Ivory Coast

General Information on Ivory Coast

Capital	Yamoussoukro	Time Zone	GMT+00:00
Population	16,804,784	ISO Code	CI
Area	318,000 sq km	Dialing Code	+225
Languages	French (official), 60 native dialects with Dioula the most widely spoken	Continent	Africa
		Internet Domain	.ci
Currency	Communaute Financiere Africaine franc (XOF)	GDP	$25.5 billion
		Export partners	France 13%, US 8%, Netherlands 7%, Germany 7%, Italy 6%
Major towns	Abidjan, Aboisso, Dabou, San-Pedro		
Exports	cocoa 33%, coffee, timber, petroleum, cotton, bananas, pineapples, palm oil, cotton, fish	Import partners	France 26%, Nigeria 10%, China 7%, Italy 5%, Germany 4%
Imports	food, consumer goods; capital goods, fuel, transport equipment, raw materials		

Structure, Organisation and Development Strategies

Historical Perspective

Description and organization of the production

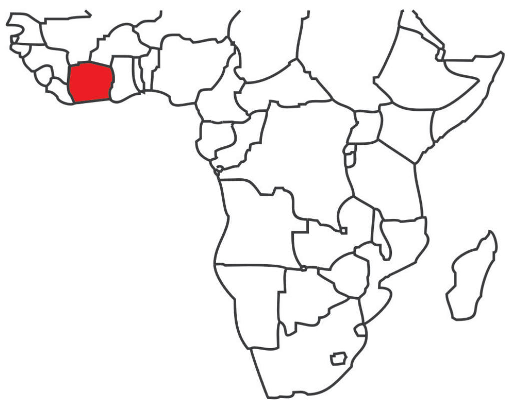
The cashew cultivation is done mainly because of the interest shown by the growers, who comprise of a number of planters. They make use of 2.5 to 4 hectares on an average without any support structure for producing seeds.

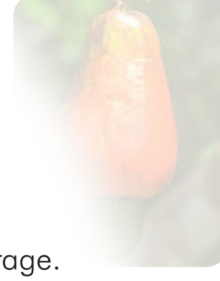
These planters use two modes of cultivation. The first one is done by selection from the nursery based on selection processes like good germplasm. When these nuts germinate, they are given as saplings to the planters, who plant them on previously prepared beds.

The second method is direct sowing by putting two nuts per bed. These sowing activities are done in the rainy season. The prescribed 10m x 10m spacing is not always maintained.

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 which have to be altered for improvement and maintenance of quality.

The maintenance of orchards is of prime importance, because it is essential that the cashew orchards be maintained through pruning and thinning of the branches some months before flowering starts. This is not done in general and should be integrated with the supervision activities of the production through a well-developed and circulated technical agenda.





Description and organization of collection, drying and storage of nuts

To obtain good quality nuts particular attention has to be given during harvesting, drying and storage.

Cashew nut harvest season is normally spread from March to June. During this period, the fruits that have matured fall by themselves. The harvesting procedure consists of going regularly around the orchard and collecting the fruits and detaching the nuts from the apples by a mild twist.

The gathered nuts should, as a rule, be spread for drying. However, for security, the nuts are sent to town or to the village at the end of the day so that they undergo a complete drying procedure.

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.

These rules of good treatment are sometimes violated, which causes defects in the nuts. In fact, the growers often carry out harvesting when the fruits are still premature by shaking the tree so that the fruits fall. The nuts thus collected are obviously premature. Moreover, the drying conditions are not always ideal and the nuts may be stored in hot places. Consequently, the cashew balsam that penetrates into the kernel adulterates the nuts.

Description and organization of marketing for exports

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 the villages know he planters and the village environment. They can be opinion leaders or lead men in social groups (youth coordinators, family heads, etc.). Some people call them "sub purchasers" too. They are the ones on 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.

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). A purchaser can solicit the service of many middlemen, up to ten or more, depending on the resources at his disposal and the amount of nuts to be gathered.

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 for the exported markets.

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

Olam-Ivoire

It is a multi-national with head-office at London, and own decortication (shelling) factory 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, Shea butter, wood, rice). The operations linked with cashew cover four regions:

- Region of Korhogo, Ferké-Ouangolo,
- Region of Bondoukou,
- Region of Katiola,
- Region of Odienné.

Till 1998, Olam-Ivoire has remained the biggest exporter of cashew nut followed by Afreco. From 1999, Afreco has become the exporting leader of cashew nut from Ivory Coast.

