which coincides with the harvesting season of cashew. Whenever such fire outbreak occurs, cashew farms are affected.

5.5.2.2 Processing

**Evolution of the national output and perspectives**

As earlier stated, three types of cashew processing are practiced in Nigeria, namely:

- **Small cottage processing:** This manual processing is carried out by small cottage industries. They use cashew of low quality and adopt rudimentary methods of roasting in which the poisonous components of cashew are dispelled in the roasting cylinders. Later, the inner shells are broken open by hand, and the kernels heated to remove the skin. The quality of cashews obtained through this processing is poor. The nuts are not standardised possessing variations in size, finishing and roasting.

- **Processing for export:** This type of processing emerged mainly after the deregulation of the economy. Processing plants have been installed to process kernels for export. “Premier Cashew Processing Industry” at Oghe, in Ezeagu Local Government Area of Enugu State, was first to establish a processing factory for export. The factory was modernised in 1989 when an ultra-modern Japanese technology was installed which has an operating capacity of about 2,000 metric tones per year. However, the plant has since been closed down due to management problems.

The cashew processing factory located at Ibadan, Oyo State, using Oltremare technology, was installed in the early 1970’s.

In 1989, another processing plant was installed in Owo, Ondo State, with a capacity of about 2000 tons per year. It first exported kernels in 1990. Another plant installed in 1998 in the Oyo State can processes 1000 tons of cashew. The Isolo (Lagos) plant established in 1998 processes about 1000 tons of cashew per year.
Yet another processing plant with 2000 tons capacity is located at Okigwe, Imo State which is currently export-oriented. The most recent plant is A.C.E.T, a joint venture between Nigerian and foreign investors. Due to unfavorable investment climate, about half of these plants have closed down.

At present, the six processing plants operating in Nigeria have a total annual processing capacity of 12,000 tons. These plants process about 10 per cent of the local production, and some of them do contract processing for merchants of nuts.

- **Processing for the local market:** This group of processors have gone further to add flavour and taste to the Nigerian cashew nuts. The cashew kernels produced are salted and flavoured and then packed in very attractive packaging to add to its sales appeal. These branded products labelled to show the chemical content and the expiry dates are sold in supermarkets and shops where they can be displayed. Their prices range between US$2–3 per pack of 200 grams. The nuts are uniform, their quality is high, they are roasted and packed under strict hygienic conditions and, of course, are approved by the regulatory authorities.

**Types of processed products commercialised**
There are three types of cashew products commercialised:
- Cottage products - mainly for local consumption;
- Factory-processed products for export including W-240, W-320, W450, LWP, WSP, Butts and SWP. They are packed in jute, low-density polyethylene or propylene bags, or in metal tins.
- Branded, flavoured/salted kernels for the domestic, middle and high-income consumers. The products, which are mainly wholes, whites, scorch and desert pieces, are well-packed and sold in supermarkets and superstores.

**Major factors influencing the national processing performance**
Several factors tend to influence the processing performance. These include:
• **Quality of nuts:** Low quality nuts could be immature, could have undergone inappropriate drying and thus contain excess moisture, foreign matter, etc. The major aim of any processor is to get a whole nut as low quality raw cashew could present technological and shortcomings in processing.

• **Competition from exporters of raw nuts:** This is a major factor affecting the processing performance. When export prices are high, there is always a stiff competition between processors and exporters of raw nuts resulting in higher prices of inputs for processors and the non-respect of obligations by buying agents. In this situation, exporters of raw nuts tend to pay more to farmers, leaving the processors with insufficient input nuts for processing.

• **Demand situation in the international market:** The higher the demand in the export markets the higher the prices. The domestic market, encouraging processors to process more, also reflects this pattern necessitating, at times, to draw from the old stock and to make more efforts to secure raw cashew. When the export market demand is low, processing performance would be low as well.

• **Infrastructure constraints:** A large number of processing factories are located in semi-urban areas where power supply is erratic, road access is difficult, and access to communication facilities is problematic, which invariably result in increased production costs.

• **Shortage of nuts:** Earlier processing plants were being installed on the assumption that raw nuts supply would be sufficient. However, after the installation of several plants, it was discovered that nuts were not always available when needed. It is only when export prices are low and exporters of raw nuts are left with unsold stocks, that domestic processors can secure sufficient supplies of raw material.

### 5.5.2.3 Exports

⇒ **Export performance**
### Table 5.5.1 Exports of cashew nuts from Nigeria, 1990 – 2001

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (ton)</th>
<th>Value (US$ billion)</th>
<th>Average unit value (US$/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>14325</td>
<td>4.0</td>
<td>280.6</td>
</tr>
<tr>
<td>1991</td>
<td>12580</td>
<td>4.46</td>
<td>354.4</td>
</tr>
<tr>
<td>1992</td>
<td>12110</td>
<td>5.20</td>
<td>429.6</td>
</tr>
<tr>
<td>1993</td>
<td>13234</td>
<td>6.99</td>
<td>528.2</td>
</tr>
<tr>
<td>1994</td>
<td>12307</td>
<td>2.82</td>
<td>229.0</td>
</tr>
<tr>
<td>1995</td>
<td>16938</td>
<td>7.42</td>
<td>438.3</td>
</tr>
<tr>
<td>1996</td>
<td>12388</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1997</td>
<td>530</td>
<td>0.25</td>
<td>463.4</td>
</tr>
<tr>
<td>1998</td>
<td>13640</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1999</td>
<td>13136</td>
<td>3.41</td>
<td>259.4</td>
</tr>
<tr>
<td>2000</td>
<td>15000</td>
<td>7.02</td>
<td>467.7</td>
</tr>
</tbody>
</table>

Source: Federal Office of Statistics and the Nigerian Export Promotion Council, n.a - non available

Exports of cashew nuts from Nigeria fluctuated widely, falling from 14,325 tons (US$ 4.0 billion) in 1990 to 12,580 tons in 1991. The highest exports were recorded in 1995 when 16,938 tons of cashews amounting to over US$7.4 billion (Table 5.5.1).

Following the increase in the export prices between 1990 and 1995, cashew farmers and exporters started the 1996 crop season with high hopes, but exports that year did not exceed 12,385 tons.

However, the worst year for Nigeria cashew industry was to follow in 1997 with the hopes for increases in export demand built up to 1996 and the entry in the market of the new exporters being destroyed by the dramatic crash of the international prices. That year recorded the lowest export of nuts since deregulation in 1986 of only 530 tons. This shock made many operators leave the business in agony with dramatic losses being recorded by farmers, exporters, banks, warehouse keepers, buying agents, etc.

The international demand picked up again in 1999 and in the year 2000 when prices recorded a second high since 1990, i.e., US$ 467.7 per ton.
In the last few years, i.e., after the crash in 1997, a lot of exporters had fled the business. Only three major operators dominated the market since 1998, namely: Olam Nigeria Plc, an Indian-owned trading house with offices located in Singapore and London; Premier Agro Oil Nigeria Limited; Century Exports Ltd.

Olam Nigeria Plc. currently exports about 60 per cent of the Nigerian cashew. The last two companies together cover about 20 per cent of the total exports. Smaller exporters handle the remaining 20 per cent.

Exporters are highly and increasingly dependent on India, the major destination of Nigerian raw cashew nuts, which are further processed for re-export. Indian share in the total Nigerian exports rose continuously from nearly 80 per cent in 1990 to over 81 per cent in 1995 and over 94 per cent in the year 2000. Other minor export destinations were Isles of Man or Singapore.

Table 5.5.2 Exports of cashew to India, 1990-2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>11456</td>
</tr>
<tr>
<td>1995</td>
<td>10020</td>
</tr>
<tr>
<td>April-June 1996</td>
<td>10189</td>
</tr>
<tr>
<td>2000</td>
<td>14152</td>
</tr>
</tbody>
</table>

Source: Directorate of Cashew Dev. Cochin, India, and Cashew Export Promotion of India, Cochin, 2000

Export of cashew kernels, which is capital-intensive commenced in 1990 when the first private company, Jof Ideal Co. Ltd, shipped kernels valued at US$ 252,375.

In recent years, other processors and merchants who use contract processing, have joined the league, but due to numerous problems, their capacity to export was limited. In 1998 and 1999, Melagro exported 10 and 20 tons of kernels respectively. Recent exports of kernels averaged 100 tons per year with the unit export prices more than tripling, from US$/ton 1150 in year 2000, to US$/ton 3959 in 2001.
Unlike the exports of cashew nuts, the exports of kernels are more diversified, the main import destinations being the United Kingdom, Spain, USA and the Saudi Arabia.

**Organization of the sector and its impact on export performance**

Cashew exports were not significant until the Nigerian economy was deregulated in 1986. Hitherto, two plantations in Enugu (East) and Ibadan (West) were prominent. The commodity was not scheduled and was handled by Commodity Boards. During that period, four private companies were exporting cashew nuts, and Enugu plant was the only one to process kernels.

However, things changed in 1986 when the fixed exchange rates and price fixation for commodities was abolished, and commodity boards were winded up. A large number of companies and individuals entered the cashew market with the resultant increase in production and exports. As many as 50 exporters were trading cashews in the first nine years after liberalization with exports peaking at over 16,000 tons in 1995.

