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Value Chain Analysis Cashew Nut Processing in West Africa

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Acronyms

ACA	African Cashew Alliance
ACi	African Cashew Initiative
ACP	African, Caribbean and Pacific
AEC-CI	Association of Cashew Exporters of Côte d'Ivoire
AfDB	African Development Bank
AFI	Association of Food Industries
AIP	Agence Ivoirienne de Presse
ANAD	<i>Anacarde de Dabakala</i> (cashew nut processing unit) (Côte d'Ivoire)
ANADER	National Agency in Support of Rural Development (Côte d'Ivoire)
ANI	<i>Africa Négoce & Industries</i> (Benin)
APIEx	Export Promotion Agency (Benin)
APR	Agence de Presse Régionale
ATDA	Territorial Agency for Agricultural Development
BIRD	International Bank for Reconstruction and Development (World Bank)
BPS	Benin Promotion Services (Benin)
BRC	British Retail Consortium
CAK	Council for Cashew and Shea Nut (envisaged) (Benin)
CAPROCI	Private company with cashew nut processing unit in Tiébissou (Côte d'Ivoire)
CASA	<i>Cajou des Savanes</i> (Côte d'Ivoire)
CBI	Centre for the Promotion of Imports from Developing Countries
CCA	Council for Cotton and Cashew (Côte d'Ivoire)
CDT	Centre for Demonstration and Promotion of Technologies (Côte d'Ivoire)
CEC	Civic Engagement Alliance (Benin)
CICC	International Consultative Council for Cashew
CIDEV	Centre for Development Interventions (Benin)
CNRA	National Council for Agronomic Research (Côte d'Ivoire)
CNSL	Cashew nut shell liquid
CNTC	National Council of Cashew Processors (Benin)
CODINORM	Normalisation body (Côte d'Ivoire)
ComCashew	Competitive Cashew Initiative (GIZ programme)
CONEC	National Council of Cashew Exporters (Benin)
CRA	Agricultural Research Centre (Benin)
CRS	Catholic Relief Services (USA)
CSR	Corporate social responsibility
CIAT	Cashew Technology and Innovation Centre (Côte d'Ivoire)
CVCCP	Cashew Value Chain Competitiveness Project (Côte d'Ivoire)
DEDRAS	Development Agency of the <i>Union des Églises Évangéliques</i> (UEEB) (Benin)
DPP	Department of Policy and Planning of MAEP (Benin)
ECDPM	European Centre for Development Policy and Management (Netherlands)
ECOWAS	Economic Community of West African States
EKN	Embassy of the Kingdom of the Netherlands
ENABEL	Belgian Development Organisation (formerly BTC-CTB)
ETG	Export Trading Group (Kenya)
EU	European Union
EUR	Euro
FCFA	Franc of the West African Economic and Monetary Union
FDOV	Public Facility for Sustainable Entrepreneurship and Food Security (Netherlands)

FENACAJOU	National Federation of Cashew Producers (Côte d'Ivoire)
FENAPAB	National Federation of Cashew Producers (Benin)
FENAPACI	National Federation of Cashew Producers (Côte d'Ivoire)
FENAPAT	National Federation of Buyers of Agricultural and Tropical Fruits (Benin)
FIRCA	Sector Fund for Agricultural Research and Extension (Côte d'Ivoire)
FMS	Fair Match Support (Netherlands)
FNPA	National Fund for Cashew Production (envisaged) (Benin)
FOB	Free On Board (Incoterms)
FSA	Faculty of Agricultural Sciences (Benin)
GIC-CI	Group of Industrial Cashew Processors (Côte d'Ivoire)
GIZ	German Organisation for Development Cooperation
GoB	Government of the Republic of Benin
GoCI	Government of the Republic of Côte d'Ivoire
GQF	Great Quest Fertilizer (Canada)
GTI	Global Trading International (Netherlands)
HACCP	Hazard Analysis and Critical Control Points
3IG	Ivoirian Invests International Group (Côte d'Ivoire)
I2T	Ivorian Institute for Tropical Technology (I2T)
ICCO	Interchurch Development Organisation (Netherlands)
IDH	Sustainable Trade Initiative (Netherlands)
IFA	Interprofessional Organisation for Cashew (Benin)
INC	<i>Ivoirienne de Noix de Cajou</i> (Côte d'Ivoire)
INP	National Polytechnic Institute (Côte d'Ivoire)
INRAB	National Institute for Agricultural Research (Benin)
ISO	International Organization for Standardization
LCSSA	Central Laboratory for Food Security and Safety (Benin)
MADR	Ministry of Agriculture and Rural Development (Côte d'Ivoire)
MAEP	Ministry of Agriculture and Livestock (Benin)
MCIPPME	Ministry of Trade, Industry and the promotion of SME (Côte d'Ivoire)
MIM	Ministry of Industry and Mining (Côte d'Ivoire)
MoFA	Ministry of Foreign Affairs (Netherlands)
MoU	Memorandum of Understanding
NAD & Co	Cashew nut processing company in Badekparou (Benin)
NGO	Non-Governmental Organisation
OHADA	Organization for Harmonization of African Business Law
OLAM	Global Agricultural Trader and Processor
PACIR	Programme d'Appui au Commerce et à l'Intégration Régionale (UNIDO)
PADEFA-ENA	Projet d'Appui au Développement de la Filière de l'Anacarde et de l'Entreprenariat Agricole
PAG	Governmental Action Programme (Benin)
PME	Petites et moyennes entreprises
PPCA	Projet de Promotion de la Compétitivité de la filière Anacarde (i.e. CVCCP)
PPP	Public-private partnership
PROAGRI	Agriculture promotion programme (GIZ) (Benin)
PROFI	Agricultural Value Chain Support Programme (ENABEL) (Benin)
RCK	Raw cashew kernel
RCN	Raw cashew nut
RONGEAD	Network of European NGOs for Agriculture, Trade and Development (France) (now Nitidae)
3S	Securing Sustainable Supply system
SIETTA	International Cashew Nut Processing Equipment and Technology Show

SITA	Cashew nut processing company in Odienné (Côte d'Ivoire)
SME	Small- and medium-sized enterprises
SNI	Sustainable Nut Initiative
SOBERY	Cashew nut processing company in Ferké (Côte d'Ivoire)
SOCADI	Private company providing training on cashew nut processing machinery (Côte d'Ivoire)
SODECO	Cotton Development Organisation (Benin)
SOTIC	Private company involved in the production, installation and maintenance of cashew nut processing machinery (Côte d'Ivoire)
STCPA	Private company for processing and conditioning of agricultural products (Côte d'Ivoire)
STNC	Société de Transformation de Noix de Cajou (Côte d'Ivoire)
TDG	Trade & Development Group (Netherlands)
TDH	Trade & Development Holding (Netherlands)
TDI	Trade & Development International (Netherlands)
TGI	Tropical General Investment Ltd. (Germany/Nigeria)
TNS	TechnoServe (USA)
ToR	Terms of Reference
UHCM	Ho Chi Minh University (Vietnam)
UNIDO	United Nations Industrial Development Organization
URCPA	Regional Union of Cashew Producer Cooperatives (Benin)
USD	United States Dollar
VINACAS	Vietnam Cashew Association (Vietnam)
WB	World Bank
WBI	White Bird International (Netherlands)
WW	White Whole (cashew kernel colour grade)

Executive summary

ES1. The cashew sector in West Africa has been growing consistently over the last decade. World demand for cashew has grown at a rate of 6% per year in the same period. Local cashew nut processing is a relevant source of largely low-skilled but specialised jobs in West Africa, generating 80–200 jobs per 1,000 tons of raw cashew nuts (RCN) depending on the degree of mechanisation. Local processing growth will contribute directly to job creation, especially for young women.

ES2. The success of local cashew nut processing in West Africa depends on governmental policies, market forces and the industry's comparative and competitive position. Governmental policies differ significantly between the two countries analysed in this study. Côte d'Ivoire intervenes very actively in the cashew sector whereas Benin largely leaves the sector to market forces. This study found a high degree of dynamism and new investment in cashew nut processing in both countries.

ES3. Data on competitiveness of the West African cashew nut processing industry is difficult to obtain. The competitiveness gap between West Africa and Vietnam is estimated by resource persons at between USD 150 and USD 350 per ton of RCN in favour of Vietnam. Finding ways of bridging this gap requires urgent in-depth analysis.

ES4. Competitive advantages of the West African cashew processing industry over key its competitor Vietnam include:

- A) availability of good-quality raw material (RCN);
- B) geographical access to markets;
- C) traceability thanks to source proximity;
- D) low negative environmental impacts.

ES5. Diversification of cashew kernel sourcing by buyers presents a big opportunity for West Africa in view of the current dominance of Vietnam in the international cashew kernel market. Direct sourcing is also expected to become more important for customers in Europe and the USA. This could provide more traceability, shorter supply times and possibly lower transport costs for cashew kernels from West Africa.

ES6. The Centre for the Promotion of Imports from developing countries (CBI) is recommended to develop a new cashew processing support programme in the West Africa region or in Côte d'Ivoire more specifically. This programme would provide support for the general competitiveness of the cashew processing industry, contribute to increasing real processed volumes, prepare small- and medium-sized enterprises (SMEs) for exporting cashew kernels and for expanding exports to European and other markets.

ES7. The programme should consider all the relevant factors to the competitiveness of the West African processing industry. It may be structured in six theme clusters:

A) Markets (access and information); B) Quality (improve practices); C) Efficiency (improve practices); D) Finance (support linkage and preparation); E) Exchange (support coordination and exchange between stakeholders); and F) Sustainability (improve practices). Potential activities per cluster have been listed in the report.

ES8. CBI is advised to support companies having an existing processing capacity of

5–10,000 tons of RCN, as well as companies aiming to expand their current capacity to that same level by the end of the project. The programme shall support them in the process of business expansion.

ES9. CBI is advised to ensure institutional coordination and collaboration with authorities and with key cashew sector support actors identified in the report. A CBI project formulation mission is recommended to take place at the start of the project, to coordinate and negotiate Memoranda of Understanding (MoU) and terms and conditions for the collaboration and involvement of agencies in the implementation of the future CBI cashew sector support programme.

ES10. During development and implementation of the programme, the continuity of government interventions in the sector, as well as their various positive and negative effects should be fully analysed, as they may largely define the competitive and comparative position of the cashew processing industry.

1. Introduction

1.1 Cashew sector in West Africa

African cashew production made up approximately 59% of global cashew production in 2017.¹ Other major producers include India, Vietnam and Brazil. Most of the African production is located in West Africa, especially in Côte d'Ivoire, Benin and Nigeria. Important producers in East Africa include Mozambique and Tanzania.

Côte d'Ivoire produced an estimated 780,000 tons in 2018, or about a quarter of the global cashew nut production. Benin produced an estimated 140,000 tons in 2018. Close to 90% of the raw cashew nuts (RCN) from West Africa are exported, mainly to Vietnam and India, where they are processed into raw cashew kernels (RCK), then conditioned, packaged and distributed, mainly to importers in the USA and Europe. Those kernels are subsequently roasted and salted according to market preferences in the consumer country. The USA makes up for more than half of the internationally-traded cashew kernels, while Europe accounts for approximately one-third. Other relevant consumer markets include China, Russia, Japan and the Middle East.

Cashew production is mainly concentrated in the central and northern parts of coastal West African countries. Today, cashew production involves an estimated 350,000 producers in Côte d'Ivoire² and 123,000 producers in Benin.³ Producers collect and sell raw cashew nuts roughly from February to April, which is the dry season or off-season, when few other crops are available for them to sell. The window of time for the sale of RCN is limited to a few months only, when few producers have access to and knowledge about adequate drying and storage facilities. In appropriate conditions, RCN may be stored for up to two years without deterioration. Without proper storage, however, RCN quality deteriorates rapidly.