Afreco (African Commercial Exchanges)

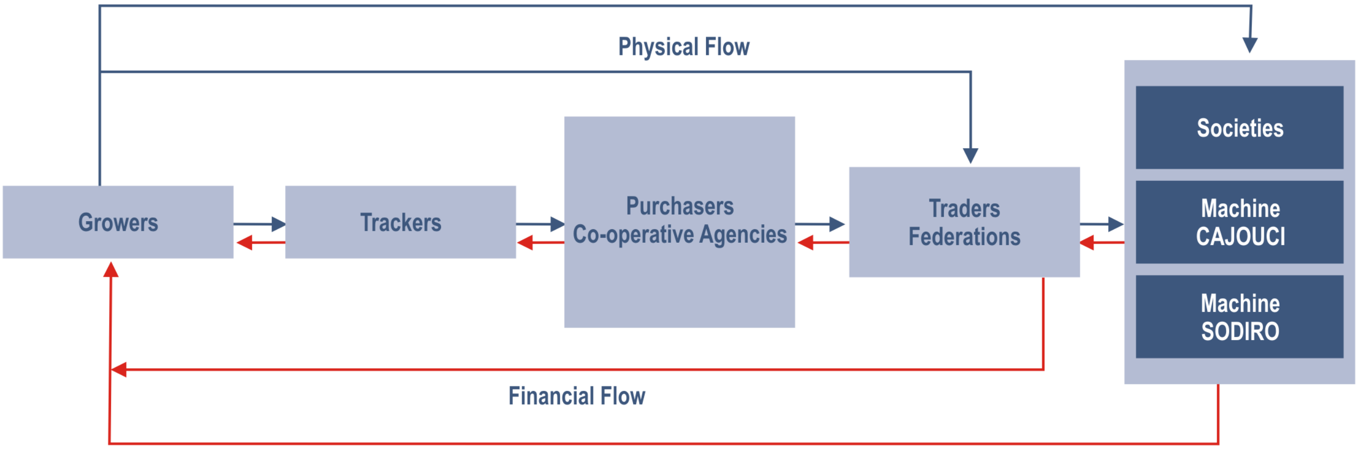
Ivorian company for the exports of cashew nut, coffee, cocoa and other products, it started in 1972 and has permanent representatives in the regions of Korhogo, Ferké and Katiola. **At present, it is the most important exporter of cashew nut in Ivory Coast**.

Ciciv (Ivorian Company for Commerce and Industry)

This company occupies the third position in cashew nut exports from Ivory Coast.

The over all functions and activities of the different agents can be summarized in the sketch below. The role of the agents vary widely. Some purchasers sell the products directly to the commercial bodies.

Traditional Circuit of Cashew Marketing



Description and organization of the processing

There are two cashew nut processing units in Ivory Coast.

The older one is based at **Korhogo in North Ivory Coast** in the region of Savane. It had many judicial statutes. From Cashew Industry, S.A., it has become **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.**

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 2500 tons** of nuts, it carries out the **first and the second processing**. The biggest part of the production is fresh nuts in condition, which is exported as by Cajouci, 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. Sordico uses Indian technology.

The raw material (raw nuts) supply to the units is done with the same approach as of the other operators. The factories use small networks by eliminating the intermediaries so that the purchasing costs do not go further up.

Development Strategy

The high price levels and the increase in production and exports resulted in this sector attracting more and more attention of the Government authorities and professional organizations since 1994. As a consequence **a plan has been worked out for its development.**

In June 1997, **PROMEXA, PPDEA and CECI** organized an **International symposium on cashew at Yamoussoukro**. PPDEA worked towards the emergence of a professional organization for unconventional agricultural exports PROMEXA. Cashew is considered as the leading product of the unconventional sector.

Canadian NGO, CECI initiated a project **PACA**, through which it supported the co-operative of 98% of the cotton growers named **URECOS-CI.** The growers of cotton generally grow cashew. The cotton sector when faced with the basic problem of revenue faced the task of identifying other secondary promising sectors of which cashew was the main sector identified for revenue generation.

The Symposium studied this sector at the global and the national level under five major themes: the global market of the cashew products, global production, technologies for processing, financing and organization of the sector.

Given the network's potential and the multiplicity of the problems at each link, it has been decided, by the symposium, **to set up a follow-up committee for thorough analysis of the problems and work out a development plan for the network**. This will be presented to the Government authorities and other development partners. This committee comprised of representatives from each intervening agent, notably: growers, exporters, industrialists, supervising organizations for the growers and the exporters, research organizations, companies for quality control and certification, banks and Government authorities.

In August 2000, a workshop for validating the development plan proposed by the follow-up committee took place at **Bondoukou, another important production region**. After some amendments, the final document of the development plan was worked out and sent to the Government with recommendations to ensure a balanced and long lasting development.