Then came the crash of 1996-1997 when over 75,000 tons of cashews remained unsold, and the majority of the exporters left the market leaving only the very large companies such as Olam. This crash led to the formation of the cashew association, CASHTAN - later NCAN.

Through the period under review, there were problems related to the low quality nuts due to poor farm practices, lack of knowledge of adequate post-harvest handling and lack of quality control mechanisms. All these led to the rejection of Nigerian cashew in the international markets or their sale at discounted prices.

In a nutshell, the sharp decrease of exports and the drop in export earnings of the sector in 1996 and 1997 can be attributed to its lack of organisation and of a representative body as well as to the insufficient knowledge of the quality requirements in import markets, lack of transparency on the part of the exporters, etc.
Quality of exports

- Norms and standards: According to SGS (quality inspectors), the standard for raw cashew nuts, unshelled, is specified as follows: Almost 50 per cent of the Nigerian cashew nuts fall short of this specification.

<table>
<thead>
<tr>
<th>Nut counts</th>
<th>180-200 per kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture content</td>
<td>8-10% max</td>
</tr>
<tr>
<td>Defective nuts</td>
<td>15% max</td>
</tr>
<tr>
<td>Float Rate</td>
<td>18% max</td>
</tr>
<tr>
<td>Admixture</td>
<td>0.25% max</td>
</tr>
<tr>
<td>Foreign matter</td>
<td>0.25% max</td>
</tr>
<tr>
<td>KoR, or shelling out-turn</td>
<td>48-50 lbs/bag</td>
</tr>
</tbody>
</table>

Source: Obiazu P.C (2000)

- Packaging: Nigerian cashews are packed in 80-kg jute bags or in polythene or polypropylene bags. Thirteen such bags weigh a ton. Processed nuts are exported in metal tins or cartons. The tins are infused with carbon dioxide and vacuum-sealed to safeguard against contamination and deterioration during shipment.

- Pricing: Prices are mainly a function of demand and season. From June to December, the merchants are mainly stocking and waiting to sell to exporters or processors at a higher price.


- Quality inspection: The assessment of export quality is usually done by two major agencies:
  - The Federal Produce Inspection Service (FPIS), and
  - Pre-Shipment Inspection Agents (such as SGS)
Quality inspections may be made at three locations, namely:

- At the initial buying center. The first location in the marketing chain is the initial buying center, usually located up county, which conduct the primary quality assessment.

- At the intermediate center. A more thorough inspection is made at warehouse, usually located nearby the export towns. Bulking-up of consignments also take place at these centers.

- At the port. This is the last point in the chain and is important for obvious reasons.

*Basic export documentation and quality control procedures by FPIS.*

The basic documents required to export cashew nuts are the followings:

a. Duly completed form NXP (commercial export form)

b. Pro-forma invoice

c. Sales contract agreement, where applicable

d. NEPC registration certificate

e. Relevant certificate of quality, issued by FPIS

f. Shipping documents, e.g., bill of lading

g. Other certificates, e.g., form EUR - 1

Primary grading and sealing of export produce is done by the State Produce Inspection Services (SPIS), the local arm of FPIS. The initial grading is as follows:

i. Export merchants acquire warehouses in the towns where they source and store their produce until the required quantity is acquired. Such warehouses are registered by the local SPIS.

ii. Merchants request, by application, the local SPIS inviting it to conduct initial grading. On grading, if the produce is found to be of the prescribed standard, it is bagged, standardized and sealed in bags, duly marked with all necessary information such as country of origin, grade, official mark, etc.

iii. After the evacuation check-test by the local SPIS, merchants can move the produce to the port town. On arrival at the port town, the goods are received into warehouses,
registered and approved by the FPIS. Arrival check is conducted by FPIS to confirm the reports of the SPIS. The produce is fumigated inside the warehouse prior to shipment. Shipment check-test is conducted by FPIS. The goods are then transported to the ports for stuffing and loading.

Inspection agents, such as SGS, who also conduct quality inspection and certification of cargo prior to shipment, conduct quality inspection by pre-shipment inspection agents. Such inspections are usually conducted at the instance of the buyers and/or sellers and could be done in the warehouse or at the port (i.e. point of shipment).

- **Influence of quality on export performance:** Quality of cashew nuts produced is the greatest problem in Nigeria. Out of about 40,000 tones of cashew produced in the country, less than a half is exported, and this poor performance is attributed to the poor quality of the products and to related problems. Nigeria’s poor reputation for good quality cashew nuts has led many buyers to shun its produce.

**Table 5.5.4 Cashew kernels grades and its proportion from Nigerian raw cashew**

<table>
<thead>
<tr>
<th>Wholes</th>
<th>Proportion</th>
<th>Splits</th>
<th>Proportion</th>
<th>Bits &amp; Pieces</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>WW210</td>
<td>2.10</td>
<td>SW</td>
<td>2.2</td>
<td>Chuli</td>
<td>0.01</td>
</tr>
<tr>
<td>WW240</td>
<td>2.71</td>
<td>SSW</td>
<td>6.81</td>
<td>DW</td>
<td>Nil</td>
</tr>
<tr>
<td>WW320</td>
<td>37.07</td>
<td>Butts</td>
<td>0.4</td>
<td>BW</td>
<td>0.08</td>
</tr>
<tr>
<td>WW450</td>
<td>17.18</td>
<td>Splits</td>
<td>6.01</td>
<td>DBW</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LWP</td>
<td>14.51</td>
<td>DSW</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SB</td>
<td>0.05</td>
<td>OW</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SS</td>
<td>0.15</td>
<td>III</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SP</td>
<td>0.82</td>
<td>DP</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SWP</td>
<td>2.39</td>
<td>PII (L)</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DSP</td>
<td>0.28</td>
<td>PII (S)</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPS</td>
<td>2.68</td>
<td>UPP</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBB</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59.06</td>
<td></td>
<td>37.66</td>
<td></td>
<td>3.19</td>
</tr>
</tbody>
</table>
5.6 BENIN

5.6.1 Structure

5.6.1.1 Historic perspective

The region of cashew cultivation in Benin is spread mainly from Abomey in Zou in the south to Gamia in Borgou in the north. Cashew was introduced to Benin in the earlier days of its Independence in 1960. In the 1960’s cashew nut tree plantations were established on a cooperative basis during 1967-76 by SNAFOR and later by CARDER. The total area under cashew cultivation was 5,323 hectares initially. The area under cashew increased due to the introduction of new geographical origins in 1999 by the Forest Research Unit (URF) and the National Institute of Agricultural Researches of Benin (INRAB) financed by the government's public investment program.

PADSE (Project for Improvement and Diversification of the Exploitation Systems), was implemented during 2001 under a contract with URF to tackle the problems of non-availability of improved seeds, rehabilitation of old plants, training and supervision; 700 kg of improved seeds from mother plants were selected from all over the producing regions for planting in 513.75 hectares of land in countryside plantations and in 10 hectares of tree seed orchards. These seeds made it possible to get 31 different stocks (of Beninese origin) which were given to 18 experimental tree nurseries in order to get healthy and sound saplings.

5.6.1.2 Production

The plantation takes place between April and June, often after more than one harvest of annual crops. The maintenance of plantation takes place in October while harvest takes place between February and May.

The yield varies from region to region and depends on the maintenance. The estimated yield is generally in the range of 350 to 600kg/hectare. In some places, however, it can reach up to 1000 to 1500 kg/hectare in the 9th or 10th year.
In Benin, there are two types of cashew nut producers. The enterprises that lease out public plantations and the private planters with their own plantations. A large number of small planters come under the second category. The public plantations, which underwent heavy losses in the 1980s (bush fire, theft of harvest), have been leased out to two private companies.

- SADIAC- Benin, acquired 4503 hectares land out of which 1699 hectares are considered cultivable.
- AGRICAL, got the factory of Parakou and a plot of 780 hectares of public plantations in Borgou, out of which 374 hectares are cultivable in spite of the poor maintenance.

There is a lack of sufficient data in Benin on cashew nut tree plantation, its yield and its evolution. The estimations made by ONS in 2000 show that between 1994 and 1998, the total area under cashew nut has grown from 24,282 to 40,217 hectares, yield of nuts from 8,499 tons to 22,119 tons and the average national yield from 0.35 to 0.55 tons nuts per hectare.

After CARDER’s monopoly in collection was withdrawn, large number of people are showing interest in the collection of nuts. Almost everywhere, the collector buys nuts from the grower. The collector carries out his operations with the funds given to him by the purchaser who is financed generally from the Indian importers.

In Borgou, collectors have formed a collectors’ group in order to reduce the possibilities of direct purchase by other agents. The farmers are generally organized in village groups or in associations such as the Union of Cashew Growers in Zou (UPAZ), whose objective is to work towards selling products at more lucrative prices.