Cashew is a relatively new sector in West Africa. Investment in local cashew nut processing facilities started only in the late 1990s, yet most current processing facilities were actually set up in the last decade. Large cashew sector support programmes have played a major role in the recent development of the nascent cashew nut processing sector in West Africa. Still, less than 10% of the RCN produced in West Africa is being processed in West Africa.

1.2 CBI and Cashew sector in West Africa

The Centre for the Promotion of Imports from developing countries (CBI) is part of the Netherlands Enterprise Agency (RVO), a government agency in the Netherlands.⁴ CBI promotes trade as a means to stimulate economic growth and promote employment. By supporting small- and medium-sized enterprises (SMEs) in developing countries entering the European market, CBI promotes the integration of these countries in global value chains. CBI aims for improved exports both in terms of quantity and quality. Corporate social

¹ See: WORLD BANK (2018), Cashew Value Chain Competitiveness Project. International Bank for Reconstruction and Development (IBRD), March 2018, 138p.

² See: COULIBALY, A. (2018), Évolution récente de la filière anacarde en Côte d'Ivoire (.ppt). Conseil du Coton et de l'Anacarde (CCA), Côte d'Ivoire. February 2018, 11p

³ See: IFA (2018), Présentation de l'IFA-Bénin (.ppt). At CBI Round Table on Cashew Nut Processing in Benin (Cotonou, 15 November 2018), 25p.

⁴ See CBI website: www.cbi.eu.

responsibility (CSR) is a starting point for all CBI activities. CBI looks both at opportunities in the European market and at opportunities for reducing CSR risks when choosing sectors and countries to start new programmes and when selecting companies to collaborate.

CBI's services and activities include:

- Export coaching programmes to make SMEs in developing countries ready for the export market;
- Technical assistance to business support organisations in developing countries to increase added value for their exporting members;
- Developing market information on potential export sectors to Europe;
- Informing and influencing policymakers;
- Involving importers in the development and implementation of CBI programmes.

The market for dried fruits and nuts in general is growing, but this demand is even stronger for cashew, which has specific nutritional features including vitamin B, antioxidants and minerals, such as manganese, magnesium, iron and zinc.⁵ Global demand for cashew kernels has been growing at an estimated 6% annual average rate in the last 15 years.

Cashew nut processing in West Africa is increasing but it is yet a rather new industry which is limited in size. Currently, less than 10% of the RCN produced in West Africa is also processed locally. Local cashew nut processing could create thousands of new jobs, increased incomes and improved livelihoods. CBI is therefore considering the development of a new programme to support the development and expansion of the cashew nut processing industry in West Africa. Interest in cashew nut processing and direct sourcing from West Africa has been confirmed by several cashew importers in the Netherlands and other EU countries.

In view of the above, the CBI commissioned the [Fair & Sustainable Consulting](#) (F&S) to carry out this value chain analysis of the cashew sectors in Côte d'Ivoire and Benin, focusing particularly on local cashew nut processing.⁶⁷ F&S specialises in value chain analysis and development, working from its head office in the Netherlands and a field office in Ethiopia. The consultancy employees approximately 15–20 persons in each of its offices. Since its establishment a decade ago, F&S has been working continuously in West Africa.

The key objectives of this study are: A) to map the cashew processing value chain; B) to inventory the state and evolution of the cashew processing industry in Benin and Côte d'Ivoire; C) to analyse its competitive and comparative position in the global market for cashew kernels; D) to assess the general needs for support to the sector; and E) to identify opportunities for CBI to develop a collaborative cashew processing support programme which is complementary to existing initiatives. The study looks specifically into the different determinants of sustainability in the cashew value chain in the economic, social, environmental and institutional spheres. Gender, transparency and sustainability are considered throughout the analysis.

Based on the outcomes of this study, CBI will decide late-2018 if, where, when and how to set up a cashew nut processing support programme. In case CBI support to the sector is

⁵ See: FITZPATRICK, J. (2014), Benchmarking and Development Strategy for Cashew Processing in Cote d'Ivoire. Programme d'Appui au Commerce et à l'Intégration Régionale (PACIR), December 2014, 133p.

⁶ See: CBI (2018), Terms of Reference - Value Chain Analysis. Processed Cashew Ivory Coast and Benin. Centre for the Promotion of Imports (CBI), Netherlands. August 2018, 20p.

⁷ See: F&S (2018), Inception report. Value Chain Analysis of Cashew Processing in Côte d'Ivoire and Benin. Fair & Sustainable Consulting, Netherlands. September 2018, 14p.

considered relevant and useful, a future CBI programme would aim to be complementary to other existing initiatives in the sector, including:

- African Cashew Alliance (ACA);
- ComCashew — formerly African Cashew Initiative (ACi), funded by Germany's GIZ, present in Benin, Burkina Faso, Côte d'Ivoire, Ghana and Mozambique;
- BeninCajù — run by TechnoServe and CRS, funded by USAID;
- Cracking the Nut — funded by the Dutch FDOV, present in Benin and Burkina Faso;
- The newly launched World Bank loan-based governmental cashew support programme in Côte d'Ivoire.

1.3 Methods of research

This is the final report of the CBI-commissioned cashew nut processing value chain analysis. The analysis for this report has been carried out by lead consultant Peter Ton in collaboration with the national consultants and facilitators Léonard Cossi Hinnou (Benin) and Daouda Yao and Alain Adingra (Côte d'Ivoire). Methodological support and business and market information were provided by consultants Jochem Schneeman and Victor van der Linden of Fair & Sustainable Consulting. Two draft reports were discussed with CBI programme managers Martin Hulst and Phaedra Veenendaal.

This report is based on documentary review and subsequent interviews with key actors in the cashew value chains in Benin and Côte d'Ivoire, and with market actors and support agencies in the Netherlands. The programme of the field visits and the list of resource persons are in Annexes 1 and 2. First analysis results were discussed and elaborated upon with stakeholders during round tables in Abidjan, Côte d'Ivoire, and Cotonou, Benin, in November 2018.

This value chain analysis is limited by the lack of publicly available data on the cashew sectors, especially about processing efficiency, quality, markets, prices and margins. In addition, a number of institutions and organisations could not be interviewed either due to lack of time or unavailability of the actor in the requested period. Therefore, not all of the elements in the detailed 20-page CBI Terms of Reference (ToR) can be answered.

It must be noted that the cashew sector as such is obliged to function and invest largely based on rough estimates and self-experience, inside knowledge and information. For third parties, it is difficult to distinguish between proclaimed data (e.g. theoretical processing capacity) and actual facts (e.g. actually processed volumes). It is also hard for outside analysts to interpret data (e.g. price, market and competitiveness data) considering the interviewees' own positions and interests in the value chain. The lack of confirmed public data, amongst others, has a significant bearing on the predisposition of financial institutions to engage in the cashew sector.

In spite of the above, this report is expected to provide useful insights into the cashew nut processing sector in West Africa and valuable information for decision-making on the development of a future CBI cashew nut processing support programme in West Africa.

Chapter 2 presents a general mapping of the cashew nut processing value chain in West Africa. Chapter 3 describes the current cashew nut processing industry in Benin and Côte d'Ivoire. Chapter 4 assesses the sustainability of cashew nut processing in West Africa. Chapter 5 analyses the competitive and comparative position of the cashew nut processing

industry in Benin and Côte d'Ivoire. Chapter 6 looks into the opportunities for new cashew support programmes. Chapter 7 specifically looks at the added value CBI could bring through a new sector support project. Chapter 8 provides the main conclusions and recommendations. Bibliographical references are listed in Chapter 9.

2. Cashew kernel value chain

2.1 General cashew kernel value chain

Cashew is a relatively straightforward product at first sight, compared to other products. Cashew kernels are detached from their shells, then peeled, roasted, salted and packaged. Figure 1 presents a general summary of the cashew value chain. It distinguishes the main actors involved at the different levels of cashew nut production, processing and trade.

2.1.1 Input suppliers

The main input for cashew plantations are the trees, which either come as new pure plants or as grafted plants. Researchers elaborate new varieties. Nurseries provide tree multiplication and do the grafting. Grafting may also take place on site by grafting a variety with new characteristics on the stem of a former cashew tree. Grafting with productive varieties together with adequate spacing between trees are considered two key elements for achieving high productivity. Yields⁸ and spacing differ widely from one plantation to another.

Use of chemical inputs is not frequent in cashew production in Africa, where no fertilisers and very little on the way of insecticides are used. Some producers may apply herbicides for weeding, but most producers will consider pesticides too expensive to use. Cashew in West Africa, however, makes part of a larger cropping system that includes cotton, a rainy season crop commonly sprayed with insecticides.

Cashew tree owners in West Africa are generally autochthonous people who may own land under customary or national law. Depending on the context, women do not generally own land under customary law. However, women nowadays can acquire land under national law, such as by purchase. Migrants may have access to land for cultivation, but they are not generally allowed to plant trees.

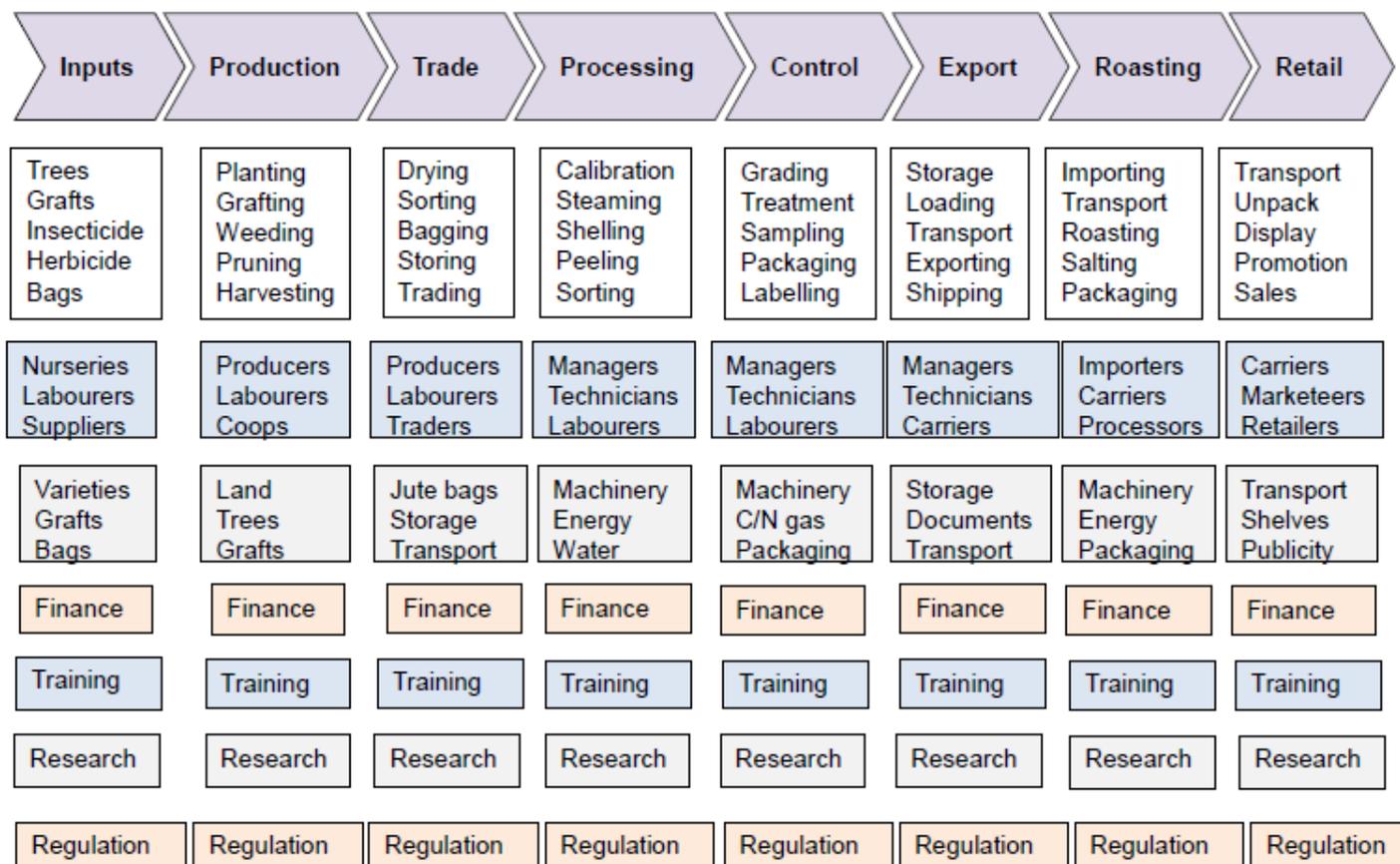
2.1.2 Producers

Cashew is a perennial tree. Tree maintenance is important for productivity, especially weeding, pruning and harvesting. Weeding is particularly important to prevent forest fires. Specialised cashew extension services are relatively new and still rather scattered.