The major aspects of the network's development plan are presented below and these are still relevant.

Strategic orientation

In order to ensure the overall and long lasting development of the cashew network, it has become necessary to remove the constraints, consolidate the advantages and be innovative in realizing certain major actions by the Government, the growers' organizations and public and private bodies accompanying the development.

At the State level

It has been demanded that the State assert its wish to support the cashew network's development by taking measures in four directions.

❖ Setting up a supporting plan for the cashew network's development (PADFA)

The plan for development of the network should be within the project's framework. For actually translating the development programme into action, the State give priority to find the necessary finances for the study and the set up a supporting plan for the cashew network's development.

This plan takes into account:

❖ **The coordination of the research and development** management that the CNRA should execute for the **introduction of seeds of improved variety** and their structures of production,

- The follow-up of the practice of an appropriate technical agenda,
- Support for **training** the growers,
- Support for promoting **processing**,
- Support for finding **finances** for the activities of production, marketing and processing.

During its operation, this project will have as its partners **the sponsors**, **the research services (CNRA), the supervision services (ANADER)**, the supporting organizations **(PPDEA, PROMEXA, APEX-CI, CECI, EBAS etc.)** and various operators at each link.

Research and development

The State should launch, through **CNRA**, a big project for the evaluation of the vegetal matter existing in Ivory Coast and, afterwards, **identify or introduce varieties with high yields.**

CNRA should carry out a research programme in order to **fight effectively against the pests and diseases of the cashew nut plant**. These diseases of the cashew nut plant are essentially caused by **powdery mildew**, which attacks the young leaves, leaves and causes fall of flowers, hindering the growth of the carpophore. **Anthracnose** that attacks all the reproducing organs should also be mentioned.

As for the pests (insects), it would be appropriate to identify the different species, evaluate their population growth rate and establish the genetic mapping of the infestations. This big project should be able to **redefine the outlines of the pathological problems of the cashew nut tree and introduce appropriate fighting strategies, biological and/or chemical.**

With the technical assistance of CNRA, the State should encourage the **creation of private seed growing farms** at the level of each producing region for facilitating the expansion of the orchards.

Organization of production, supervision of the OPA and the growers

The network's development would depend to a great extent on the capability of Government and private organization and the training of the growers. The growers' training should aim at achieving the following:

Mastery of techniques of cultivation, maintenance and protection of the plantations

A partnership among OPA, ANADER and CNRA should be initiated for this in order to make **video films as a teaching tool** for spreading awareness and give training to the growers in the methods of cultivation, maintenance and protection of the plantations.

It would be recommended that the **villagers form teams (mutual aid groups)** for protecting the orchards by spreading awareness among the young people who will form GIEs.

In order to increase the plots' yields, ANADER should encourage and supervise the use of **suitable refill crops such as Soya, groundnut, maize, yam** etc.

The production of **biological nuts** should be encouraged for those who will be interested in this niche of very high added value.

Mastery of methods of harvest, preservation and packaging

In its supervisory role, ANADER should carry out training activities on the matters of harvest, preservation and packaging to the benefit of the planters and the OPAs.

In fact, the observed defects are characterized by an ill treatment of the nuts by the growers, which debases their quality. One can also notice picking of premature nuts, watering them in the bags so that their weight increases (this causes an increase in the humidity rate), bad drying, packaging and storing in less appropriate conditions.

To correct these drawbacks, **a huge campaign for awareness, information and training** should be carried out in the cashew nut producing regions.

At the level of collection, the growers should be aware of the fact that the nuts should not be either plucked or collected by shaking the tree, but that **they should be picked up**. While picking, the nuts should be detached from the cashew apple by a mild twist.

As for **drying, it should take at least two days before packaging**. The packing bags should be made of jute for facilitating the ventilation of the nuts during the storing time. This is why polypropylene bags should be banned, because they increase heat and that makes the balsam move towards the kernel.

Readjustment of density to the recommended norm

The old plantations were planted with the objective of reforestation so the density of tress was too high. Now the cashew nut tree is seen as a source of revenue and so it is necessary to readjust the density of the old orchards to obtain maximum yield.

For determining the recommended density the expertise of CNRA, ANADER and SODEFOR, etc. should be relied upon, for redefining the technical practices. After this, a readjustment programme could be done to renovate the orchards that are well into declining phase of production.

Financing of the production

Creation of new orchards will necessitate financial resources, but there are no specific schemes for this. The development institutions should develop or identify long term loans that have to be repaid only when the orchards start producing, which happens generally from the third year onwards.