In villages, the nuts are stored at the planter’s residence. The intermediate purchasers don’t store the product. The nuts are sent to the exporters, who generally use the stocking facilities provided at the Port of Cotonou. However, the owners of big plantations are installing warehouses for provisional stocking of nuts.
5.6.1.3 Marketing and export

The marketing chain is generally long and is characterised by networks that usually links an exporter with a tradesman or a purchaser having local links.

A large quantity of the cashew is exported raw. A relatively less quantity is processed into finished products (nuts, alcohol), which are mostly marketed locally with very less exports.

Raw cashew nut from Benin is one of the best three in the world in quality after Guinea-Bissau and Tanzania, and therefore enjoys a premium on quoted price.

Two types of nuts are offered here; the average quality nuts offered to cottage industry and the high quality nuts, which are exported. The company, SEPT mainly handles these.

5.6.1.4 Processing

Processing is basically a cottage industry at Atlantic, Zou and Borgou and women are the main labourers.

Among the companies installed outside Cotonou, NOVOMAG and BOULAMB generally market spiced cashew kernels. DANA conducts the quality control of the products that are mainly exported.

Two companies process raw nuts into cashew kernel.

- SEPT (the company for exploitation of tropical products) whose factory is installed at SAVE in Collines district.
- The factory of ex-SONAFEL installed in 1973 at Parakou with a nominal capacity of 500 kg/hour, or 5 tons/day and a provision to expand to 1500 tons/year. Unattractive procurement prices paid to growers led to low supply of nuts forcing the factory to be shut down indefinitely in 1987. AGRICAL Benin SA, the company that acquired the factory during privatisation, is planning to replace the installations by Indian machines with an annual capacity of 2500 tons nuts.
Some ventures in semi-cottage industrial installations in some localities in the sub district of Sèmè-Kpodji have ventured into processing of cashew apple into alcohol. But still this sector is largely unexplored.

5.6.2 Sector Performance

5.6.2.1 Production

**Quantity of production**

From the quantitative point of view, Benin is a small producer. In order to have a better knowledge of the total area covered by cashew nut trees in Benin, ONS has conducted a total census of plantations through CARDER. The results obtained in the end of November 2000 are presented in the Table 5.6.1.

**Table 5.6.1 Area by type of plantation (in hectare)**

<table>
<thead>
<tr>
<th>Department</th>
<th>Private</th>
<th>Government</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atacora/Donga</td>
<td>6226.25</td>
<td>1498.5</td>
<td>7724.75</td>
</tr>
<tr>
<td>Borgou/Alibori</td>
<td>1565.93</td>
<td>1831</td>
<td>3396.93</td>
</tr>
<tr>
<td>Zou/Collines</td>
<td>12439.89</td>
<td>1868.45</td>
<td>14308.34</td>
</tr>
<tr>
<td>Mono/Couffo</td>
<td>18.5</td>
<td>18.5</td>
<td>37.0</td>
</tr>
<tr>
<td>Ouémé/Plateau</td>
<td>585.42</td>
<td>585.42</td>
<td>1170.84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20835.99</strong></td>
<td><strong>5197.95</strong></td>
<td><strong>26033.94</strong></td>
</tr>
</tbody>
</table>

Source: ONS

**Table 5.6.2 Estimation of cashew nut production (1991 to 2000)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Exported quantity</th>
<th>Cross border trade</th>
<th>Exported Benin’s production</th>
<th>National consumption</th>
<th>Total national production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>36370</td>
<td>13457</td>
<td>22913</td>
<td>4044</td>
<td>26957</td>
</tr>
<tr>
<td>1999</td>
<td>29222</td>
<td>10812</td>
<td>18410</td>
<td>3249</td>
<td>21659</td>
</tr>
<tr>
<td>1998</td>
<td>26859</td>
<td>9938</td>
<td>16921</td>
<td>2986</td>
<td>19907</td>
</tr>
<tr>
<td>1997</td>
<td>19174</td>
<td>794</td>
<td>1280</td>
<td>2132</td>
<td>14211</td>
</tr>
<tr>
<td>1996</td>
<td>8672</td>
<td>3209</td>
<td>5463</td>
<td>964</td>
<td>6428</td>
</tr>
<tr>
<td>1995</td>
<td>11323</td>
<td>4190</td>
<td>7134</td>
<td>1259</td>
<td>8392</td>
</tr>
<tr>
<td>1994</td>
<td>9459</td>
<td>3500</td>
<td>5959</td>
<td>1052</td>
<td>7011</td>
</tr>
<tr>
<td>1993</td>
<td>6913</td>
<td>2558</td>
<td>4355</td>
<td>769</td>
<td>5124</td>
</tr>
<tr>
<td>1992</td>
<td>4373</td>
<td>1618</td>
<td>2755</td>
<td>486</td>
<td>3241</td>
</tr>
<tr>
<td>1991</td>
<td>1373</td>
<td>508</td>
<td>865</td>
<td>153</td>
<td>1018</td>
</tr>
</tbody>
</table>

For lack of available statistics, which highlights the necessity of co-ordination and rational organisation of the cashew network, estimation is made out of the quantity of kernels exported to obtain the production data.

The total production of raw cashew nuts is increased from 1,018 tons in 1991 to 26,657 tons in 2000 (Table 5.6.2). The average yield increased from 460 kg/hectare to 1,770 kg/hectare, an area increased from 40 thousand hectares to 129 thousand hectares, and total nut production increased from 22 thousand tons in 1988 to 229 thousand tons in ten years.

**Principal factors influencing the production**

The devaluation of CFA franc January 1994, which doubled the revenue of farmers, though in reality it was not more than the gross revenue.

The successive crisis in the cotton sector, due to the global fall in production of cotton fibre and the local problems in cotton production, which was till then the single organized agricultural sector that guaranteed regular minimum revenue for the growers. The loss of interest among the cotton growers was beneficial to the cashew sector.

The relative progress achieved as a result of research and the supervision of the planters either by NGOs or due to projects like PADSE in the important cashew producing regions. The progressively rising prices paid to the planters also contributed to the increase in nut production.

The following table shows the evolution of the exported quantity as well as the free on board cost of cashew nuts, the planter’s price of which represents about 76 per cent according to a study by BDPA-CETAGRI in 1995.

The impact of the last factors mentioned will be more observable from the increase in area under cashew nut tree as well as from the yield of nuts starting from the third to fifth years. This is due to the application of results of the research by URF on available varieties, production of improved seeds, rapid growth in planting activity, setting up of ten hectares of tree seed orchards, training of the extension agents and the strengthening of research of URF on cashew.
The renowned label of cashew nut from Benin on the international market is an influencing factor for the flow and the remuneration and hence positively influences the production of nuts.

It is possible to intercrop (recommended) the refill crops, the cashew nut tree (forest species with the compensatory effect against soil degradation) and annual crops like cotton in the first years of plantation.

### 5.6.2.2 Processing

#### Evolution and prospects of cashew processing

- **Industrial processing**

  In 1973, Benin started a processing unit for cashew kernel production in Parkou (Borgou) 435 km away from Cotonou. With a capacity of 1500 tons/year, it was meant to produce shelled and canned cashew kernels for export. But in 1987, it closed down because of some difficulties with the supply in cashew nut. It was taken over by AGRICAL SA, but is still non-operational.

  Another private operator (SEPT) in 1999 installed, a processing unit in Save, 170 km from Cotonou. Its capacity is 3000 tons/year. This unit is functioning despite difficulties in raw material supply.

  However, PADSE's expertise gives hope that in the near future, products like drinks, balsam, sap of cashew nut tree will be processed.

- **Cottage Processing**

  Women undertake cottage processing and collect a small income on it. The amount of nuts processed in this way is negligible and is meant only for local consumption. Cottage processing is becoming more mechanized with the use of implements manufactured by COBEMAG.

  Private economic operators such as BOULAMB and ISHOKAN use a better method for...
processing cashew nuts into kernels, which are marketed locally at relatively higher prices that lowers the demand.

The cottage processing is a full-fledged sector and offers many advantages to the production chain: It absorbs surplus nuts, which cannot be exported; It is developing a local demand, which can stimulate the production; It offers employment, especially to women; It uses locally manufactured small agricultural equipments.

**Types of processed product available for marketing**

Benin produces about ten kinds of cashew kernels. The juice extracted from the converted cashew apple is marketed mostly for local consumption.

**Principal factors influencing the processing performance of national companies**

The numerous private and public projects for boosting cashew cultivation, the renewed interest of the planters, the odds of the cotton sector are important factors that have begun to, and will continue to have a positive influence on the performances of these national level processors.

However, the processors face lot of problems like:

- Problems in raw material supply
- Degradation of the kernels’ quality due to premature harvest
- Lack of funds
- Credit recovery in kind (in nuts) which reduces the availability of nuts
- Inefficiency of administration in controlling collection and supply of cashew nut to industrialists.

On the contrary, the cottage processors do not face any problems in availability of nuts. It rather draws a profit that is proportional to the increase in low marketable quality nuts. It should be noted that processing does not have any significant effect on the export of raw nuts. More than 95 per cent of the national yield of nuts is exported.
5.6.2.3 Exports

Exports of cashew and its derived products

The cashew products exported from Benin are mainly raw cashew nuts followed by cashew kernels.