Cashew is generally produced by smallholders. Trees may be part of a cashew plantation or be scattered and integrated into other parts of the farming system. Trees traditionally were planted to ensure and confirm ownership. Large producers owning tens or hundreds of hectares at a time do exist but are few.

⁸ Yields may vary from hundreds of raw cashew nuts (RCN) annually per hectare, which is common in large parts of Africa, to several thousands of RCN in high-productive plantations such as those in South and Southeast Asia.

Figure 1. Cashew Kernel Value Chain



Source: Elaborated by author.

Harvesting cashew in Africa consists of collecting fallen RCN from the ground. No collection directly from trees exists.⁹ Cashew apples are detached from the RCN and generally left to rot in the field.¹⁰ Collection is done in a short time span between February and April. Collectors are women, men and youth. Children may also be associated. In order to ensure RCN quality, collection should take place at least every two to three days.

Generally, the producers themselves will take care of the post-harvest operations and assembly of the RCN. After collection, the RCN should be sorted according to size and impurities, and be dried naturally for about two to three days.

In some cases, producers will gather together for primary marketing to middlemen. Otherwise, the role of cooperatives and producer groups in cashew is quite limited in Africa compared to cotton, for example, in which case cooperatives ensure access to inputs and credit.

2.1.3 Traders

Quality of kernels, which is expressed in kernel outturn ratio (KOR), is essential for the efficiency of cashew nut processing. Quality control is commonly ensured by buyers, not producers, as the latter generally have little information about quality and markets. Quality therefore is rarely a factor in price negotiations at farm level.

The humidity rate of RCN should remain between 10% and 6%.¹¹ Dried RCN should then be stored in jute bags in order to ensure aeration. Synthetic bags, such as plastic fertiliser bags, are detrimental to RCN quality.¹² Primary storage may last from a few days to a couple of months. Storage still often takes place in inappropriate conditions, e.g. at homes, at the risk of exposure to humidity and rodents, etc.

Producers have an interest in moving RCN fast, meaning selling product quickly to gain access to cash for consumption and investment, as well as to prevent product deterioration.

Small-scale traders and middlemen play an important role in the RCN trade, especially in the export trade, which represents no less than 90% of all RCN trade in West Africa. Different traders and agents can be identified at local, regional and national level. They channel the funds for purchase down to producers, provide intermediary storage and aggregate RCN for traders, processors and exporters. The role of exporters will be discussed as a separate group below.

At the beginning of the cashew buying season, national traders will generally provide funds for the purchase of RCN through regional and local traders, who travel to the villages

⁹ This is reportedly different in Brazil, where the quality of the cashew apples is central to cashew production.

¹⁰ Processing of cashew apples into juice, jams, marmalade or alcoholic drinks is being promoted in Benin by GIZ and TechnoServe. Around ten cashew apple juice factories jointly market their produce under the label Sweet Benin. In 2017, some 200,000 bottles of cashew apple juice were processed. Marketing is the next challenge. One barrier to overcome is price compared to other juices, such as pineapple, mango and others.

¹¹ See: ACi (2010), *Apprécier la Qualité des Noix de Cajou Brutes*. Manuel Technique. African Cashew initiative (AIC), GTZ, Germany, 25p.

¹² For this reason, in Côte d'Ivoire there is a national jute bag facility to favour storage in jute bags. Many producers in Benin and Côte d'Ivoire reuse cocoa bags, from Ghana or Côte d'Ivoire.

(sometimes their home village), to purchase RCN stocks at competitive prices. Some processors and exporters have been experimenting with pre-financing of producers and cooperatives, but the risk of default on loans is generally considered too high, especially in a climate of volatile prices. For example, in 2017, exporters paid higher prices than the markets could sustain, while in 2018, RCN prices plummeted, affecting the producers' ability to pay back their loans.

2.1.4 Processors

Only a small percentage of locally produced RCN gets processed in Africa itself. Processing consists of two main stages: shelling of the RCN and peeling the cashew kernels. Both processing stages require preparation. Shelling requires preliminary calibration of RCN, then steaming and drying for the hard cashew nutshells to crack. Peeling requires preliminary steaming and drying to detach the peel from the raw cashew kernel (RCK). Some factories subsequently steam the RCK to clean them and to increase humidity level so as to prevent breakage of kernels in sorting, conditioning, packaging and distribution.

Sorting and classification for quality are required at multiple stages, for instance in terms of size, colour and impurities. Cashew kernels are internationally classified according to 32 different categories, but individual processing units may bring this number down for practical reasons. The most demanded grade internationally are the so-called White Whole (WW) kernels. A number is subsequently added according to the average number of kernels per pound (e.g. the regularly sized WW320). The kernels are then conditioned with the use of industrial gases (nitrogen and CO₂), packaged in industrial plastic bags of 50 pounds (22.68 kg), and sent to clients in cartons. One 20-foot container makes up for approximately 700 cartons, or 15.9 tonnes of cashew kernels.

Mechanisation of cashew nut processing leads to a high output of split and broken cashew kernels. Markets for split and broken cashew kernels do exist, especially in Asia, but elsewhere prices are generally lower than for whole kernels. The confectionary industry in the USA and Europe uses split and broken cashews, but they are considered rather expensive compared to alternative ingredients. Suppliers to US and European clients, especially large clients, therefore have to seek alternative markets for their low cashew kernel grades.

Currently, in Benin and Côte d'Ivoire, all processing stages are increasingly being mechanised, yet a varying percentage of nuts and kernels still have to be handled manually¹³. This is both a very time-consuming job and a very valuable source of employment. Most manual work involved is low-skilled but high-precision specialised work, and largely carried out by women (about 80% or more). Whereas men do most of the heavy work, such as loading, semi-automated mechanical work (skilled labour) and factory management.¹⁴ Training is generally provided on-the-job by the processing units themselves.

There is no regional or national centre of excellence yet in West Africa to provide training for the staff of the cashew processing units in the general production process and in the specifics of the main types of processing machinery. Yet, there are plans in Côte d'Ivoire to establish a

¹³ In mechanised units, manual shelling may still make up 2–20% of all RCN and manual peeling approximately 15–20% of RCK. In some units, sorting for size and colour may be largely automated. Yet, sorting for impurities, broken kernels, etc., remains a labour-intensive affair in all units.

¹⁴ In Côte d'Ivoire, three out of the 15 processing units interviewed were headed by women. In Benin, none was.

national Cashew Technology and Innovation Centre (CIAT) in Yamoussoukro, to be operational as of 2019 or 2020.

2.1.5 Service providers

Mechanisation is key to productivity, efficiency and uniformity of product. Virtually all processing machinery in West Africa is imported, especially from Vietnam and India, but some also from China and Italy. Machinery breakdowns are frequent in cashew nut processing. None of the machinery suppliers to Côte d'Ivoire and Benin currently has a local representation, making access to spare parts difficult. Bringing spare parts and repairs from elsewhere is both costly and time-consuming. Intermediary consultants may act as agents of suppliers of processing machinery.

In Côte d'Ivoire, the company SOTIC has started to produce its own processing machinery. In the future, this may contribute to bringing down costs and to creating a local cashew machinery industry. SOTIC also provides installation services for imported machinery to some cashew nut processing units in Côte d'Ivoire through its subsidiary SOCADI. Other organisations in Côte d'Ivoire offering cashew processing machinery of different kinds and types include the Ivorian Institute for Tropical Technology (I2T), the Centre for Technology Demonstration and Promotion (CDT), the National Polytechnic Institute (INP) and STCPA, a private company for processing and conditioning of agricultural products.

Bags for the transport and storage of RCN are another input in the cashew sector. Jute bags are preferred. In Côte d'Ivoire, the CCA runs a jute bag distribution service, but operators complain that below standard quality bags break after two to three uses. Both in Benin and in Côte d'Ivoire, bags reused from the cocoa trade in Ghana are commonly used for cashew transport and storage. In Benin, transport of RCN in polypropylene bags is also common.

The cashew nut processing industry uses thick industrial plastic bags and cartons for conditioning, storage and exports of RCK. The manufacturing industry in Benin has been exempt from a new 2017 law banning plastic bags.¹⁵

2.1.6 Controllers

Processing, conditioning and packaging of RCK generally takes place at specialised processing units under controlled or controllable conditions. General factory management practices may be adhered to, but from factory visits it is clear that processing units in Benin and Côte d'Ivoire are certainly not organised in a uniform manner. Certification of processing units and products is not yet common ground in Côte d'Ivoire. In Benin, certification of processing units is more generalised and the units are more involved in speciality cashew kernels, such as organic and fair trade.

Especially larger buyers and consumer brands require compliance of the processing units and products with some certification standards. Common standards referred to in interviews include the basic African Cashew Alliance (ACA) certification, the often required hazard

¹⁵ See Article 8 of : GoB (2017), Loi No. 2017-39 portant interdiction de la production, de l'importation, de l'exportation, de la commercialisation, de la détention, de la distribution et de l'utilisation de sachets plastiques non-biodégradables en République du Bénin (26 décembre 2017).

analysis and critical control points (HACCP) certification and multiple standards among the thorough International Organization for Standardization (ISO) processing standards.

In addition, end consumer market-dependent quality and labelling standards may apply, such as the Association of Food Industries (AFI) standard specification for cashew nut kernels, the British Retail Consortium (BRC) standards and specific certifications for organic, fair trade or vegan products. Audits of processing units are generally carried out by specialised agencies such as SGS, Bureau Veritas, CERES and Control Union. Organic certification is done, for example, by Control Union, EcoCert and Biosuisse, while fair trade certification is carried out by FLO Cert.

2.1.7 Exporters

Virtually all cashew in Africa is produced for export markets: approximately 90% of the RCN, and similarly an approximate 90% of the locally-processed RCK. Brokers, agents, exporters, shipping lines, importers, quality controllers, customs and banks thus form an essential part of the cashew value chains in Africa. Main destinations for the unprocessed RCN are Vietnam and India.

Cashew kernels are generally exported by the processing units themselves, with support of service providers. In West Africa, Bolloré Logistics is one of the key export service providers for RCN and RCK, declaring to transport about 200,000 tonnes of RCN and 15,000 tonnes of RCK per year worldwide.¹⁶

The export markets for RCK from West Africa are predominantly the USA and Europe. Demand from China, Russia and the Middle East is reportedly growing. The cashew kernels for Europe transit in large majority through the port of Rotterdam, in the Netherlands. Part of the trade goes through Hamburg, in Germany, and Felixstowe, in the UK.