Financing of cashew nut processing and promoting private investments

Overall and long lasting development can be achieved only **if processing is considered as the central theme of the plan**. This is why the State should define and actualize a **financing policy for the processing industry** and recommend it to all the fund sponsors.

A national policy for financing the sector should be designed **which focuses on industrialisation of the sector and research**. Financial resources should be mobilised at concession rates in the form of credit from financing institutions for development, such as the **European Union, the World Bank, African Development Bank etc**. In fact, the situation is very much in favour of getting such credit due to the demand for tracability imposed by the European Union on the origin of the nuts.

The private banks have to be encouraged to finance the needs of the promoters in terms of operation costs and long term investment for buildings, installations, equipments.

The Government interventions that were recommended include the possibility of recycling a part of the DUS for **supporting the upstream actions** of the sector (supervision, research, extension, and marketing).

The State should also **encourage the operators to provide guaranty funds** for loans for financing of the processing units. Moreover, the State should adopt more beneficial fiscal arrangements by laying out the Code of investments in such a way that the **processing equipments are exempted of all taxes.**

For promoting investments in cashew nut processing, **CEPICI** should be made to contribute in conducting promotional activities for the cashew industry by extending the Code of investments, and especially the **forward setting of the factors of production favourable to Ivory Coast.**

At the private operators' level

The private operators should do their bit in the development programme of the cashew sector. The private operators' activities should fall on three axes.

Organization of the network by creating an inter-professional association

The setting up of the **Inter-professional association of Cashew (AIC)** by the principal and the assistant agents of the sector is to be encouraged for playing the role of a catalyst in the development activities. Thus, the association will take into account the interests of the different people involved, for establishing a harmonious development where the various links stick together.

This Inter-professional association will coordinate in particular the preparation and circulation of **standards of quality of the raw nuts**; it will participate in **fixing the opening dates for each crop year**, and also in **fixing the prices** in the beginning, in the middle and at the end of the crop year, as a function of the trends in the global market.

The Inter-professional association will contribute in organizing the operations of mediation by registering the merchants and purchasers and in establishing consent with the support of the State authorities.

It should also participate in the **search of finances** and also in **forming finance mechanisms** for the different groups of operators, especially in negotiating with the commercial banks the possibility of giving the OPAs the ASPN (advance on affluent products), as is the case in the coffee/ cocoa sector.

The creation and introduction of such an association will have to be ensured by the management cell of the cashew network's development project.

Organization and financing of marketing

The **diversity of the people involved in the marketing procedure is a negative factor for the development of the sector**, as it pulls up the costs at each step of the marketing procedure.

To overcome this, the **OPAs** should be given **more role in the marketing procedure** by strengthening their financial means of intervention, as well as their capabilities in financial and commercial management.

The project management team, and the inter-professional association, which is established by the private operators themselves, should play an important role in strengthening the capacity of various agents to intervene in the sector. So the OPAs should prepare the **plans of the crop year** and **also mediate for better financial resource** management of their members. The OPAs, having good credit rating with the commercial banks, will be able to seek loans for the crop year to finance the initial collection, on the basis of a guaranteed grower's price in each crop year, keeping in view the price level in the global market. The growers' vulnerability vis-à-vis the speculators will then be reduced or neutralized through the OPA dynamics provided with a stronger power of negotiation than the other participants of the network.

New markets for the kernel should be explored, including a local market or even a sub zonal market, as well as diverse openings in the global market. In all these markets permanent quality standards should be adapted and constantly observed.

Along with marketing, there should be a system for collecting information on markets and prices. The different stakeholders of the sector, including the growers, should be trained to comprehend the mechanisms of price.

The processing companies should be encouraged and supported to pass on to the stage of finished products by helping them in adapting themselves to the various markets and in setting up partnerships with the European firms specialized in the circulation of finished products (salted and roasted kernels).

Quality improvement and management

The nuts from Ivory Coast are considered to be good in flavour by the western consumers. So it is necessary to maintain and further improve this image by ensuring high quality level from marketing till consumption.

To ensure this high standard of **quality, specifications** should be set and all the intervening agents of the network (professional organizations of the growers, organisms of supervision, research, standardization, local merchants and the raw nut exporters, importers of kernels, etc.) should **be mobilized through AIC** (the Inter-professional Association of Cashew) resulting in creating the **brand "Ivory Coast"**.

Recommendations

Even though the activities are necessary at every level, the priorities should be established.

Short-term activities

An **Inter-professional Association of Cashew (AIC)** should be created fast gathering all the agents of the network (growers, OPA, cashew processing agents, merchants, exporters, administrations, quality control and certification companies).