The average Free On Board value in 2000 is 0.518 Euro/Kg for raw nuts and 1.26 Euro/Kg for kernels. India, China, Singapore, Indonesia and Hong Kong as the main destinations of the cashew products from Benin.

Degree of organization and coordination of the sector and its effect on the export performance

In Benin, presently, what distinguishes the cashew sector from that of cotton is the degree of organization and co-ordination between different units.

The cashew nut purchasers are associated autonomously in ANAPAT (National Association of Purchasers of Tropical Agricultural Products). The collectors are restricted to specific geographical zones and each one is attached to a specific purchaser.

Exporters, who are mostly Indo-Pakistani, usually finance the purchasers or wholesalers. These exporters, however, are now approaching the villages for direct supply. The planters appreciate this practice as it makes the marketing procedure shorter and relatively increases the price paid to the farmers. The purchasers naturally sulk at this new trend.

Quality of the exported products

The nuts and kernels from Benin are well known for their quality.

- There are two institutions sharing the role of quality control of the cashew products: DPQC (Management for Promoting Quality and Packaging of Agricultural Products) for raw cashew nuts and DANA (Food and Applied Nutrition Management) for cashew kernels. DANA uses the CODEX Nutritive standards defined by the Mixed Commission FAO-OMS in 1990 and their updates.
The technicians (normally from India) of the purchasers, who come down to Cotonou and estimate the quality of the nuts before sailing.

- The purchasers themselves on the commodity's arrival at its destination.

The Beninese Centre of Standardization and Quality Management (CEBENOR), created in 1999, is establishing standards for quality of nuts meant for export. Laboratories for analysis and certification do not exist.

In the absence of well-defined rules and standards, the principal criteria for estimating quality are humidity (maximum 10 per cent), foreign matter (sand, vegetable scraps), defects (stained, premature, mildewed, rotten, moth-eaten, burnt or hollow nuts), graining (number of nuts in 1 Kg), outturn (the kernels' weight in pound for 80 Kg nuts). The phytosanitary criteria (residuals of phytosanitary products and aflatoxins) also exist though it is not checked often.

For kernels, the main criteria for quality are: humidity (maximum 5 per cent), acid content (maximum 1.0 per cent), peroxide Index (maximum 5 milliequivalent/ Kg), grading (9 sizes), physical criteria (defect, deterioration of colour) and the phytosanitary criteria (Salmonella, Escherichia coli, Staphylococcus, residuals of phytosanitary products, mycotoxins like aflatoxins, presence of traces of heavy metals)

Nuts collected at a premature stage and those coming from any arbitrary origin, especially from the neighboring countries, have begun to have a significant influence. Also, this has a negative influence on the label “Benin”.

5.7 KENYA

5.7.1 Structure
Cashew represents only one percent of the total Kenyan agricultural production in value. The cashewnut industry earns the country about KShs 375 million. Presently the Ministry of agriculture governs the industry but has neither specific Act nor Policy.

5.7.1.1 Production

Growing place
Cashew nut farming in Kenya is a smallholder activity and there are no large plantations. Individual holdings vary from a few trees to a few acres per farmer. The districts are Kwale, Kilifi, and Lamu. A few patches within Mombassa District contain some cashew nut trees.

Harvesting
The season for harvesting cashew nuts starts in October and ends in March. The main harvesting peak is during December- January, and a minor one is also present in March - April. The peak harvesting period coincides with the peak import demand in India, the heavy buying taking place in March.

Yield
Nearly all the existing cashew trees are very old, but they receive very little attention by the owners and are therefore characterised by low yields.

The trees are not uniformly distributed and the spacing is very variable. The mean number of cashew trees per acre is six, while the district means are 5, 6 and 8 tress for Kilifi, Kwale and Malindi respectively. Besides cashew farmers grow other fruit trees such as coconut, mangoes and citrus.

The yields are low and very variable because, farmers do not apply any input such as fertilizers or pesticide to control pest disease. The pruning of trees is also not done.
5.7.1.2 Processing

In Kenya, processing of cashew nuts started in a very small way at Kilifi in 1930. Following a visit to India in 1935, the late Mr. W.G. Lilywhite introduced a primitive type of drum roaster where shelling, peeling and grading were done by hand in an open shed. Mr. W.G. Lilywhite showed small holders how to grow cashew and provided the seed. When the trees began to bear, his vans collected the nuts and farmers were paid in cash. One of Mr. Lilywhite’s advantages was that he had no need to experiment with packing materials. During the 1930s in Kenya, petrol and kerosene were marketed in four-gallon cans (debes). By a simple conversion, debe tops were altered to include a circular opening. When steamed, the containers were ideal for exporting cashew kernels. By then, about 400 tons were being processed annually.

In 1950 an improved type of drum roaster was installed and new drying ovens were built. This granted a great deal of economic stability to Kilifi District, which did not have a cash crop previously.

Between 1960 and 1963, the processing was taken over by Mitchell Cotts Cashew Limited. They increased processing capacity to 800 tons per year.

In 1964 the Government took over the business and placed it under the National Cereals and Produce Board (NCPB) of the Ministry of Agriculture. The Industrial and Commercial Development Corporation (ICDC), the Industrial Development Bank (IDB) and the Kilifi District Cooperative joined later NCPB as owners. The factory was able to process 1500 tons annually and employed a permanent labour force of 385 people. During this time, production of cashew nuts from the three main producing districts of Coast province namely Kilifi, Kwale, and Lamu, was stepped considerably through the extension service of the Ministry of Agriculture. Nearly 70 per cent of the raw cashew nuts were exported to India for processing, a small percentage of which was returned to this country after processing.

Kenya Cashew Nut Limited commenced operations on 5th August 1975 and started by processing 5 tons per day. At full capacity, it was processing 60 tons per day and employing a labour force of 2,000 people (1,200 women and 800 men). The main export markets were North America, Japan, Middle East, Europe and Australia. All raw nuts were supplied by the Kilifi District Cooperative Union to Kenya Cashew Nuts Limited,
through the National Cereals and Produce Board.
The factory was privatised in 1993 and continued under the same name. The crop was marketed through farmers’ cooperative societies, traders and agents.
The factory closed down in 1998 and it is under receivership. It is believed by the stakeholders that the factory was vandalized and most of the machines taken to Tanzania before going into receivership in late 1998. The collapse of the factory has been linked to certain alleged powerful Kenyan Government officials and scrupulous businessmen. Poor business and bad weather conditions were claimed to be the reason by the proprietors.

Pan roasting of cashew nuts has always existed in all cashew growing areas. However, the failure of the Kilifi processing unit led to the proliferation of microprocessors, mainly in Kwale, Kilifi and Malindi districts. The operations are being managed by farmer groups, self help groups and individuals who used to work at the processing factory. Over the last few years, the Community Based Organizations (CBOs) have found it difficult to access markets.

5.7.1.3 Marketing
The major players in the marketing of cashewnuts include Kenya Nut Company Limited, Wonder Nut, Kenya Bixa Limited, Mombasa Cashewnut Factory and Kilifi District Farmers Association. This is in addition to small agents who buy small quantities.

Before liberalization of the marketing of raw cashew nuts, the crop was marketed through farmers’ cooperative societies, agents and traders' agents and was finally purchased by Kilifi Cashew Limited, the only major processor in the country. The marketing problems have been made worse by the collapse of the marketing system after liberalisation.

Cases of mismanaged co-operatives led to farmers being paid late, or denied their dues outright. The farmers have always considered the prices offered for their crop is too low compared to their expectations. The fluctuating nature of prices resulted in the discouragement of smallholders and the consequent neglect of their cashew orchards.
The liberalisation of cashew nut marketing coincided more or less with the closure of the main processing factory, Kenya Cashew Nuts Limited, in 1998. It was expected that the liberalization of cashew nut marketing would allow competition in a buyers' market. The scenario pertaining since 1998 has made the farmers even more perplexed. Following the El Nino phenomenon in 1997-98, the 1998-1999 crop season was the best seen for many years. There was an unprecedented influx of buyers from India, the crop was large, of a good quality and highly priced because of the abundance of buyers (up to 70 KShs /kg). During the 1999-00 season, only few exporters showed up, as the demand for export was low. In the following 2000-2001 the situation got even worse, with prices falling to 30-35 KShs/kg.

The export of unprocessed nuts has obviously exacerbated the potential for establishing a viable export industry within the country.

Existing market outlets include neighborhood shopkeepers and agents/middlemen. Agents/middlemen are the most common buyers of nuts in Kenya, undertaking about 95.2 per cent of the trade in Kilifi, some 83.5 per cent in Kwale and 64.6 per cent in Malindi.

Pricing is a big issue in the cashew sector because of the prevalence of exploitation of farmers, farm prices being set by external forces. Recent prices vary between 10 and 20 Kshs/kg across the three districts. Because of the disorganized nature of marketing, most of the crop is bought at farm gate.

Marketing of raw nuts is not organised, as there are no viable farmers groups with bargaining power. The number of buyers and their areas of operation are unknown.