2.1.8 Roasting

A secondary processing of the cashew kernels takes place in the USA and Europe. It involves the steps of roasting, salting, coating and mixing with other nuts, where appropriate, followed by conditioning of the product, packaging and distribution to the main supermarkets, markets and specialty shops.

Main importers of cashew kernels from West Africa are Caronut (USA), Red River Foods (USA), Intersnack (Netherlands), TDG (Netherlands) and Universal Commodities (USA). Intersnack owns multiple secondary processing facilities in Europe. It is the largest EU importer of African cashew nuts. Intersnack and Red River Foods own processing factories in Vietnam. TDG has been investing in processing units in various African countries including Benin, Burkina Faso and Togo. The US-based Universal Commodities is also present in Benin.

Importers of organic cashew include Egesun (Germany), GEBANA (Switzerland) and Tradin (Netherlands). GEBANA sells cashew which is both organic and fair trade. GEBANA runs its own processing unit in Burkina Faso and currently plans for another processing unit in Benin.

¹⁶ Presentation at the SIETTA & ACA Conference (9 November 2018).

Overall organic cashew volume from West Africa is on the rise, currently estimated at approximately 400–500 tonnes of RCK per year.

2.1.9 Retail

Global demand for cashew kernels has grown at an annual average rate of 6%. This growth in demand is more significant in the USA and Europe. Demand in China and the Middle East is more recent and expected to grow fast. Consumers of RCK in the USA and Europe especially require roasted or roasted and salted whole cashew kernels, which are commonly consumed as snacks, mixed with other nuts, such as in granola, or processed into fruit and nut bars.

In the USA and Europe, the market of organic cashew kernels is reportedly growing much faster, at double-digit annual rates. The organic market currently represents an estimated 5% of the total market for cashew kernels. Much like other dried fruits and nuts, cashew also fits in very well with vegetarian and vegan lifestyles, which are on the rise in high-value consumer markets in the developed economies.

In Asia, cashew is an integral part of general food processing. Especially in India, all cashew products tend to be used in food processing, which results in much more limited price differentials in the Indian market between broken kernels and whole kernels.

2.2 Specific cashew value chain functions

Financial institutions and governments are specific key actors in the cashew value chain. We will further discuss below the organisation of the different stakeholders within the value chain, the possible horizontal and vertical links among stakeholders, as well as the role and importance of value chain governance.

2.2.1 Financial institutions

Financial institutions play a key role in the cashew processing industry. Only a few operators in the cashew trade and industry can self-finance their investment and their operations.

Cashew nut processing units require at least two types of financing:

- Investment capital for factory and machinery purchase, which can be reimbursed with interest in the mid to long term;
- Crop purchase and trade credits, i.e. money to buy raw materials, to process these, to sell the kernels and to bridge the time gap between sale and client payment.

The size of a processing unit matters: the higher the processing capacity, the higher the investment costs and the expenses on crop purchases for inventory, processing and trade.

Financial institutions tend to go where they can earn money at the lowest risk. Banks and micro-credit institutions tend to be available where there are more customers, such as in capital cities and larger towns. Agriculture is generally considered a risky business for a number of reasons, including the weather dependency of agricultural yields and the often highly volatile nature of agricultural prices. Risk increases in the cases of speciality crops with more limited markets, which may generate high margins, but carry elevated risks of capital loss.

In this scenario, cashew nuts can be considered high risk. The cashew market is a relatively new market in the USA and Europe. Cashew kernels are considered expensive compared to other nuts and snacks, and therefore depend on a high-end market. Cashew kernels are mostly consumed as a luxury snack¹⁷, consequently a less stable market than the market for general food items. Broken cashew kernels, pieces and flour moreover do not easily find markets in the USA and Europe; these side products are commonly consumed only in India.

The cashew market bears a number of elements suggesting it is an immature market, which in of itself increases financial risks. Such elements include:

- Export trade of RCN is controlled by a limited number of large traders.
- Demand for cashew kernels is increasing rapidly, but how long it will last is unknown.
- The global cashew nut processing capacity is concentrated in just a few countries.
- Cashew kernel trade is dominated by a small number of large international traders.
- There is no acknowledged international pricing mechanism for cashew and no clear and transparent world cashew market price.

Moreover, the prices of RCN fluctuate heavily during the year, between the start and the end of the harvesting season.

In West Africa, the cashew nut processing industry has not yet managed to attract interest from many banks and financial institutions for large-scale investment and financing at attractive rates. Depending on country and currency, cashew processors face average interest rates between 8% and 12% in Côte d'Ivoire and Benin, and even between 30% and 35% in Ghana. This is in contrast with interest rates of 7–8% or lower, which are reportedly prevalent in India and Vietnam, and especially with the 1–2% interest rates international banks give to large international buyers.

Furthermore, many cashew processing units in Côte d'Ivoire and Benin are too young to show results. They lack a multi-year track record that is considered pivotal for banks to grant loans. This applies both to investment loans and purchase and trading loans. Some processing units reportedly still lack adequate administration or a bankable business plan.

2.2.2 Governments

Governments can play an important role in the cashew sector. The type and the degree of government involvement in West Africa vary according to political importance and government priorities. Critical for effectiveness of policies is their practical feasibility and the degree of enforcement. Below, we discuss a few policy measures currently being applied.

The most common measure for West African governments is to apply an export tax on RCN. Enforcement of legislation is relatively easy, as approximately 90% of all RCN from West Africa is exported through a very limited number of international ports.¹⁸ The funds generated may be reinvested in critical sector support functions (e.g. research and development, agricultural extension, quality control) or be used for subsidizing the local processing

¹⁷ Cashews are consumed year-round, but especially during festive periods such as Christmas and New Year (USA and Europe), Thanksgiving (USA), Diwali and Navrati (India) and during Ramadan (Islamic world) (Deloitte, 2017).

¹⁸ The export taxation system needs to be backed up by a ban on export over land, and by subsequent border controls in order to prevent RCN from being smuggled into neighboring countries. Licit and illicit trade in RCN over land borders is common in West Africa.

industry, as is the case in Côte d'Ivoire. Governments may also opt to use the funds for other purposes, as is the case in Benin.

Côte d'Ivoire has the most elaborate cashew sector intervention policies. In 2015, Côte d'Ivoire introduced a relatively high export tax of FCFA 30 per kg of RCN. Since 2016, funds from this tax are used to subsidise the local processing industry at a rate of FCFA 400 per kg of exported RCK. The export tax adds to existing export levies (FCFA 10 per kg of RCN) to finance critical sector support functions. In 2017, Benin also imposed an export tax on RCN of FCFA 10 per kg of RCN, but Benin does not have a mechanism to reinvest the funds generated into the cashew sector. Ghana has opted not to have any particular intervention in the cashew sector at all.¹⁹

Other policy incentives in West Africa favouring local processing include:

- An **indicative minimum price for RCN** which is set at the start of the buying season. This indicative price does not protect producers, since it is not a guaranteed minimum price. However, it sets a bar which may influence selling and buying behaviour;
- **General investment promotion policies**. This may include the leasing of land in dedicated industrial zones, including access to utilities, such as in Côte d'Ivoire²⁰, tax-free industrial areas, such as the 'points francs industriels' in Benin²¹ and tax exemptions for the first years of operations, which vary from 5 to 8 years by country;
- **Export tax exemptions** for raw cashew kernels (RCK) in all countries;
- **Import tax exemptions** on cashew nut processing machinery in Benin and Côte d'Ivoire;
- An obligation for exporters to **reserve at least 15% of their RCN volumes** for local processing (Côte d'Ivoire);
- A governmental **guarantee fund** to help processing units access crop finance. In Côte d'Ivoire, the guarantee fund backs up bank loans of eligible processing units for up to 25% of total. In 2017, the fund supported one single processing unit, but in 2018 five processing units were served.
- **Subsidizing cashew nut processing** is another key policy option. In Côte d'Ivoire, a subsidy of FCFA 400 per kg of RCK exported applies.²² In principle, this may be a wise policy to favour initial investment, as long as it is temporary (e.g. 3–5 years) and the nascent industry can grow with and adapt to the realities in the international market for cashew kernels and by-products. Subsidizing is a political measure though; the money could also be used to solve other issues in the cashew sector or beyond. In 2017, the initial subsidy was equivalent to 10% of RCN value, but due to steep drops in RCN market prices in the course of 2018, the subsidy increased to 20% at FCFA 400 per kg, reaching even 50% of RCN value at FCFA 160 per kg.

Opinions differ regarding the effectiveness of the above policy interventions:

- The **indicative minimum price** is not effective while it is not being enforced and not flexibly evolving with the market. The 2017 minimum prices in Côte d'Ivoire and

¹⁹ See: DELOITTE (2017), Étude relative à la compétitivité du secteur de la transformation de l'anacarde en Côte d'Ivoire. Rapport Final. Deloitte, Côte d'Ivoire. December 2017, 140p.

²⁰ Under the new World Bank-loan funded government cashew support programme BIRD Enclave, the Côte d'Ivoire government plans for the development of four (4) dedicated cashew nut processing industrial zones.

²¹ In Benin, the largest cashew nut processing units (FLUDOR, ANI, Afokantan, Tolaro) benefit from tax exemptions while their factories' area was declared a free industrial zone ('point franc industriel').

²² According to CCA (Coulibaly, pers comm, 13 November 2018), initially access to RCN was to be enhanced through a subsidy of FCFA 80 per kg of RCN. This was made payable to processors through a subsidy of FCFA 400 per kg of RCK exported, assuming a 20% RCK ratio. It is unclear how the level of subsidy was fixed.

Benin were much lower than the actual market price, making them also politically irrelevant. The 2018 prices instead were far too high compared to what the market sustained. Individual producers which were short in cash sold their produce at down to less than half of the indicative price. In practice, the high indicative minimum price may have even blocked or slowed down RCN trade early in the season, as producers were made to assume that higher prices applied than were actually on offer from traders and agents.

- The **reservation of 15% RCN** for local processors was ineffective. The RCN were made available at sites far from the processing units (e.g. in the port of Abidjan) and the fixed price established per kg was far higher than market price.
- The **CCA guarantee fund for RCN purchase** seems to have worked out better in 2018 than in 2017. The number of beneficiaries increased. Actors do complain of administrative hurdles and long delays for accessing bank loans. However, in 2018 late access to crop finance turned out to be an advantage because of low RCN prices later on in the season.
- In Côte d'Ivoire, the **subsidy to cashew nut processing** is intended to protect the nascent processing industry. However, the conditions that currently apply do not favour most of the existing national processors²³, especially the small ones, but rather newcomers and large international investors with access to low-interest loans.

2.2.3 Organisation of stakeholders

The cashew sectors in West Africa have emerged in the 1990s and 2000s largely out of market forces. Producers, traders and exporters first banked upon previous public investments in deforestation and desertification efforts in the 1950s and 1960s, when cashew trees were planted in high densities for soil coverage and erosion control.

Asia-based traders have largely made the cashew sectors in West Africa into what they are today. The sectors are characterised by large-scale, export-oriented RCN buying and trading activities by a wide diversity of local, regional, national and international actors in a short lapse of time, predominantly during the prolonged dry season. The exporters bring in financing for the purchase of RCN around the country, also in very remote places, through a dense market-led network of national, regional and local buyers, traders and agents.