This organization should create and put into practice a **statutory device for controlling raw cashew nut exports.**

The Government should enunciate a statement of a political will in favour of **setting up a processing industry** for ensuring the overall, harmonious and long lasting development of the cashew sector. This should be realized by encouraging every institutional, financial and fiscal mechanism to **finance the processing industry**.

It is necessary to set up a **Project for Supporting the Development of the Cashew Sector** (PADFA).

Middle and long-term activities

- ❖ Inducing the research and development organizations to undertake innovative research on cashew (evaluation of the orchards, search of performing varieties adapted to Ivorian environment, etc.)
- ❖ Strengthening the growers' capability with regard to pre and post- harvest management of the orchards and the nuts.
- ❖ Developing cashew by-products (cashew apple, balsam, etc.)
- ❖ Glorifying the origin "Ivory Coast" as a brand
- ❖ Gradually developing an industry for manufacturing equipments for cashew processing.

The realization of these different recommendations will allow the various operators to grab the several opportunities offered by the cashew market, which is characterized by a continuously expanding demand.

The advantages of the cashew sector should be sufficiently exploited, keeping in view the fact that this crop covers a significant part (30 to 40%) of the Ivorian territory, the aroused interest of the growers and the potential that Ivory Coast has in matters of research and supervision of production.

The Sector Performances

Production

Evolution of the national yield during the period (1990-2002) and prospects

The ideal regions for cashew production in Ivory Coast are well known. However, the national yield of nuts and its evolution are difficult to measure and can be measured only if a field survey is undertaken. So the production level can be estimated only from the exports data.

Types of cultivated cashew, developments regarding improvement of the cultivars

In Ivory Coast, one can distinguish two varieties of cashews: the **small nut variety** cultivated in the old days and the **Brazilian big nut variety 'jumbo'**. Had there been a policy for producing seeds selected from this variety, high levels of production would have been achieved by following the recommended agronomical practices. As a matter of fact, while the global average yield is of the order of 1 ton/hectare, **the average yield observed in Ivory Coast is between 400-500 kg per hectare.**

Principal factors having influenced the production and collection performances

On the basis of what one calls an apparent production, estimated from the exports data, there has been a marked improvement in ten years. 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.

The lucrative grower's price levels varying from **100 -150 CFA francs/kg at the beginning of the crop year and 175 - 250 F in the middle and end of the crop year** supported this increasing rate of growth. This is equivalent to 0.385 - 0.577 US$/kg and 0.311 - 0.445US$/kg respectively.

Thanks 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**. One actually doesn't know which plantations have reached the global average of 1ton/hectare. This is because of the limitations cited above.

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

Processing

Evolution and prospects of production for the processed products

There are some important indicators from which the prospects of marketability of processed products can be evaluated.

The international scenario

The market for processed kernels is in full growth and the demand is projected to increase in the coming ten years. Moreover, the limits set on raw nut imports to European Union can create an environment supportive to the local processing.

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

The **second 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 the proper technology and equipment is very essential for expansion of the cashew industry.

The raw material

The problem of availability of raw material is finally solved. However, efficient procurement is to be promoted to maintain a satisfactory level of productivity of the material being processed. A huge effort is needed at this level. Good nuts, with humidity ratio less than or equal to 10%, size ranging from 180 to 200/kg and number of defective nuts within reasonable limits should only be selected. Spotted, dried up, shrunk, oily, empty, premature and brown nuts are defective.

The manpower

The performance of the personnel is to be assessed on the basis of mastery over procuring good quality, low defective count nuts, with high productivity in the shelling machine and low return of the finished product, i.e. kernels. At this level, the two factories are equally productive, as the shelling machines can reach and beat for sure the productivity of their Indian counterparts. This is contrary to the general belief in the past that presupposed that the African shelling machines could not achieve this production level.

The quality of the processed products

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

As for quality, the nut from Ivory Coast is considered to be of good quality taste, according to K.P. FOODS in England, which is one of the global giants in the commerce of roasted nuts.

Principal factors influencing the performances of national processing enterprises

With only two units, the industry is not quite yet in full swing. Both the units get a return of at least of the order of 23% to 25%, which is quite satisfactory. Moreover, the manpower, 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% whole nuts, 20% for nuts in two pieces and the remaining 10% for nuts in many pieces.**

The production costs are high for the Cajouci factory.

Exports

Analysis of national exports of cashew and other processed products during 1990-2001 by type of product and destination.