5.7.2 Performance
5.7.2.1 Production

Quantity of production
Kenyan output declined from an annual average of 24,000 tons/year in 1969-71 (5.9 per
cent of world production), to 16,500 tons/year (4.2 percent of world production) in 1979-81 and to 10,300 tons/year in 1989/91 (a mere 2 per cent of the world production). The area under cashewnuts has declined from 36,000 hectares in the late 80s to 27,000 hectares in 2000 and is assumed to be the same to date.

Production was high in the sixties, but fell in the seventies and eighties due to mismanagement of the industry. Since the industry was liberalised, production has started recovering. During 2002, cashewnut bushes received adequate rain hence there was good flower setting (August and September). The flower setting was but affected by the short rains during the months of October to December and/or pests and disease infestation causing poor fruit setting. The main pest incidence widely reported is powdery mildew. A few farmers, are spraying their trees with Bayfidan, a systemic fungicide for the control of powdery mildew with the help of Bayer East Africa.

Principal factors influencing the production

The factors attributable to the continuing decline are largely associated with the collapse of the marketing system, consequential loss of interest by farmers due to price instability and the lack of production support services. These include development policy guidance and lack of adequate research and extension services.

One factor, which has contributed to lack of serious cashew nut farming apart from poor prices, is the land tenure problem. Most of the currently producing trees are found in the ecological zone I, where the land tenure system has not been clearly defined. Most of the people living in this zone (some of whom have been settled there for over 100 years), are called squatters, and do not yet have title to the land, despite the fact that the original owners can no more be traced.

The liberalisation of cashew nut marketing was expected to result in increased business confidence among the various stakeholders, including the small holders, traders and small processors, which should have led to dynamic changes in the sector. Market information plays a major role in guiding planning, production and providing feedback on the
performance of products in the market place. The lack of a regulatory body for the cashew sector has made the situation worse.

5.7.2.2 Processing

**Evolution and prospects of cashew processing**

The evolution of cashew processing has been based on individual private investors, who set up small processing units and engaged in direct purchasing from farmers.

The advent of independence in 1963 led to the involvement of the Kenya Government in the sector, through the purchase of the existing factory owned by Mitchell Cots - Cashew Nuts Ltd., in 1964. This was followed by injection of funds to modernise the factory. The government funds were given through the wholly owned Industrial and Commercial Development Corporation (ICDC), the Industrial Development Bank (IDB) and the National Cereals and Produce Board (NCPB), which also provided the management personnel. The farmers were involved through their cooperative society, the Kilifi District Cooperative Union.

**Table 5.7.1 Raw cashew nuts processed by Kenya Cashew Nuts Ltd.**

<table>
<thead>
<tr>
<th>Season</th>
<th>Kernel Production (tons)</th>
<th>Average price (kshs/ kg)</th>
<th>Value (kshs)</th>
<th>Value (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986-87</td>
<td>7,839</td>
<td>4.50</td>
<td>35,273.160</td>
<td>452.218</td>
</tr>
<tr>
<td>1987-88</td>
<td>12,591</td>
<td>5.50</td>
<td>69,250.720</td>
<td>887.833</td>
</tr>
<tr>
<td>1988-89</td>
<td>2,958</td>
<td>7.00</td>
<td>20,706.000</td>
<td>265.462</td>
</tr>
<tr>
<td>1989-90</td>
<td>2,957</td>
<td>7.00</td>
<td>20,699.280</td>
<td>265.372</td>
</tr>
<tr>
<td>1990-91</td>
<td>8,708</td>
<td>10.00</td>
<td>87,082.400</td>
<td>111.644</td>
</tr>
<tr>
<td>1991-92</td>
<td>9,363</td>
<td>11.00</td>
<td>102,980.240</td>
<td>1,320.260</td>
</tr>
<tr>
<td>1992-93</td>
<td>5,531</td>
<td>11.00</td>
<td>60,844.960</td>
<td>780.064</td>
</tr>
<tr>
<td>1993-94</td>
<td>5,441</td>
<td>14.75</td>
<td>80,260.060</td>
<td>1,028.974</td>
</tr>
<tr>
<td>1994-95</td>
<td>1,859</td>
<td>13.75</td>
<td>25,567.300</td>
<td>327.782</td>
</tr>
<tr>
<td>1995-96</td>
<td>6,823</td>
<td>12.75</td>
<td>86,988.660</td>
<td>1,115.244</td>
</tr>
<tr>
<td>1996-97</td>
<td>3,269</td>
<td>16.00</td>
<td>52,300.800</td>
<td>670.526</td>
</tr>
</tbody>
</table>

Source: Kenya Cashew Nuts Ltd.
The liberalisation of the sector led to the withdrawal of these institutions and the sale of the factory to private operators. Unfortunately, the private operators have run down the factory and it finally closed down, after running up a heavy financial liability. The assets have been cannibalized beyond repair.

Table 5.7.1 shows the evolution of cashew processing by the Kenya Cashew Nuts Ltd., up to its closure in 1996-1997. Since the closure of the factory, procurement figures are difficult to obtain. The data shows that production has been declining.

Types of processed product available for marketing
Currently, no cashew products are being processed in Kenya. Microprocessors produce only raw kernels. The reversion to the old technologies, using crude pan roasting techniques, is unable to produce quality kernels.

Principal factors influencing the processing performance
The main factors influencing the processing performance have been the lack of organization and the prevalence of a chaotic marketing system, characterised by irregular demand and low prices for raw cashew nuts. Small-scale processors can only handle about 10,000 tons, which would not meet export quality standards.

5.7.2.3 Exports
Largely the United Kingdom and other European destinations imports all the nuts processed by Kenya Cashew Nuts Ltd. About 70 percent of the processed cashew kernel exported to the US.

The recently established Kenya Nuts Company Ltd has not yet released its export statistics. However, based on its raw material purchases, it processed 250 tons of cashews in year 2000 and 300 tons in 2001.
5.8.1 Structure

5.8.1.1 Historical Perspective
In the colonial period, cashew tree was considered as a forest tree meant only for reforestation at Senegal. The yield of these plantations was very low, and they were largely unsupervised because they were considered as public property. Till the 1970s, the cashew apple was consumed more as a fresh fruit than the cashew nut; the nut was yet to be exploited. The production, harvesting and marketing of cashew nut were improper. It was from the beginning of the 1970s, especially towards the end of 1990's that a well-structured and well-supervised national production emerged.

5.8.1.2 Production
The orchards are situated in every village of the production region (Fatick, Igunchor, Kolda, and Dakar). The growers of each region have their own associations. These regional structures cannot function in an articulate way. Each regional association has nearly 500 members. The UGAB (Union of Agricultural Groups of Niombato) in the Fatick region comprises more than 2000 members. The villagers deal directly with the collectors, who fix the price in each period.

5.8.1.3 Marketing and Export

Fig 5.8.1 Organisation of the marketing sector

System of marketing cashew nut in Senegal

- Importing countries: India/China/Europe
- Wholesale merchants: Dakar, Ziguinchor, Fatick, Kolda (Representatives of the exporters)
- Intermediate purchasers (state, village level): State and district level
- Small merchants, Purchasers (local level): Village level
- Growers
It was only in 1973 that the development programmes for cashew started with the initiation of SODENAS (Cashew Nut shelling company of Senegal) and the bilateral project PASA (Senegalo-German cashew project). The objective of both these projects’ was the development of cashew cultivation in Senegal. Since its creation to 1986, SODENAS monopolised the procurement and marketing of cashew nut. With the help of local merchants, SODENAS developed a well-organised purchasing network at Casamance and Dakar. The company exported 240 to 380 tons of cashew nuts between 1982 and 1986.

The SODENAS did not follow the liberalisation policy and did not liberalise its policy of purchase and price. As a result, the local merchants, who worked with the company, chose to work on their own as there was very good international demand, and the prices offered were high.

The company stopped bulk purchase from the growers and took up the role of mediator and intermediary in the sales for exports. Parallel to this network, other national merchants had emerged in Casamance, Kolda, Fatick and Dakar. These merchants sold cashew with the aid of exporters. They also set up a network of purchasing agents in different regions, which included small merchants and wholesalers who bought cashew nut seasonally along with their other commercial activities. These small merchants worked on the wholesalers’ account. The nuts were bought in small quantities (1 to 20 kg) at the price fixed by the wholesalers. The growers were paid in kind (rice, oil, soap, salt, etc.). The purchasers were pre-financed by the wholesalers and collected the merchandise regularly from them. In addition, there were other intermediaries who would deliver directly wholesale amounts at higher prices. Each intermediary demanded around 15 per cent to 20 per cent of the grower’s price.

The wholesalers were the merchants, who showed interest in cashew only in a seasonal and complementary way, so their experience about cashew market was minimum. Access to the information on the market was also zero except for the information coming from
the exporters in Dakar and, these exporters communicated only those information which was profitable for them.

In the course of the last few years, many Senegalese companies for cashew exports were started, even though the information available on the international market was insufficient. The exporters responded to sporadic demands and chance offers. Out of the 15 registered exporters, only the SODENAS, EL BASR and Tamaro signed direct contracts with the Indian importers.