Producers owning cashew trees or plantations, thus usually find a local market for their RCN. They do not have much information about the RCN trade and the requirements of the consumer markets. They may not even know very well how to distinguish good quality RCN from bad quality RCN, and they are thus vulnerable in price negotiations. Producers do not attach any importance to cashew nuts for domestic consumption, as there is no alternative market locally. Cashew nuts provide important additional income for producers in the part of the year when they can earn little other income. Buyers are expected to pay cash on the spot.

Producer organisations do exist in the cashew sectors in West Africa, but they are largely still nascent. In other agricultural export sectors, for example in cotton, coffee or cocoa, producers may be organised in order to gain access to inputs for production, or to favour marketing and

²³ The subsidies are provided on exported cashew kernels. They do not help to overcome, for example, issues related to market access, processing efficiency, availability of qualified labour, or the creation of local markets for kernels and by-products. The subsidies go to those who are already successful, not to those on the verge of becoming successful. In fact, the large majority of the subsidy funds in Côte d'Ivoire in 2018 went to one single company which operates with international loans, capital and management.

ensure adequate volume of produce. In cashew, however, very little inputs are being used in West Africa, where no fertilisers and few pesticides, if any at all, are used. Buyers of RCN tend to travel even to remote places to purchase the crop. In consequence, there is little incentive thus far for producers to organise and be jointly represented at different levels.

Cashew production generally takes place in areas where cotton is also produced. It should therefore be possible for producers to bank upon the existing experiences of cotton producer organisations. However, based on the interviews held in Benin and Côte d'Ivoire, we must conclude that the cashew producers are still little organised. There is a national cashew producers organisation in Benin, FENAPAB, which currently represents an estimated 10% of all cashew producers in the country. FENAPAB is acknowledged as the national producer representative and forms part of the Interprofessional Cashew Organization (IFA). Regional cashew producer organisations in Benin, however, may actually be stronger in terms of member participation, structure and bottom-up nature.

In Côte d'Ivoire, there is also a relevant amount of organisation at the regional level. Regional differences between the north and south which are very present in the country's politics were a major driver of the prolonged political instability between 2002 and 2012. Côte d'Ivoire counts a National Federation of Cashew Producers (FENAPACI), which boasts of a membership of 31 unions of cooperatives, 371 cooperatives and a total of 352,000 producers around the country. Another cashew producer organisation is FENACAJOU-CI (Fédération nationale des cajouculteurs de Côte d'Ivoire), which declares to have about 200,000 members.

However, formally these numbers are enough for neither organisation to be acknowledged as the main representative of cashew producers in the country. That is because a 2012 ordonnance by the Ivoirian government stipulates that such an organisation should represent the producers of at least 15% of all RCN produced in the country, a requirement that is considered unfeasible and even outrageous by producers themselves.

The other groups in the cashew value chain are all organised in acknowledged sector organisations. The exporters are united in the Association des Exportateurs de Cajou (AEC-CI). Exporters are not allowed to buy RCN in the field, so they depend on a network of local traders and agents. The buyers of RCN in Côte d'Ivoire do not have a representative organisation. However, the governmental Cotton and Cashew Council (CCA) grants licences to buyers, traders and exporters and keeps a register of such.²⁴ The cashew nut processing industry is represented by the Group of Industrial Cashew Processors (GIC-CI).

In Benin, the processors are represented in the interprofessional IFA by the National Council of Cashew Processors (CNTC), the buyers of RCN by the National Federation of Buyers of Agricultural and Tropical Fruits (FENAPAT), and the exporters by the National Council of Cashew Exporters (CONec). Factory workers are not currently represented in the IFA.

2.2.4 Linkages among stakeholders

Horizontal linkages exist at all levels of the cashew sectors in West Africa. At the producer level, there is collaboration among village producer groups, for example to create volume of

²⁴ In 2018, 139 exporters, 1,374 buyers and more than 15,000 local traders or 'pisteurs' were listed by the CCA (AIP, 31 July 2018).

produce for sale, to market as a group or to achieve certification under organic and fair trade production and marketing schemes.

Amongst buyers of RCN there is both competition and collaboration. Buyers in a particular area have an interest to respect each other's 'territory', unless they can cut in at lower cost or pay faster than their colleagues. Especially in an upward market, few are the producers that will be loyal to their intended buyer if others are ready to pay higher prices in cash on the spot. Yet, family pressure, social control and loans provided during the season may help to ensure loyalty to a particular buyer agent from the same locality. Trust in trade, or better, payment in cash, are critical factors in RCN trade, especially at the higher levels of the trading network, among buyers, agents and exporters.

Cashew processors face many issues that influence their production and productivity, which are often not so easy to manage. Examples include their access to reliable electricity, a stable and experienced workforce, and especially access to RCN for processing. Fierce competition for RCN between exporters and processors has helped the latter to unite and lobby their case with national governments, which was done successfully in Côte d'Ivoire, but less so in Benin. When processors face problems of compliance with a buyer's contract, for example because of issues of quality or volume, they sometimes may help out each other.

Vertical linkages also exist. In Côte d'Ivoire, exporters and processors have come to collaborate regarding the country's latest regulation that 15% of the RCN exported needs to be reserved for local processing. During interviews, it turned out that large traders such as OLAM collaborate with local processing units providing them RCN for contract processing. This is a welcome solution for some processing units, while not all were able to obtain bank loans for RCN purchase, especially not at the high prices of late 2017 and early 2018. In turn, their margin per ton may be expected to be lower.

Processors and producers may also establish vertical linkages for specific purposes. In Côte d'Ivoire, for example, one processing unit is also involved in cotton processing and therefore has strong ties with producer organisations that represent cotton farmers who often also happen to be cashew producers. This has helped that processing unit to build trust with producers and to have ensured access to RCN even when competition among traders is high. A similar case came from a processing company which combines management of a local and national micro-finance institution that provides delayed payment to producers of RCN purchases. Furthermore, actors involved in specific certification schemes, such as organic or fair trade, are obliged to establish vertical links for certification, quality and traceability.

2.2.5 Value chain governance

There is political consensus in West Africa and among technical and financial partners in development that value chains ('filières' in French) would be best governed by interprofessional organisations which get representation from the main groups in the value chain and the national government. An interprofessional organisation as such does exist in Benin already. In Côte d'Ivoire, the largest cashew nut producer in the world, there is no such organisation yet. The interprofessional Intercajou, established in 2007, was dissolved in 2011 following allegations of mismanagement, fraud and corruption.

The government of Côte d'Ivoire decided by law in 2013 that the Cotton and Cashew Board (Conseil du Coton et de l'Anacarde or CCA), a governmental agency, would be in charge of

all exchanges, negotiations, rules and regulations regarding cashew production, processing and trade. In addition to its own role of regulating the sector, the CCA is currently assuming the role of the new-to-be-established interprofessional organisation, which will be launched once all value chain groups are properly organised.

For all stakeholders in Côte d'Ivoire it is clear that no interprofessional cashew organisation can be formed without a proper producer representation. Yet, a current government ruling about representativeness of the national producer federation has been blocking all efforts of this kind. The 2012 ordonnance provides a smokescreen for other stakeholders to divide the cashew producers and to deal with cashew policy matters among themselves — without producer involvement. One of the goals of the new World Bank-loan financed BIRD Enclave project is the creation of an interprofessional body for cashew. This objective will not likely materialise before the project's closure, unless the 2012 ordonnance is withdrawn.

In absence of a proper interprofessional association, the Ivoirian government is intervening heavily in the cashew sector. The Cotton and Cashew Board (CCA) is considered by many operators to be generally effective in its interventions, even if not all policy measures are considered appropriate. Cashew processors who have access to the international market appreciate the subsidies provided for exported cashew kernels, even if there are concerns about payment delays. Many small-scale processors do not feel considered, since they cannot benefit from the subsidies by lack of access to funds for purchasing RCN. Those processing units that benefitted from the CCA guarantee fund have been found to have improved access to bank loans.

Producers in turn do consider that all subsidies to processing units are paid for through export taxes on their RCN produce. When RCN prices paid by exporters are higher than by local processors, they see little advantage in subsidizing the processing industry. In the 2018 season, for example, the high export tax on RCN and further policy measures favouring local cashew nut processing (i.e. the 15% RCN reserves for local processors), have actually slowed down and frustrated RCN exports and thus contributed to cutting off attractive markets and lowering prices. Producers in Côte d'Ivoire might claim that the funds generated from export taxes are reinvested in improved services to producers rather than to processors. Producers in Benin can go a step further, claiming that they are currently being taxed without seeing any reinvestment in the sector at all.

In Benin, the various value chain groups (producers, buyers, processors and exporters) have managed to establish the Interprofessional Cashew Organization (IFA) in 2016. The Beninese government acknowledges the existence of IFA, but so far public-private collaboration is limited. The current government is reportedly planning to set up a public entity similar to the Ivoirian Cotton and Cashew Board CCA, but for shea nut and cashew — the Conseil du Karité et du Cajou (CKC).

The Beninese government has unveiled ambitious plans to set up a flourishing cashew nut processing industry, able to process at least 50% of the national cashew production by 2021, or 100,000 tons out of 200,000 tons of RCN projected.²⁵ However, it is not yet clear how this objective will be achieved. Private investment, such as by Fludor, ANI and Tolaro, may contribute to increasing the overall technical processing capacity, but the Beninese cashew nut processing industry still has a hard time being competitive on price. There are rumours

²⁵ See: MAEP (2018), Programme National de Développement de la Filière Anacarde 2017-2021. Document final. Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP), Benin. March 2018, 209p.

that the Beninese government plans to install 120,000 tons of additional processing capacity with private investors through a series of satellite factories for which appropriate locations are currently being assessed.²⁶

The government of Benin installed an export tax on RCN in 2017. The funds generated go straight to the state treasury. No mechanism for reinvestment of these funds in the cashew sector has been established, despite pleas from part of the stakeholders in the sector. There are talks going on between the Beninese government and, for example, the representatives of the cashew processors (CNTC) about support to the cashew nut processing sector, but thus far these demands have not been met.

In Benin, there is general concern amongst stakeholders about whether the government is actually in support of the cashew sector or may be preparing for a takeover of the sector. There are concerns that the sector might become dominated and monopolised by a few political and economic actors, as is the case in the cotton sector in Benin. Otherwise, stakeholders do favour the entrance of new investors in the cashew nut processing industry, in order to strengthen the collective business and to build a market and a brand for ‘quality cashews from Benin’.

²⁶ See: LE MATINAL (2018), Dynamisation de la filière anacarde au Bénin : le gouvernement pense à des nouvelles usines. In: Le Matinal (17 August 2018), 3p.

3. Cashew nut processing in West Africa

In this chapter, we look specifically at the cashew nut processing industry in Côte d'Ivoire and Benin. This comprises the stages 'processing' and 'control' highlighted in Figure 2.

3.1 General cashew nut processing

The first local cashew nut processing units emerged in West Africa with local investors in the late 1990s and in the first half of the 2000s. Most units started with largely manual processing operations, which fitted well with the aims of job creation and value addition.

Machinery for shelling was generally imported from India. Installed processing capacity would be 500–1,500 tons per year. The processing units tended to operate for only three to four months per year, making the difference between the technical and the real processing capacity large. In addition, differences would occur between the real processing capacity and the processed volume of RCN, which depends on the unit's operational efficiency.

The establishment of cashew nut processing units is a function of general competitive features such as access to RCN and skilled labour, the availability and reliability of electricity, the proximity to ports, and of country-specific aspects such as the investment climate, the nature and stability of government policies and the general enabling environment in a country.