Cashew nut exports from Ivory Coast

Year	Qty (tons)	Value (million US$)	Unit value (US$/kg)
1990	5901	0.666	0.666
1991	7415	4.746	0.640
1992	10050	6.068	0.604
1993	16682	6.641	0.394
1994	16327	6.653	0.408
1995	26346	17.820	0.676
1996	23666	15.503	0.655
1997	36931	19.218	0.520
1998	26464	18.656	0.705
1999	74552	64.111	0.860
2000	63379	43.550	0.687
2001	87573	35.345	0.404

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

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% with respect to 2000. In spite of the low performances in 1994, 1996, 1998 and 2000, the exports have shown a remarkable increase. 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.

If this pace of development is continued, the **exports can go beyond 100,000 tons by 2005-2010**. The amount of exports has increased in the last three years 1999-2000 and 2001 because of the great interest shown in the crop and the adoption of new means of production.

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 1997 to 2001 have scored very high revenues. 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. This has caused an increase of the relative prices with respect to the amounts. In 2001, in spite of the record level of 87,000 tons, the revenue dropped down due to the degradation of the exchange rates.

As for the openings of the Ivorian nut, on an average, there are 2.5 destinations per year. This apparent diversification of destinations should not hide the fact that **India remains the most important destination** with the absorption levels of 94% to 100% between 1990 and 1995, and 88% to 95% between 1996 and 2001.

Keeping in view the threats and constraints coming from India and the global environment, this situation puts the exports of African nuts in general and Ivorian nuts in particular, in a position of dependence and grave vulnerability.

So it is necessary to work out a plan for development, support and a strategy of processing in order to ensure a harmonious development of the sector. The objective should be to **change the status of Ivory Coast from that of a raw nut supplier to that of cashew kernels (finished product) exporter.**

Exports of cashew kernels

Year	Quantity (ton)	Value (US$)	Unit value (US$/kg)
1995	150,047	0,263390	1,755
1996	0	0	0
1997	37,400	0,130659	3,493
1998	89,47	0,408459	4,565
1999	722,24	4,419,057	6,118
2000	353,347	1,803,300	5,103
2001	517,07	1,586,267	3,067

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

Let us recall that 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%.

With respect to this reference, 1999 has been the most performing year with 722 tons, i.e. +53% with respect to 1998. The previous years 1995, 1997 and 1998 can be considered as test years in the course of which the processing procedure has found its right path.

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 just gone down.

In 1999, the second unit based in Odienné became operational and processing went up to **7.07%** with 722.24 tons. In 2000, a fall of production by 51% has 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% takes place with production of 517 tons, though not touching the level of 1999.

The exports revenue has increased accordingly, but it has been relatively stronger compared to the quantity because of a growing price level of the kernels till 1999. Thus, whereas the average price per kg was US$1.755 in 1995, it continually increased in the course of the three following 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%, +31% and +34%). 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% and –40%. This was because of the difficult situations in Ivory Coast during the period. It should also be specified that the major constraint that the factory workers faced is the mobilization of the running cost for purchasing the raw material (nuts).

Except for this, the processing procedure, and in an indirect way, the export of kernels (finished product) is quite promising. However, a more revealing study can validate this observation.

The export destinations

From 1995 to 2001, Ivory Coast exported cashew kernels to 11 countries as shown below:

- In 95: 3 countries (Netherlands, United kingdom, Burkina Faso)
- In 97: only 1 country (Netherlands)
- In 98: 3 countries (France, Netherlands, South Africa)
- In 99: 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 is Netherlands, which has been present all through the exports period. It's from 1999 that a diversification of a more marked nature 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%). **France** occupies the second place with a18% share (290 tons). Then comes **United Kingdom** with 16.7% share for nearly 266 tons and **South Africa** in the fourth position with 14% and 225 tons. **Netherlands**, although present all along the period, comes in the fifth position with a 12% share and total market for 192 tons. **These five countries are the most important markets and represent 92.7% of the market for Ivorian cashew kernels**.

Finally, there are possibilities of diversification of the markets, because of the growing demand already highlighted.

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 of the name **GIENA** (Group of Industrialists and Cashew Nut Exporters) has been established, right after the Government authorities instituted an export tax of 150 CFA francs/kg, that is, 0.256 US$/kg at the time. It was an organization made only for protesting as it disappeared as soon as the tax, the DUS (Unique Exports Right), was brought down to 10 CFA francs/kg, i.e., then 0.017US$.

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.

The quality assessment is left to the Indian purchasers, who have their own assessment criteria and mange to under quote the products' values more often than not in order to keep the prices at the level they wish. The Indians rarely approach the local quality control companies.