Table 5.8.1 Main agents in the sector

<table>
<thead>
<tr>
<th>Agents</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Management of Forests and Water, National Management of Statistics, Dakar Airport, Port of Dakar, Chamber of Commerce...</td>
<td>Data on the exports of nuts and kernels (products, grades, destinations, freight etc.)</td>
</tr>
<tr>
<td>Leaders Price (Hann), Score Leaders Market</td>
<td>Marketing data (products, prices, packaging...)</td>
</tr>
<tr>
<td>ITA, ESP</td>
<td>Appropriate technologies for cashew nut shelling</td>
</tr>
<tr>
<td>CERER, ACASEN</td>
<td>Manufacture and use of ovens/grills for cashew nut</td>
</tr>
<tr>
<td>ACASEN, LISA, More than 100 village groups in the producing region</td>
<td>Processing</td>
</tr>
<tr>
<td>ITA</td>
<td>Valorization of cashew apple</td>
</tr>
<tr>
<td>Management of Forests and Water (Hann)</td>
<td>Researching on the activities already conducted on cashew</td>
</tr>
<tr>
<td>Cashew growers’ federations in the four states: Ziguinchor, Kolda, Kaolack, Fatick, UGAB</td>
<td>Organisation and strategies for promotion of the sector</td>
</tr>
<tr>
<td>SOCOPAO, Chamber of Commerce, El Nasr, SODENAS</td>
<td>Exporters, forwarding agents and intermediaries</td>
</tr>
<tr>
<td>India, Benin, West Indies, Saudi Arabia, Vietnam, China, Japan, Hong Kong</td>
<td>Importers</td>
</tr>
<tr>
<td>PROMER (Fatick, Kolda, Kaolack), PAEFK</td>
<td>Organisation</td>
</tr>
</tbody>
</table>

Source: Trade source
5.8.2 Sector Performance

5.8.2.1 Production

Quantity of production

There is an inadequacy of reliable data on the annual production of cashew nut in all the regions where there is a potential for cashew cultivation.

Based on the productivity of the plantations and on the data provided by the Management of External Trade it is estimated that cashew is cultivated at more than 8,230 hectares of land out of which 7,481 hectares is owned by farming plantations and 749 by state-owned plantations.

Types of cultivated cashew nut

The selected varieties distributed are Beninese, Costarican, Brazilian and local nuts.

Principal factors influencing the production

The present situation shows a steady and constant decline of the yield in cashew nut mainly due: The plantations are not protected; The aged plants are not replaced; No application of fertilizers and plant-protection chemicals; Improper harvesting techniques. Absence of proper harvesting implements like bag, gloves, drying shed, etc; Lack of financial resources (no seasonal credit) leave the farmers at the mercy of the intermediaries; Existence of less price and numerous intermediaries

15.8.2.2 Processing

Evolution and prospects of cashew processing

The processed cashew products appeared in the markets in 1979 when the cooperation projects with Federal Republic of Germany were initiated and SODENAS (cashew nut shelling company of Senegal) was set up.

The cashew apple and the cashew nut were not marketed earlier to 1979. In 1979, value addition projects for these products (fruits and cashew nuts) were set up in addition to SODENAS and PASA 1, 2 and 3.
From 1979 to 1994, the project PASA functioned in the regions of Kolda, Ziguinchor, Kaolack and Fatick for the promotion and development of the cashew nut. The SODENAS factory was installed simultaneously with a shelling capacity of 1,000 to 1,250 tons/day.

In Senegal, only SODENAS made use of machine shelling from 1987 to 1988. As a result of the unsuccessful introduction of machine shelling, manual shelling has become the general practice.

The research is limited solely to identification of optimum roasting parameters for the nuts. As far as the cashew apple processing is concerned, some products have already been manufactured. These are jams, syrups, figs, canned food, and white alcohol.

In packaging, polythene is most commonly used because of its low cost. Other types of packaging used especially for selling kernels through supermarkets are reprocessed bottles and 150, 200 and 500g boxes. This type of packaging is attractive. The per-unit cost of these packages is not always affordable for the local processors.

**Types of processed product available for marketing**

The cashew apple, which is produced in thousands of tons is used at presently only for local consumption and in the making of cakes and juice.

The production of cashew kernel is the major commercial activity of these regions. The mechanisation of operations was introduced with the creation of SODENAS, though the efficiency of the unit and the quality of the kernel have always been in question. SODENAS manufactured 39,000 kg kernels while it was functioning. More than 70 per cent of the production was exported. Unfortunately, these products were not in compliance with the international standards when tested. This situation forced the closure of the company. This caused the country to return to traditional shelling, and this slowed down the development of the processing sector.
Table 5.8.2 Types of processed products

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Primary processing</th>
<th>Secondary processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODENAS</td>
<td>Plain kernels</td>
<td>Chocolate, soap, oil, kernels (salted, sugared, peppered)</td>
</tr>
<tr>
<td>Cottage industrial units</td>
<td>Plain kernels</td>
<td>Jam</td>
</tr>
<tr>
<td>Processing units</td>
<td>Plain kernels</td>
<td></td>
</tr>
</tbody>
</table>

**Principal factors influencing the processing performance**

Senegal has a long experience in the traditional processing of cashew nut. As in every cashew-producing region, women are the main working staff along with the children who help them. This very old practice was prevalent even when the forest tree was planted as a family-venture.

The short experience with SODENAS made them realize that maximum value can be obtained if processing is carried out maintaining the international standards. In the small processing units, the processing remains manual. The hindrances to the development of the sector today are lack of efficient and adaptable equipments (shelling, grill) and lack of properly trained manpower.

For processing, in addition to the local knowledge, the entrepreneurs have to be organised, trained, equipped and informed about the trends in demand at the international level.

Some forms of secondary processing have been introduced to manufacture products like chocolate, couscous, pasta and soap from the kernel, but this is not widespread among the processors. The compulsory quality control and quality management for a food product is quite unknown here. In fact, the traditional tools and equipments used are the prime sources of contamination.
5.8.2.3 Exports

Exports of raw cashew nuts

There is no adequate reliable data on the production and marketing of nuts and kernels. Certain grower-processing agents, however, manage to market their kernels on the basis of orders received from their links or correspondents settled in Europe (France and USA in particular).

The exports are of raw cashew nuts only. The lack of market information and organisation in the sector explains partially the unreliability of the information on the quantities exported. The statistical data collected from the competent bodies, specifically the Management of Statistics and Department of External Trade covers only the years 1996 to 2001. The statistical data on production and exports have not been registered since the elimination of forest tax. Some exporters attribute the decline in exports from the year 2000 mainly to the inferior quality of nuts when compared to those from the competitors in Benin and Guinea-Bissau and others; 95 per cent of the raw cashew nut production is exported to India. From 1998 to 1999, the Indian exporters and professional or occasional collectors in the production regions used to influence the marketing. The liberalisation of the market and the absence of a controlling structure favour this mechanism.

Moreover, the disorganisation of the sector, the liberalisation of prices and the lack of a national policy in matters of production, processing and marketing are the other major reasons for the decline in exports.

- **Degree of organisation and coordination of the sector and its effect on the export performances**

The operation of projects from 1980 to 1990 had ushered in a progress in this sector. These projects had actually introduced a system that allowed a control over all the agents in the interest of production and marketing. With liberalisation and stoppage of the projects, only the Management of Forests and Water ensures coordination between different elements. But the latter’s activities are limited to reforestation. Now, the various
participating agents of the marketing chain work in a very independent way. The State does not have any reliable specialised information centers on the sector. The existing professional organisations today are faced with problems regarding information and control on the sector.

**Quality of the exported products**

The cashew nuts of Senegal are considered as relatively small. These nuts thus face serious difficulty in being accepted in the international market. The development of the sector depends to a large extent on adhering to international norms.

As far as kernels are concerned, it needs to be mentioned that the new ventures focussed on exports did not succeed (for example, the SODENAS in 1988-1989). The exports, though in very small quantities, still do not adhere to standards. There actually exist about 10 private laboratories for analysis at Dakar, specialized in chemical and bacteriological analyses of food products.

The cashew products for exports still do not undergo a compulsory food control. The ISN (Senegalese Institute of Standardization), in response to the exporters' demand, has set up the standard NS 003-0020 that defines the general characteristics of cashew nut. This standard has been prepared on the basis of regional and international standards in effect. However, its application is not compulsory.

- **Certification**

In Senegal, a certification system is still non-existent. The certification is not managed by a proper authority. The laboratories affix a food control certificate according to the results of the analysis.

The quality of the products for exports is very important for the development of the whole sector. The tough international competition should make the agents of the sector adhere to these international demands. The decline in exports noticed since 2000 is due to the absence of a certifying authority that can guaranty the quality of nuts being exported.
5.9 OTHERS: MALAWI, UGANDA, MADAGASCAR AND VIETNAM

5.9.1 Cashew Industry at MALAWI

5.9.1.1 Introduction
Malawi is a small land-locked country shares borders with Tanzania in the North, Mozambique in the East, South and Southwest and Zambia on West. Malawi has recently embarked on an extensive crop diversification programme, in which cashew has featured very highly. The total area under cashew in Malawi is estimated at 1,820 hectares under estate management and 200 hectares under smallholder production. Most of these cashews have been introduced from Mozambique, Zambia and Tanzania. The varieties currently grown by the estates include AC28, AC10, AZA2, ZI-726, Z2-1048, Z29-1820, Z24-1512 and Z2-1013. The smallholder farmers are mostly growing AC28, AC4 and local varieties. Current average yield estimates of raw cashew nut for a mature tree under estate management is 19 kg/tree while smallholder yields average 5.3 kg/tree.