3.2 Current cashew nut processing

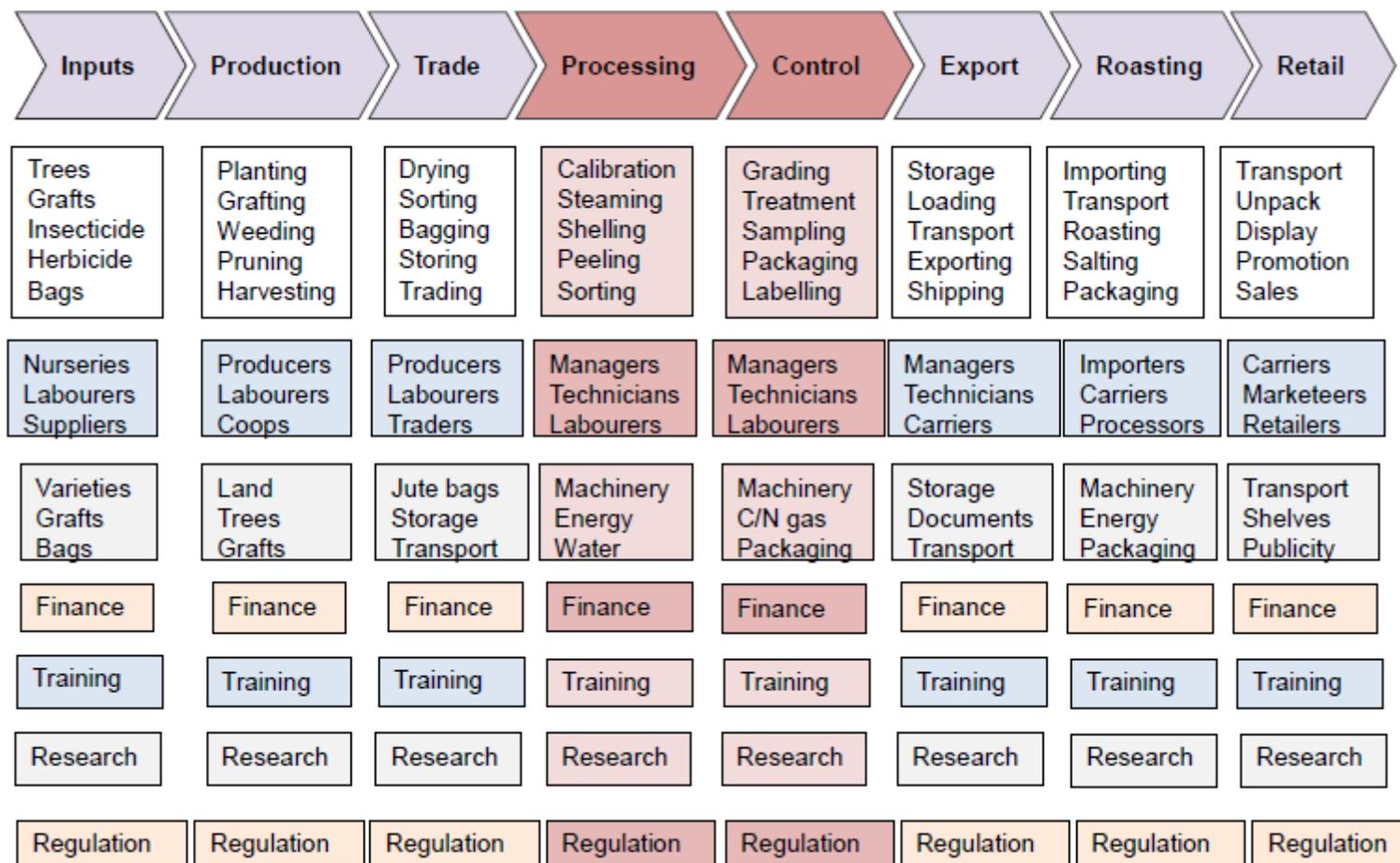
Over the last decade, and especially over the last five or six years, mechanised and semi-automated processing units have been constructed in West Africa with technical operational capacities of 3–5,000 tons of RCN per year, and more recently up to 10,000 tons of RCN or more per year. Many existing processing units are upgrading their machinery and production, whereas new processing units are being built. Most investors are also active in other agricultural products such as cocoa, coffee, shea nut and cotton, or in other economic sectors such as construction, banking, government and politics.

Figures 3 and 4 present an overview of the largest processing units in Côte d'Ivoire and in Benin. In Côte d'Ivoire, a total of 15 of the largest processing companies have been contacted for this study, and in Benin the seven largest processing units. The data provided are based on information from interviews, mixed with estimations calculated by the authors to correct for inflated figures. Figures 3 and 4 consist of three tables: the first table provides general statistics per company, the second highlights the company's involvement in sales and purchase markets, and the third table provides details on the origins and the age of the unit's machinery. The age of machinery matters because of rapid technological advances in cashew processing.

Most factories in Côte d'Ivoire and Benin are family owned and based on national capital. Factories based on international capital tend to be larger in technical processing capacity. The data for 2015, 2016 and 2017 suggest a timid 6% growth in real processed volumes of RCN in Côte d'Ivoire, from 42,000 tonnes in 2015 to 44,650 tonnes in 2017. The estimated processed RCN volumes increased rapidly in 2018 to around 59,370 tonnes, a 33% hike, with the opening of two new (CILAGRI, SNTC/SOTRAPACI) and one renovated processing unit

(SITA). This expansion is probably a direct outcome of the government policy to subsidise exported RCK.

Figure 2. Cashew Kernel Value Chain stages relevant for this study.



Source: Elaborated by author.

Figure 3. The largest industrial cashew nut processing units in Côte d'Ivoire (2018).

1.	Côte d'Ivoire			Origin of	Installed	Planned	Processed	Processed	Processed	Processed	Turnover		
	Processing unit	Place	Year	Owners	capacity	capacity 2020	2015	2016	2017	2018 (est.)	2017 (est.)	Employees	Women
					(tons of RCN)	(tons of RCN)	(tons of RCN)	(tons of RCN)	(tons of RCN)	tons of RCN	(mln USD)	(no.)	(%)
	OLAM *	Bouaké/Dimbokro	2012/2008	SGP	42.000	42.000	37.800	37.800	37.800	37.800	n/a	n/a	n/a
	CILAGRI	Abidjan	2018	RCI	10.000	30.000	-	-	-	5.000	-	200	80
	STNC/SOTRAPACI	Abidjan	2017	RCI	6.000	6.000	-	-	-	3.840	5,4	621	82
	KOROSHO *	Yamoussoukro	2018	KEN/ETG	3.000	3.000	-	-	-	n/a	n/a	450	n/a
	CASA	Bouaké	2014	RCI/AKDF	5.000	7.500	2.898	2.253	1.345	1.500	3,8	550	80
	Cajou du Fassou	Yamoussoukro	2006	RCI/Family	1.500	5.000	87	63	73	100	0,2	78	75
	Global Cashew Industries	Odienné	2018	RCI/Family	3.000	3.000	-	-	-	200	-	150	90
	Agro-Fronan	Fronan	2017	RCI/Family	3.000	3.000	-	-	186	900	0,3	206	90
	SOBERY	Bouaké	2015	RCI/Family	5.000	20.000	80	466	700	1.000	0,9	160	80
	SITA	Odienné	2001	RCI/Family	10.000	20.000	550	591	-	1.500	1,8	800	80
	Caju Industrie	Kolia	2015	RCI/Family	1.500	1.500	153	252	290	300	0,5	90	90
	FMA	Korhogo	2016	NER/MAL/FR/ALG	10.000	20.000	-	1.000	3.500	5.000	2,2	771	80
	Afrique Agri Industrie	Bondoukou	2014	RCI / Family	7.000	7.000	320	1.040	160	1.000	0,4	450	90
	Nord Cajou	Séguéla	2018	RCI / Family	6.000	10.000	-	-	-	480	n/a	300	80
	Africa Négoce	Bouaké	2015	RCI/Family	5.000	7.500	110	250	600	750	1,3	175	85
	Total				118.000	185.500	41.998	43.715	44.654	59.370	n/a	5.001	83

2.	Côte d'Ivoire	Processing unit	Place	Cashew sales market involvement				Other	Cashew purchase market involvement			Certificates				
				RCN trade	RCN processing	RCK trade	RCK processing		Input trade	Pre-finance coops	Pre-finance trade	Pre-finance farms	Process	Product	ORG	FT
		OLAM *	Bouaké/Dimbokro	x	x	x	x			x	x		x	x	x	
		CILAGRI	Abidjan		x	x		CNSL (plan)					BRC (plan)			
		STNC/SOTRAPACI	Abidjan	x	x	x				x	x					
		KOROSHO *	Yamoussoukro	x	x	x										
		CASA	Bouaké		x	x							ACA			
		Cajou du Fassou	Yamoussoukro		x	x	x						ACA (plan)			
		Global Cashew Industries	Odienné		x	x					x					
		Agro-Fronan	Fronan		x	x							ACA (plan)			
		SOBERY	Bouaké	x	x	x		Charcoal					ACA		2016+17	
		SITA	Odienné		x	x	x				x	x				
		Caju Industrie	Kolia		x	x					x					
		FMA	Korhogo		x	x										
		Afrique Agri Industrie	Bondoukou		x	x							ACA (plan)			
		Nord Cajou	Séguéla		x	x		CNSL (plan)								
		Africa Négoce	Bouaké		x	x		Charcoal (plan)								

3.	Côte d'Ivoire	Processing unit	Place	Cashew processing machinery						Roasting	Salting	Packaging
				Calibration	Steaming	Shelling	Peeling	Sorting				
		OLAM *	Bouaké/Dimbokro	x	x	x	x	x	x	x	x	
		CILAGRI	Abidjan	2018 VIE	2018 IND	2018 VIE	2018 ITA	2018 CHN	2018 ITA (pl)	2018 ITA (pl)	x	
		STNC/SOTRAPACI	Abidjan	2017 VIE	2017 VIE	2017 VIE/CHN	2017 VIE/IND	? VIE/CHN/IND			2017 VIE	
		KOROSHO *	Yamoussoukro	x	x	x	x	x			x	
		CASA	Bouaké	2014 VIE	2014 IND	2014/15 IND	2015 VIE	2015 CHN			2014 IND	
		Cajou du Fassou	Yamoussoukro	2018 RCI	2018 RCI	2014 VIE/CHN	2014 CHN	2014 RCI	2014 RCI		2014 CHN	
		Global Cashew Industries	Odienné	2014 VIE	2014 VIE	2014 CHN	2014 VIE/IND	CHN			2014 VIE	
		Agro-Fronan	Fronan	2016 RCI	2016 RCI	2016/8 VIE/SL	2016 VIE	x			x	
		SOBERY	Bouaké	2014 VIE/RCI	2014 IND	2018 VIE	2014 IND	2015 CHN			2015 VIE	
		SITA	Odienné	2017 VIE	2017 VIE	2017 VIE	2017 VIE	2017 VIE	2017 VIE		x	
		Caju Industrie	Kolia	2015 IND	2015 IND	2015 IND	2016 VIE	x			2015 IND	
		FMA	Korhogo	2016 VIE	2016 VIE	2016 VIE	2016 VIE	2016 CHN			2016 VIE	
		Afrique Agri Industrie	Bondoukou	2014 IND	2014 IND	2014 VIE/IND	2014 VIE/IND	x			2014 IND	
		Nord Cajou	Séguéla	2016 VIE	2016 VIE	2016 VIE	2016 VIE	2016 VIE			2016 VIE	
		Africa Négoce	Bouaké	x	2015 VIE	2015 VIE/CHN	2015 VIE/IND	x			2015 IND	

* : OLAM and Korosho did not participate in the questionnaire.