To be precise, if the sector was organized and coordinated, the imbalances in trade due to quality could be avoided by defining the standards of quality and the corresponding prices with the participation of all the agents involved, such as the Indian and other importers, exporters, quality control companies, the urban merchants and the growers' representatives. And keeping in view the elasticity of the prices due to quality variations, it is necessary that in the medium and long term, the personnel involved in the sector understand the necessity of improving the quality of the products.

The problem is comparatively of a lesser magnitude for cashew kernel (finished product) since the attitude for maintaining quality is present right from the beginning. But it is important for the industrialists to work more in order to obtain standards of international level and a better rank in the competition.

Sodiro, the processing unit that does the final processing into roasted and salted nuts to be sold by the European partners, is working towards the acquisition of the ISO 9002 certificate from AFAQ.

Quality of the exported products: standards and laboratories for analysis and quality certification, effect of the products' quality on the export performances
Each link of the sector should keep in mind the final utilization of the nuts in the factories. Bad nuts

make shelling difficult and give kernels of bad quality.

Here are the quality standards that are demanded in general:

- Grade or humidity ratio: It should not cross 10%. Excessive humidity complicates the processing process. Suction causes some kind of colourings that can bring down the product value. The thin layer sticks to the kernel.
- 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. It can be mentioned that Mozambique is known for its big nuts. But the Ivorian nuts are rather soft and nice. The nuts that don't satisfy these standards are still accepted anyway.
- Defective nuts: the defectiveness boils down to abnormalities, such as spotted, dried up, shrunk, oily, empty, premature, brown, rotten spoilt or partly damaged nuts. Their maximum authorized limit is 10%.

Characteristics of defectiveness:

- Spotted nuts: The nuts have black spots and are bitten.
- Dried up nuts: small and bent.
- Brown nuts: If the kernel is brown in colour
- Oily nuts: When oil has damaged the kernel, it is detectable with bare eyes, as the nut looks shiny.
- Empty nuts: Which don't contain any kernel.
- Premature nuts: Under developed.

The causes of these defects are storing in excessively hot or humid conditions, too hasty picking and diseases caused by insects. In general, these defects should not cross 10% in a given sample.

It is at this juncture that the Indian purchasers impose their laws. They give bad assessments with the motive of lowering the prices of the nuts. Every time the nuts fall short of standards, a below price rating is applied, to the order of 1%, if not more at each increase in damage. Nuts those have a defect of more than 10% are rejected.

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.

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. Let us specify that 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.

Let us also mention here that the packaging of the nuts is to be done in jute bags of 80 kg, and the transportation is done by ship in the containers of 20 feet, whose weights vary between 15 to 17.990 tons.

Constraints to Export Development

The constraints for exports are a result of a combination of the bottlenecks identified at each link of the production chain, which should be analyzed.

Constraints at the level of Research and Development

- **Lack of selected vegetal matter and agronomical practices:** there is no seed growing farm for producing plants of selected varieties, which the planters would be able to use for the development of new plantations.
- Moreover, no agronomical techniques for production are recommended to the growers, especially in terms of density of the plantations, maintenance of trees (cutting) and the orchard (cleaning, fighting fire, etc.)
- **Lack of plans for fighting diseases**: diseases and insects for which no specific remedy has been found out by research threaten the cashew plantations.

Constraints at the level of supervision of the growers: production, collection and storing

The technical supervision of the orchards is not quite effective. The farmers do not have a mastery over the cultivation techniques. This proves the inadequacy of the technical supervision, which is reflected on the field in terms of :

- **Varying planting methods from one planter to another**, without any reference to the technical recommendations;
- Utilization of **low performing vegetal matter** without selection;
- **Highly heterogeneous orchards** made of ill maintained (if at all) plots with very high density;
- **Total ignorance of rules, techniques and norms** of harvest, preservation and storing of nuts.

Constraints at the level of marketing

The **internal marketing network for cashew nut is long and complex** (growers, middlemen, purchasers, merchants of the production regions, merchants from Abidjan, industrialists, exporters, etc.)

In this situation a veritable anarchy seems normal. The production chain lacks organization at the operational level of its different links. The basic professional organizations, such as the cooperatives lack dynamism and financial means for the initial collection and marketing of the nuts. Sometimes it so happens that the operators reluctantly use their cotton marketing cooperatives for the marketing of cashew nut. **The diversity of the participants makes the marketing chain longer,** exposes the growers, whose offers are individualized and who ignore all mechanisms from price formation on the global market to the speculations organized by the purchasers.