5.9.1.2 Cashew production
The scope of expanding cashew nut production in Malawi is wide, especially along the lakeshore areas (Karonga, Salima, Nkhotakota, Magochi) where cultivation of other crops is unsuitable because of poor soils and dry conditions. Cashew can also be grown in Nsanje and Chikwawa districts. Studies in the past have shown that Malawi has a comparative advantage for cashew nut production; DRC (Domestic Resource Cost) values have been estimated at 0.34-0.4, taking into account added values due to processing. The economic returns to labour and land are relatively high, and with improved yield and quality, these returns could surpass those of traditional cash crops (tobacco, tea, and sugar).

Cashew production constraints
Despite the favourable conditions for growing cashew in Malawi, the average national yields and quality have remained low. This could be attributed to a number of factors. 

Pests and diseases: Leaf and shoot pests (Helopeltis), Stem and root pests (Pranaeptes), Leaf and flower diseases (powdery mildew)
Other production constraints

- Infertility - this concerns both major and micronutrients, which contribute to poor growth of trees and poor kernel quality;
- Environmental limitations - trees in very marginal areas are affected by drought resulting in poor growth, excessive premature nut drop and the production of small nuts;
- Poor cultural practices e.g. poor tree spacing, tree training, soil management etc.

Institutional limitations

- Lack of organised and co-ordinated markets for smallholder farmers;
- Lack of planting materials for smallholder areas due to lack of nurseries;
- Lack of specialised and trained extension staff;
- Inadequate funding for research and extension activities.

5.9.1.3 Processing

In Malawi, the vegetative propagated cashew tree bears its fruit after three years but reaches its full production after 7-10 years. The Procedure of processing in Malawi involves eight main operations namely: Pre-grading, Humidifying, Roasting, Shelling, Drying, Peeling and Grading and finally Frying and Packing.

Pre-grading: Raw cashew ex-estates are separated into four grades based on size. The grading is done using a horizontal rotor-sieved grader. There are grades 4, 3, 2, and 1, with grade 4 being the biggest size nut and grade 2 the smallest. Grade 1 is the very small unprocessable nuts.

Humidifying: Pre-graded nuts are sprinkled three times with water between 8.00am and 4.00pm. The nuts are then covered with a hessian cloth overnight to reduce moisture loss due to evaporation. This process is ensure that the raw cashew shell is softened up.

Roasting: The humidified raw cashew is boiled in hot oil. This is partly to neutralise the acidic oil prevalent between the shell and the kernel inside the raw cashew. The other reason is to make the shell brittle, ready for shelling.
**Shelling:** This is the process of separating the shell from the kernel. It involves two manual operations. Firstly individual nuts are partially cracked using the manually operated nut-cracking device. The partially cracked nuts are finished off using a specially made shelling knife (made from 5" wire nails). During this process, the expected kernel recovery is 25 per cent or more. The bigger the nut the higher the percentage of kernel recovery and vice versa.

Similarly the bigger the nut the higher the quota given to a sheller per day, as shelling is performed one nut at a time. The pre-grading operation is done to differentiate the task quota given to shellers.

**Drying:** Kernels (shelled nuts) are dried overnight in a drier at controlled temperatures. This is to make the skin of the kernel brittle and ready for the next operation. The temperatures are controlled between 60-70° C. This gives a moisture loss by weight of between 5-8 per cent.

**Peeling:** This is a process of removing the testa from the raw nut as cashew is sold skin free. This is done using peeling knives made from 4" wire nails.

**Grading:** The peeled nuts are then graded into edible material and non-edible materials. Edible material is made up of white wholes, second wholes, white halves, white pieces and tiny bites.

White and second wholes are first grade with highest value, second grade is white halves and white butts, third grade are white pieces and last tiny bits. The non-edible material is made up of rotten rejects the inedible material from grading, shells and moisture loss making up to 78-80 per cent of production loss. Peeling and grading loss contributes a small percentage of the production loss; currently peeling loss ranges between 1 per cent and 3.5 per cent. The standard out turn of the raw cashew nut processing is about 20 per cent.
Frying and packing: The nuts are presented in three ways: roasted and salted, roasted piri-piri; and salted and unroasted. Packaging is either in polythene bags (250g, 500g, 1kg, 10kg) or in 200g clear jars.

5.9.1.4 Marketing

Table 5.9.1 Cashew nut production trend in the two major Private Press Estates in Malawi (Nkholosa and Chikwawa) (in metric tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Nkholosa</th>
<th>Chikwawa</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>-</td>
<td>36.8</td>
<td>36.8</td>
</tr>
<tr>
<td>1991</td>
<td>66.5</td>
<td>75.1</td>
<td>141.6</td>
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<td>1992</td>
<td>41.5</td>
<td>70.4</td>
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</tr>
<tr>
<td>1993</td>
<td>34.3</td>
<td>57.6</td>
<td>91.9</td>
</tr>
<tr>
<td>1994</td>
<td>22.2</td>
<td>60.1</td>
<td>52.3</td>
</tr>
<tr>
<td>1995</td>
<td>21.4</td>
<td>39.6</td>
<td>61.0</td>
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<tr>
<td>1996</td>
<td>20.1</td>
<td>48.4</td>
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<td>35.9</td>
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<td>23.4</td>
<td>83.2</td>
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</tr>
<tr>
<td>1999</td>
<td>9.2</td>
<td>11.1</td>
<td>20.3</td>
</tr>
<tr>
<td>2000</td>
<td>24.1</td>
<td>20.1</td>
<td>44.2</td>
</tr>
</tbody>
</table>

Source: Trade source

In the mid-1980s Malawi used to export 10 per cent of the total produced cashew nuts as processed products while the rest were consumed locally and some exported raw to India and Zambia. ADMARC used to be the sole buyer and exporter of this nut. However, with the current liberalisation programme, it has become difficult to establish how much the country exports annually in terms of raw and processed nuts. Since then, ADMARC stopped buying the cashew nut from the smallholders. Press Estates Division has apparently taken over the role, although very little cashew nuts are being bought from smallholders at the moment. This is because the smallholder farmers have lost interest in the production of cashews since there was no market. In addition, the marketing infrastructure and general marketing arrangements are not well developed. With closer of markets under one of the key government marketing agencies, ADMARC, smallholder farmers do not have adequate access to market outlets and often have to meet high transport costs to move cashew nuts to the only available market outlets, owned by Press Agriculture.
Export figures from the National Statistics Office show that cashew nuts are exported to the UK, USA, Taiwan, Republic of South Africa, etc. Data on exports is not properly documented because the market is disorganised and exports are mostly informal. Small quantities are bought from within the country by Zimbabwean and Zambian exporters. About 10,000 kgs are consumed locally.

5.9.2 Cashew Industry at Uganda

5.9.2.1 Production
In Uganda the area of cashew production stretches from Pallisa to Arua districts (excluding Mbale and Kapchorwa).

Production began in 1972 under the Cashew Nut Development Project (CDP) and during the 1970s total of 1.2 million cashew trees were planted in the districts covering the Northern and Eastern parts of Uganda. However, the industry did not develop as planned, due to the political, economic, social and operational problems that the country went through. It is, therefore, not surprising to find that current production estimates are low, as indicated below:

Soroti, which was the base of the Cashew Nut Project, is the biggest producer of both nuts and trees. Production is mainly by small farmers who are supplied with seedlings. In the recent past the husbandry of the crop has been very poor mainly because of lack of incentives. The market is slowly being revived in a few areas of Soroti and Katakwi districts. The best buying season is late November to February with a peak period from December to January.

5.9.2.2 Processing
No processing of cashew fruits takes place. Regarding the nuts, a roaster was brought by the CDP in 1978, and supervised by the Ministry of Agriculture. This piece of equipment was never installed and is probably now obsolete; as a result, the nuts are roasted locally for home consumption in the event that they are not sold. The operators of the roasters collect the nuts from the collection centres and take them to their plant.
sites, where they re-dry them in the sun. The nuts are then roasted using simple equipment and divided into split and whole nuts. The nuts are packed in 100g and 250g packages depending on the market, and then into 10 kg for transport.

5.9.2.3 Marketing
The current marketing of the few nuts available is very simple and comprises two possible channels.

Export: This was started by private interests but collapsed in the last two years; however, it is expected to be revived in future. The farmers sell their nuts to local dealers in the trading centres, where they have limited storage facilities. The traders transport the nuts to towns (usually Soroti) to the exporters who consolidate the nuts, re-dry, sort and pack them in 50 kg bags ready for export. The whole process is funded and controlled by the exporter (sometimes pre-financed by an importer) who provides funds to the local dealers to purchase, store and transport the produce to the town for eventual exportation. The commonest export destination is Kenya, which is only 130 km from the main exporting town, Soroti. Uganda used to export between 300-350 tons per year to Kenya. They export to resume with same figures in the next season.