Source: Elaborated by author based on interviews.

Figure 4. The largest industrial cashew nut processing units in Benin (2018).

1.	Benin			Origin of	Installed	Planned	Processed	Processed	Processed	Processed	Turnover		
	Processing unit	Place	Year	Owners	capacity	capacity 2020	2015	2016	2017	2018 (est.)	2017 (est.)	Employees	Women
					(tons of RCN)	tons of RCN	(mln USD)	(no.)	(%)				
	Fludor	Cana/Bohicon	2016	NGR/GER (TGI)	15.000	18.000	-	3.000	8.000	10.000	14,0	785	77
	ANI	Djèrègbé	2018	BEN/Family	12.000	20.000	-	-	-	1.500	n/a	372	98
	Afokantan	Tchaourou	2008	NL (TDG/WBI)	3.000	5.000	n/a	n/a	923	1.500	1,5	350	67
	Tolaro*	Tourou	2010	USA/BEN	6.000	20.000	2.300	n/a	3.000	6.000	n/a	500	n/a
	KAKES	Savalou	2011	BEN/Family	3.000	5.000	-	-	532	-	1,1	n/a	n/a
	La Lumière*	Tchetti	n/a	BEN/Family	1.500	1.500	n/a	n/a	225	-	n/a	n/a	n/a
	BPS*	Abomey-Calavi	n/a	IND	2.500	2.500	-	-	-	-	n/a	n/a	n/a
	NAD&Co	Badèkparou	2010	BEN/Family	1.500	3.000	n/a	n/a	300	-	1,7	120	70
	Total		n/a		44.500	75.000	n/a	n/a	12.980	19.000	n/a	2.127	78

2.	Benin		Cashew sales market involvement					Cashew purchase market involvement				Certificates					
	Processing unit	Place	RCN trade	RCN processing	RCK trade	RCK processing	Other	Input trade	Pre-finance	Pre-finance	Pre-finance	Process	Product	ORG	FT		
									coops	trade	farms						
	Fludor	Cana/Bohicon		x	x	possible	CNSL (plan)			x		HACCP / BRC	Halal/Kosh				
	ANI	Djèrègbé		x	x	2019	CNSL			x (avant)	7,000 ha (plan)	??	??				
	Afokantan	Tchaourou		x	x		Charcoal (future)		x	x	x	ACA / HACCP					
	Tolaro*	Tourou		x	x	2019		?	?	?	?	ACA/HACCP/BRC	ORG / FT	Plan	100 ton RNC		
	KAKES	Savalou		x	x		CNSL (plan)		outils			HACCP	FT ?				
	La Lumière*	Tchetti	?	x	x			?	?	?	?	?					
	BPS*	Abomey-Calavi	x	x	x			?	?	?	?	?					
	NAD&Co	Badèkparou		x	x	x	CNSL / Charcoal / Jus		x			HACCP / FSPCA	ORG / FT	x			

3.	Benin		Cashew processing machinery							
	Processing unit	Place	Calibration	Steaming	Shelling	Peeling	Sorting	Roasting	Salting	Packaging
	Fludor	Cana/Bohicon	x	2016	2016	2016	x		(plan)	2016
	ANI	Djèrègbé	2017	2017	2017	2017	2017		(plan)	2017
	Afokantan	Tchaourou	2012 IND	2017 IND	2017 IND	x	x			2017 IND
	Tolaro*	Tourou	x	x	x	x	x	x	x	x
	KAKES	Savalou	2012 IND	2012 IND/VIE	2014 VIE	2013 IND	2013 IND/VIE			2011 IND
	La Lumière*	Tchetti	x	x	x	x	x			
	BPS*	Abomey-Calavi	x	x	x	x	x			
	NAD&Co	Badèkparou	2013 IND	2013 IND	2011 IND	x	x	2015 BEN	x	2011 IND

* : Tolaro, La Lumière and BPS did not participate in the questionnaire.

Source: Elaborated by author, based on interviews.

In Benin, where actually processed volume of RCN was around 19,000 tons in 2018, growth between 2015 and 2017 was far more spectacular though than in Côte d'Ivoire, due to the opening of the Fludor factory in 2016 and the upscaling of production by Tolaro since start of operations in 2012. In 2018, a new factory (ANI) started operations, increasing the total installed processing capacity with another 12,000 tons of RCN. In Benin, no processing subsidies currently apply on the export of cashew kernels.

The biggest operational factory in West Africa to date is the OLAM processing unit in Bouaké, Côte d'Ivoire, built in 2012, which has a technical processing capacity of 30,000 tons of RCN and is operational year-round. In 2018, with two factories in Bouaké and Dimbokro, OLAM was responsible for 41% (42,000 tons of RCN) of the technical processing capacity in Côte d'Ivoire (102,000 tons) and 84% (an estimated 36,000 tons of RCN) of the actually processed RCN (42,854 tons). The latter figure also indicated that in 2017, by far most subsidies on exported RCK went to one single internationally-owned company (OLAM) rather than to the broader national cashew nut processing industry.

In Benin, Fludor holds a similar key position in cashew nut processing. According to data from MAEP, in 2017 it represented 48% (15,000 tons of RCN) of technical processing capacity in Benin (31,500 tons).²⁷ Fludor's share in actually processed volumes is an estimated 62% (8,000 tons) of Benin's total (12,980 tons).

Certification of processing operations is becoming increasingly common in West Africa. The African Cashew Alliance (ACA) provides a basic certification system since 2012. Thus far, two units were certified in each Côte d'Ivoire and Benin. Another three processing units in Côte d'Ivoire are preparing for ACA certification. Yet, the larger processing units in both countries rather aim for more stringent certifications under HACCP and BRC standards.

According to our data, product certification is not yet common ground in West Africa. Organic and fair trade certification has been tried, and is being practised, both in Côte d'Ivoire and in Benin, but volumes are still limited to a few hundred tons of RCN per year per country. Several processing units indicated their interest though in supplying the organic market, as price margins are higher. Several Dutch importers interviewed expressed their interest for organic cashew kernels from West Africa.

Trust amongst actors in the cashew sectors in Côte d'Ivoire and Benin appears to be low. Some processing units have or had pre-financing arrangements with local traders and agents, cooperatives or individual farms. Yet, the general impression is that price volatility in the cashew sector is too high to sustain credible financing arrangements in the value chain between producers and processors. Side-marketing of RCN is a major risk to processors.

Machinery for the processing industry generally comes from Vietnam and India, especially for calibration, shelling and peeling. Brands differ. Sorting machinery tends to come from China. Three processing units in Côte d'Ivoire use an integrated chain of processing machinery from Vietnam, while others combine machinery from varying origins and age.²⁸ Very few processing units interviewed in Côte d'Ivoire use local machinery. Two factories were found to have produced their own machinery — one for calibration, the other for steaming unshelled RCN.

²⁷ See: MAEP (2018), Programme National de Développement de la Filière Anacarde 2017-2021. Document final. Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP), Benin. March 2018, 209p.

²⁸ For Benin equivalent data are not available.

Few companies in Côte d'Ivoire and Benin declare to be involved both in the RCN export trade and RCN processing. Yet, their mother companies or their owners may well be wearing 'double hats', by channelling their RCN trade through a separate company.^{29 30} Overall, mother companies and owners therefore still have to find a trade-off between the export of RCN and the local processing of RCN.

In Côte d'Ivoire, three out of the 15 largest companies (OLAM, SITA, Cajou de Fassou) have facilities for roasting and salting RCK, which are largely destined for local markets. In Benin, NAD&Co and KAKE5³¹ previously did the same, but they were not operational in 2018. ANI and Tolaro plan to build new roasting and salting facilities in the near future.

Cashew nut shells make up close to 80% of RCN weight. The shells cannot easily be disposed of because of their toxicity to nature. In Côte d'Ivoire, processing units actually have to pay for their disposal as waste. Some processing units use the shells as fuel to produce steam. Yet others, at least in Benin, burn the cashew nut shells in the open air, next to the factory.

Production and sale of by-products from the cashew nut shells is not yet common practice. There are opportunities for the production of cashew nut shell liquid (CNSL) oil, energy or charcoal and organic fertilisers. To our knowledge, only Fludor (Benin) has been trying CNSL production, but thus far without major results: the local market for CNSL is small and specialised and oil refinery is essential and not yet up to standard. Charcoal production may be an alternative market, while local demand for charcoal is high and energy for the factory would be produced in the process. Various companies in Côte d'Ivoire and Benin declared to have plans for starting CNSL or charcoal production in the near future.

Our survey data confirms that cashew nut processing is an important source of employment. Depending on the degree of mechanisation, between 80 and 200 factory jobs are created per 1,000 tons of RCN processed. The overwhelming majority of workers (80–90%) are women, who mostly do manual operations. Mechanised units have a slightly less gender unequal labour force.

3.3 Cashew nut processing perspectives

3.3.1 General cashew nut processing perspectives

Global cashew market fundamentals over the last years have been so strong that RCN prices at producer and at FOB (free on board) level tripled or quadrupled until late 2017. This increase attracted a lot of investors and speculative capital especially in the RCN export trade. Even when RCN prices dropped sharply in 2018, RCN price was still expected to remain attractive to producers and exporters, as well as to local processors.

²⁹ This is the case for example of OLAM in Côte d'Ivoire, and of a range of smaller processors in Benin (e.g. KAKE5, BPS, NAD & Co).

³⁰ Such 'double hats' may complicate cashew value chain governance, since organised exporters and organized processors may lobby for different enabling environments

³¹ Through the company of the wife of the owner.

In coming years, we expect to see a steady increase of the installed technical processing capacity in Côte d'Ivoire and Benin. Newly built processing units will gradually become operational and increase their efficiency, whereas additional investments in existing processing units will also be realised in 2019 and 2020. The importance attached to the development of the cashew sector by the governments of Côte d'Ivoire and Benin, expressed in subsidies and favourable investment and taxation policies, will certainly further speed up private capital investment in local cashew nut processing.

3.3.2 Cashew nut processing perspectives in Côte d'Ivoire

The new World Bank loan-financed governmental project BIRD Enclave³² will largely define the future of the cashew nut processing industry. Totalling USD 285 million, including USD 200 million of loans, the objective of the 2018–2023 programme is to improve the productivity, the quality and the added value of cashew for the benefit of smallholders and the processing industry in Côte d'Ivoire. The project aims to create favourable investment conditions especially through the designation of four new cashew nut processing economic zones in Bondoukou, Bouaké, Korhogo and Séguéla. The government will make infrastructure such as land, access roads, energy and water available to processors.³³

The project has six main components:

1. Creation of infrastructure for cashew nut processing in four processing zones, totalling 200,000 tons of RCN capacity, creating 16,000 jobs (USD 106.2 million);
2. Construction and rehabilitation of RCN storage facilities, bringing total capacity to 190,000 tons, improving RCN quality (USD 17.6 million);
3. Facilitating access to markets with the rehabilitation and maintenance of 2,100 km of roads, purchase of measuring instruments such as humidity meters, RCN quality analysis kits, marketing, etc. (USD 19.8 million);
4. Facilitating access to finance providing subsidies and matching funds for micro-projects, a guarantee fund for RCN purchase, promotion of a system of intermediate storage, etc. (USD 85.6 million);
5. Improvement of cashew plantation productivity by extending services for at least 300,000 producers, 15% of whom are women, rehabilitation of 32,500 ha of plantations, organisation of nurseries and specialised cashew support services. (USD 41.5 million);
6. Value chain governance improvement providing organisational strengthening of producers and cooperatives, establishment of an interprofessional organisation, setting up a cashew technology and innovation centre (CIAT) in Yamoussoukro and general incentives for private sector investment (USD 14.4 million).