Constraints on marketing and exports

Destinations of raw nuts of Ivory Coast are not guaranteed if seen in middle to long-term. For health security reasons, the European Union has decided to allow into its market, only those cashew kernels, on whose pack the origin is marked. India, which is the biggest market for African nuts in general, and those of Ivory Coast in particular, will have to stop imports of nut for its lack of control on the origin of all the nuts it imports. Also, in order to saturate the processing capacity of its industrial machinery, India has launched a vast project for the increase of its national production.

Constraints at the level of the processing industry

As mentioned earlier, the rate of processing of raw nuts in the Ivorian industry is low. The development of the processing industry, and consequently the rank of the cashew kernel from Ivory Coast to the global market, depends on the following criteria:

- Existence of a well-maintained orchard,
- Setting the quality standards of the raw nuts and meeting those standards.
- A satisfactory price for raw nuts to the growers and for kernels in the global market.

Other constraints

At the level of financing

At this level, the operators **do not get sufficient bank financing for setting up factories**, even though there are many organizations ready for financing. Apart from this, the official time limit for clearing of files is generally too long for the investors.

The **criteria for eligibility** of the private projects with the banks, i.e.40% as own fund and 75 to 100% of the total amount as caution for the bank is **too constraining and maladjusted.**

Marketing of cashew nut is not supported by the commercial banks, especially at the stage of initial collection ensured by the OPAs whose own resource is very low. They thus face a handicap for financing their activities, to the extent that they cannot even provide the necessary guarantee for supporting their demands to the banks.

Moreover, the **fund sponsors (the World Bank in particular) harbour certain prejudice** vis-à-vis the reliability of the cashew nut processing units in Africa, because of the **failure of the first experiments at industrialization**.

The failures caused by wrong selections of technology have in fact kept the doubts alive about the management skills of the African promoters for investing in cashew nut processing in a profitable way, and also about the African manpower for competing efficiently with the Indian manpower.

Lack of reliable commercial information about the cashew sector, lack of guarantee money to be provided to the banks by the OPAs and the disorganization of the production chain are enough reasons for the banks to resist from granting long term credits.

Moreover, the purchase of raw materials necessitates significant running cost.

At the institutional level

Finally, certain fiscal arrangements of the Code of Investments of Ivory Coast, especially those related to the total cost of the imported equipments without any reductions or tax exemptions, do not favour the industrialization of the cashew sector. In addition, the total amount invested for the industrial units treating about 2,500 tons of raw nuts per year have to reach the minimum stated for getting the benefit of the exemptions provided in the Code of Investments.

Constraints at the level of organization of the sector

The **cashew growers**, who comprise of a large number of planters, are **not organized into any professional structure**. This is reflected on the varying prices causing all sorts of speculation among the intermediate agents.

The planters have reserve against marketing their products through the cooperative channel because of the low financial capacity of the cooperatives.

The insufficient organization between different operating groups of the sector doesn't favour the concerted solution to the problems of common interest, such as fixing of the opening date of each crop year and the price in each marketing cycle, the quality management of the nuts for getting a better value of the products, both for the local processing agents and the exporters of raw nuts.

Evolution of the average exchange rate US$/CFA from 1990 to 2001

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
260	259	259	281	502	530	540	585	587	562	679	732

Source : Young Person Africa Economy

Abbreviations

AFRECO: African Commercial Exchanges
AFAQ: French Association for Quality Assurance
APEX-CI: Association for the promotion of Exports of Ivory Coast
AICI: Cashew Industry of Ivory Coast
BAD: Development Bank of Africa
AISA: Anonymous Body of Cashew Industry (today's CAJOUCI)
ANADER: National Agency for supporting Rural Development
CECI: Canadian Centre of Study and International Cooperation
CICIV: Ivorian Company for Commerce and Industry
CCI: International Commerce Centre
CNRA: National Centre of Agronomical Research
CEPICI: Centre for Promoting Investment in Ivory Coast
DUS: Unique Exports Right
GVC: Cooperative Vocational Group
GIE: Economic Interest Group
OPA: Professional Agricultural Organization
GIENA: Cashew Nut Industrialists and Exporters Group
PPDEA: Promotion and Diversification of unconventional Agricultural Exports Plan
PACA: Support Plan for the Agricultural Cooperatives of the Cotton Sector
PROMEXA: Association for Promoting Unconventional Agricultural Exportss of Ivory Coast
SODEFOR: Forest Development Company
SODIRO: Industrial Development Company for the Odienné Region
SGSIPN: General Supervisory Body of Ivory Coast for the Trade Products (often referred to as SGS)
URECOS-CI: Regional Union of Cooperative Enterprises of the Savane Region of Ivory Coast

The End