Local or internal trade: This involves the roasters. It is through this channel that interest has been stimulated in the production process by the farmers. The roasters have agents who deal in the trading centres in selected areas of production in the three districts of Soroti, Katakwi and Kumi. Raw nuts are bought by the special dealers in grades, stored, then transported to the roasting plant where they undergo processing as described earlier. The roasted products are distributed to major supermarket in Soroti town and also in Kampala the main city of the country (350 kms from Soroti).

5.9.3 Cashew Industry at MADAGASCAR
5.9.3.1 Introduction
Cashew nut trees were brought to Madagascar by the Portuguese and the Spanish, in the 16th Century. Organised cultivation of cashew did not commerce until the period 1968 to
1972. During this time, 23,000 hectares of cashew were planted, in addition to the trees that were already growing wild. Planting was undertaken by the Ministry of Water and Forestry and management of the trees was entrusted to a state-owned company, FA MA MA, created in 1974.

5.9.3.2 Production and processing

Production levels for raw cashew nut were only around 4,000 tonnes per annum. A cashew nut processing plant belonging to FA MA MA was built in 1979 in Mahajanga, with a production capacity of 3,700 tonnes of raw nuts per annum. Initial studies for the processing plant were carried out by an Italian company, Oltremare, and the factory was built and equipped with their semi-automatic equipment, the oltremare processing system. As a result of financial difficulties this processing plant was only operational for four years and then ceased to work. In 1999 the FA MA MA processing factory was privatised and bought by a company called MUST. It is now operational again.

There are currently two plants situated in the West of Madagascar:
- MUST (the former state factory) using Oltremare technology and with a processing capacity of 3,700 tonnes; and,
- The Beminay plant using the Indian processing system, with a capacity of 300 tonnes.

Problems with the cashew nut industry in 2001
- Poor quality of nuts produced - 25 per cent are under 20 mm in size;
- The Oltremare processing plant is very expensive to run due to the price of petrol to fuel the boiler for cooking and the price of electricity for the dryer; and,
- The price of W450 butts and splits has collapsed.

5.9.3.3 Trade

Prior to 2000, the raw cashew nuts had been exported to India for processing. In the year 2000, the MUST Oltremare factory processed around 2000 tonnes of raw cashew,
producing 400 tonnes of kernels, 60 per cent of which were exported to Europe. The W450 splits and butts are taken up by the domestic market.

Madagascar has imported cashew nut seeds from Brazil. Seeds have also been imported from Tanzania through the project Landscape Development Initiative, financed by USAID, to assist smallholder growers in improving their nut quality.

5.9.4 Cashew Industry at VIETNAM

5.9.4.1 Production
Cashew is planted by extensive farming measures from the Center to the South of Vietnam, mainly in such Southeast provinces as Binh Phuoc, Dong Nai, Binh Thuan. Vietnam cashew productivity averages at 500-600 kg/ha, the rather high level in comparison with other countries including India (500 kg/ha), Brazil (450 kg/ha) or Mozambique (400 kg/ha).

Government data showed total cashew plantations in 2001 reached 199,000 hectares from 195,400 hectares in 2000. The Vietnam Cashew Association projects 2003 raw nut output at 200,000 tonnes.

Instability in productivity and area has made great fluctuation in cashew output of Vietnam. In 1995-1997 period, cashew output increased averagely 15 per cent, from 47 to 67 thousand tons, the third largest producer in the world. However in 1997-1999 period, cashew production was on downward trend, even to 41 thousand tons in 1999 due to unfavourable weather. The raw cashew harvest season at Vietnam is between February & May.

5.9.4.2 Processing
Cashew processing industry of Vietnam has made great progress. Although following technological process of India and Brazil, all equipments have been home made. In comparison with Indian technology, work stage of Vietnam technology has been further improved, creating stable high - quality products, matching the world taste.
processing capacity of Vietnam has been considerably promoted. Number of processing companies increased from 6 in 1986 to 30 in 1994 (with total capacity of 75000 tons/year) and to 62 in 1999 (with total capacity of 250000 tons/year).

The development in processing technology has helped Vietnam change exporting from raw cashew to processed product. Recently, due to the reduction of domestic cashew supply, Vietnam has had to import raw cashew from African countries for processing. Cover split technology of Vietnam is semi auto, designed by Vietnamese technicians, adapting Vietnam's own condition. This kind of technology is cheap, attracting various laborers, generating higher ratio of whole seed than automatic machines of England, Italian or India.

In Vietnam, each cashew processing company has its own firm and station to assemble raw cashew for processing. Some of them have poured investment in production area to encourage farmers planting cashew through such measures as credit support or provision of new and high-yielding seeds.

While the acreage of cashew is on the rise, processing facilities have also been further upgraded with processors like the Dong Nai Food Processing and Import-Export Company (Donafoods) and the Long An Food Processing Company (Lafoco) having applied the international quality standard ISO 9001-2000 into production.

Cashew nuts are now one of the few farm products with a very high proportion of harvest going through processing. Nearly 100 percent of the cashew harvest is processed by 80 mills nation-wide whose capacity totals 250,000 tonnes/year, expected to reach 300,000 tonnes/year in the future. Although two-thirds of them are located in cashew growing zones and most of their products earmarked for export, few have made investment in cashew cultivation as input for their production. The situation is likely to change soon due to the fast rise seen in the growing area of cashews.
Cashew processors have asked the government to put a ban on a new cashew nut processing plant until farmers are able to satisfy quotas of raw nuts to feed existing plants. The petition was raised by an association of more than 60 processors fearing increased rivalry over buying raw nuts. Raw cashews currently provide only two thirds of processing demand across the country. A foreign-invested food enterprise, which recently revealed plans to develop large-scale cashew nut processing mills in Vietnam, was behind the petition.

Cashew plant potential, however, is not yet fully tapped. Almost one million tonnes of cashew fruit are left unprocessed each year. A project is underway by the post-harvest technology institute to make wine out of this source, contributing to job creation and minimising environmental pollution.

5.9.4.3 Exports
Cashew export volume of Vietnam is on the downward trend, though still remains at high level, from 33,300 tons in 1997 (accounting for 22.5 per cent of the world market) to 26,000 tons in 1998 (equivalent to 17.2 per cent) and even to 17,000 tons in 1999. Cashew nut export is forecasted to reach 65,000 tons in 2003 (Fig 5.9.1).

Vietnam is the largest cashew producer in Southeast Asia and the third cashew exporter in the world after India and Brazil. Most of cashew produced is for export (about 90 per cent). Cashew exporters of Vietnam increased from 16 in 1997 to 21 in 1998 and 23 in 1999, of them China, Australia, the US and Netherlands being greatest partners of Vietnam.

Vietnam is all set to take the second place in global cashew kernel exports close on the heels after India holding 18-20 per cent of the world market. About 80 per cent of the commodity is land up in the US and China. One of the country's top ten export items, Vietnamese cashew is known for its high quality.
The US had reduced the import duty on cashews to zero per cent which is expected to boost exports. Also, Vietnam had forayed into newer markets such as Iran, Saudi Arabia and Russia. According to international cashew distributors and exporters, Vietnamese cashew exports fully met the food safety and hygiene standards as well as the technical standards of North America, Europe and Japan.

Having set its sights abroad, the industry's lack of interest in the domestic market has translated to more than 90 per cent of cashew products being reserved for export.

5.9.4.4 Imports
Vietnam has been seen as a new buyer of seed in Africa over the last few years. Their cashews are probably in more demand than any other origin. The Ministry of Agriculture and Rural Development has suggested the Vietnam Cashew Association and the Vietnam Food Association co-operate to sell rice to Africa in exchange for raw cashew during 2002. The country's rice stockpile is increasing and cashew-processing bases are facing serious raw material shortages.

5.9.4.5 Others
**Government support:** The Prime Minister issued in 1999, approving a development strategy for cashews by 2010. Under this strategy, Vietnam's cashew growing area is
The Vietnamese Government is spending about $1.38 million spread over five years from 2000 to introduce hi-tech cashew strains into production to improve quality and yield. These new strains are fast replacing the old, retrogressive strains. Although the newly-cultivated area is not large, it has helped raise the cashew output to 220,000, twice as much as the 1999 figure. If the present trend is any indication, Vietnam may overtake India in cashew kernels export by the end of the current decade.

VINACAS: Vinacas’ proposals came amid a time when the industry has rebounded from the doldrums period in late 1990s, when the cashew acreage shrank remarkably as farmers shifted to other cash crops.

Vinacas has made the following suggestions for developing the local industry:
- Land should be allocated to farmers and they should be exempted from agricultural tax.
- Tax exemptions should be given to people importing raw cashew nuts for processing and re-export.
- Government-level working sessions should be held with India and Brazil to discuss cooperation in exporting cashew products.
- An industry fund should be established to assist enterprises in the cashew industry times of difficulty.