The current subsidy for exported cashew kernels of FCFA 400 per kg is expected to be reduced gradually until 2020, while funds from the export tax on RCN will be used from 2022 onwards to pay back the World Bank loan. This may significantly influence the interest of investors to enter the cashew processing industry now or within a few years.

Other new processing units that were identified in Côte d'Ivoire through this study include:

³² The project is also known under the abbreviations CVCCP (in English) and PPCA (in French).

³³ See: WORLD BANK (2018), Cashew Value Chain Competitiveness Project. Project Appraisal. International Bank for Reconstruction and Development (IBRD), March 2018, 138p.

- CILAGRI is a new company in Abidjan boasting a technical processing capacity of 100,000 tons of RCN per year.³⁴ ³⁵ This year's production is estimated to be around 10,000 tons of RCN, but expected to grow to 20–30,000 tons in the near future.
- CAPROCI is a new company establishing a processing unit in Tiébissou, with a technical capacity of 10,000 tons of RCN in 2019 and 30,000 tons within 5 years.³⁶
- SITA just opened a renovated and expanded factory in Odienné, capable of producing 10,000 tons of RCN per year, with the potential to grow to 20,000 in the near future.³⁷
- INC has sold its new processing unit in Azaguié to the Canada-based company Great Quest Fertilizer (GQF). The factory will be operational in March 2019 with a capacity of 12,000 tons per year.³⁸
- I3G is building a new processing unit in Tafiré. Capacity was not disclosed. The unit is to be operational in February 2019.³⁹
- KOROSHO CI, part of the Export Trading Group (ETG)⁴⁰, is building a new processing unit in Yamoussoukro with an estimated production capacity of 3,000 tons of RCN in the first year, then expanding to 5–7,000 tons.

3.3.3 Cashew nut processing perspectives in Benin

In Benin, cashew nut processing developments largely depend on the government's intervention policies. Currently, this includes the intended new government investment in an expansion to 120,000 tons of RCN processing capacity per year⁴¹. This expansion is reportedly to be achieved with the support of seven satellite units for shelling and peeling.⁴² It is still unclear what specific incentives will be provided for investment, such as a subsidy for RCK exported. General investment incentives such as free-trade areas and various tax exemptions do apply.

Other new processing units that were identified in Benin in the course of this study include:

- New ANI factory in Djègbédè, Porto-Novo, with a production capacity of at least 10–20,000 tons of RCN per year, operational since 2018;

³⁴ See: APR (2018), Côte d'Ivoire : Une usine de transformation de l'anacarde voit le jour (22 February 2018).

³⁵ Sector observers question the declared technical processing capacity of CILAGRI. Some consider 50–70,000 tons of capacity more realistic, whereas others expect the company not to exceed 30,000 tons in practice.

³⁶ See: AIP (2018), Bientôt une usine de transformation de noix de cajou dans un village de Tiessébou. Agence Ivoirienne de Presse (19 March 2018).

³⁷ See: SITA (2018), Company brochure. Société Ivoirienne de Traitement d'Anacarde (SITA), 8p.

³⁸ See: COMMOD'AFRICA (2018), Le canadien Great Quest Fertilizer rachète l'Ivoirienne de Noix de Cajou en Côte d'Ivoire. In: *Commod'Africa* (18 September 2018).

³⁹ See: COMMOD'AFRICA (2018), L'iranien 3IG investit dans une usine de cajou en Côte d'Ivoire. In: *Commod'Africa* (2 October 2018).

⁴⁰ ETG operates three processing plants in Tanzania and two in Mozambique, with a combined annual capacity of 25,000 tons of RCN. ETG's raw cashews are primarily exported to processing companies in India and Vietnam, with over 110,000 tons moved in 2013 and 2014. The ETG processed cashew nuts (Korosho brand) are exported to Canada, the USA, United Kingdom and the Middle East. See: <http://www.etgworld.com/cashews.php>

⁴¹ See: LE MATINAL (2018), Dynamisation de la filière anacarde au Bénin: le gouvernement pense à des nouvelles usines. In: *Le Matinal* (17 August 2018), 3p.

⁴² At the Ministry of Agriculture in Benin (MAEP), no further detail was available about the envisaged foreign investor, so they could not be contacted. The new factory in Djougou may be part of this larger investment plan.

- A second factory of Tolaro in Tourou, Parakou, providing an additional capacity of 9,000 tons of RCN, bringing the total capacity to 15,000 tons of RCN per year by 2022⁴³, plus a roasting and packaging unit⁴⁴;
- FLUDOR processing expansion in Cana, Bohicon, providing an additional capacity of 3,000 tons of RCN, expanding the total capacity to 18,000 tons of RCN per year;
- A new factory in Soubroukou, Djougou, with a capacity of 15,000 tons of RCN per year. This is an initiative of Donga Treasure, the company of a son of a current Minister of State⁴⁵;
- The Swiss company GEBANA, specialist in organic and fair trade cashews, is planning a new 1,000-ton RCN factory in Bariénoù, Djougou, for organic cashews.

⁴³ See: CFC (2016), Annual report (May 2015-April 2016). Common Fund for Commodities (CFC), 4p.

⁴⁴ See: <https://www.oikocredit.coop/what-we-do/partners/partner-detail/60255/tolaro-global-sarl>

⁴⁵ See : GoB (2018), Compte-rendu du Conseil des Ministres (10 octobre 2018). Government of Benin.

4. Cashew nut processing and sustainability

4.1 Health and safety

Health and safety issues are relevant at cashew nut processing units. The first and principal concern is contact with the cashew nut shell liquid (CNSL), a type of oil that seeps from the shells during shelling. In older processing units, all cashew nuts are opened manually one by one, with the help of a scooping device. In more recent processing units, shelling is semi-automated. Manual shelling accounts for something between 2% and 20% of all RCN in West Africa, depending on the degree and performance of mechanical shelling. Manual shelling is mainly done by female workers.

The impacts of physical contact with CNSL may differ from one person to another. No immediate bodily reaction such as a burning feeling or a rash alerts workers that have come into contact with the CNSL. Contact symptoms occur only after two to three days. Incidental contact is generally reversible, but prolonged contact with anacardic acid, the chemical compound in CNSL, may lead to severe injuries to the workers' hands, fingers, nails, palms and forearms.⁴⁶ Symptoms include itching, pain, dermatitis, as well as visual and aesthetic skin problems. The best protection for workers is to wear appropriate gloves that cover both hands and the forearms. However, in some processing units visited, many workers did not use any gloves at all. They relied upon the use of refined oils to protect their hands and arms from contact with CNSL.

General worker safety issues apply in the processing units, such as the need for safety valves on boilers and steaming machines, protective clothing and physical protection against smoke from boilers, moving and rotating machinery, sharp scooping aides, excessive noise from shelling machines, and inadequate lightning especially during manual shelling, peeling and sorting, etc. During factory visits, it was observed that some processing units do apply significant safety procedures, while others do not. In all visits, workers at least wore working gear such as a worker's coat and hair protection. Some used hard rubber gloves during shelling, others used soft plastic gloves while shelling, peeling, sorting and packaging. Workers in a number of processing units wore mouth caps. One unit required their guests to wear a brand new helmet, although their workers did not wear any. Others also provided clean sandals to prevent entry with dirty shoes. Many of the measures taken relate as much to product quality risk management as to worker security and safety.

Larger processing units such as Fludor in Benin have a medical facility at the factory site, where workers can seek assistance. All processing units should have roles, procedures and tools in place to prevent and deal with emergencies, such as emergency exit signs, emergency contact lists, up-to-date fire extinction equipment, regular controls of the heating tanks' valves, regular training of personnel, regular testing of emergency procedure compliance, safety precaution measures for visitors, emergency gathering points for fast evacuation, etc. The consultants' impression is that most processing units had some of these measures in place, however, few seem to have implemented *all* of them.

⁴⁶ See: Andonaba et al. (2017), Skin Damage and Aesthetic Disadvantage Observed in Women in the Hand Craft Shelling Chain of Cashew Nuts in a Factory to Bobo-Dioulasso, Burkina Faso. *In: Journal of Cosmetics, Dermatological Sciences and Applications*, 2017, 7, 211-220.

4.2 Working and employment conditions

In many processing units in West Africa, cashew nut processing work is temporary, providing employment only for a limited number of months per year. This affects worker loyalty and expertise, and warrants frequent and repeated training of both established and new personnel.

Contracting conditions differ per type of job. Factory management, technical and administrative personnel, who are often men, do have some form of contract, either temporary or indeterminate. The overwhelming majority of workers in the shelling, peeling, sorting and classification sections, who are approximately 80% women, generally have performance contracts instead. These factory floor workers are paid by the amount of product processed per day, which may increase efficiency on the job, but can also affect worker loyalty. For example, in case of technical breakdowns, which are frequent in cashew nut processing, workers have little reason to remain on the job as they do not get paid during the idle times.

Older processing units with limited mechanisation or automation, do create many jobs, albeit mostly low-skilled labour. They are estimated to create approximately 200 jobs per 1,000 tons of RCN processed. Newer factories are significantly larger in technical processing capacity, but they also rely much more on mechanised and automated operations. Recently built factories are estimated to create about 80–100 jobs per 1,000 tons of RCN.⁴⁷ Especially in rural areas, where little alternative formal or informal jobs are available, cashew nut processing still is a very valuable source of employment and income.

Where processing units are located outside urban and residential areas, worker loyalty may be further complicated by commute times and costs, both of which eat into the workers' effective income. Some processing units bring in personnel with a minibus at factory cost. One processing unit reported severe problems binding workers to the factory. In that case, personnel was first recruited from the neighbouring village but they did not stay. Then workers were recruited from another, more distant area, but the close ties within and between their communities implied that those workers would leave the factory all at the same time, for example to attend family funerals. When the factory then decided to bring in personnel from the capital, those workers felt disconnected and uncomfortable, so they did not stay long either. Personnel management and general working and employment conditions are key to worker loyalty. An adequate gender policy and specific interventions may increase worker satisfaction and loyalty.

4.3 Income

The types of contracts for personnel in the processing units have an impact on the amount of income that workers get. Staff having a temporary or an indeterminate contract have an income which will be in conformity with local labour laws and regulations. Their incomes are in line with general wages in the country.

The minimum wage in Côte d'Ivoire since 2015 is FCFA 60,000 per month (approx. EUR 90). Most if not all production workers, however, do not receive such pay. They are paid piece wages of FCFA 150–200 per kg of produce. For average workers in functional units,

⁴⁷ Estimates are based on data in TNS (2015), Développement de Plans d'Affaires pour la Transformation de l'Anacarde en Côte d'Ivoire. Projet d'Appui au Secteur Agricole en Côte d'Ivoire (PASEC). TechnoServe, November 2015, 67p.

their income is an estimated FCFA 40–50,000 per month.⁴⁸ According to company managers, lower than minimum wage income can be explained by poor productivity.

Processing units tend to close at least one month per year for cleaning, repair and maintenance. Many units close more months per year, because of lack of financing, poor access to RCN or lack of markets for RCK. Even operational processing units have to close down regularly because of mechanical problems, repair and maintenance. Piece workers are not compensated for time lost.

The income situation of RCN producers could not be analysed in detail under this assignment. General impression from interviews is that cashew is a very attractive crop for both large and smallholder farmers. Investment is upfront for a couple of years before trees are productive. Once produce can be harvested, the cashew trees will provide a regular source of income during the dry season for 30 years or more. Cashew tree management is far less intensive and demanding than the management of an annual crop such as cotton.

Markets for cashew are booming worldwide, especially in the more affluent socio-economic groups. Markets for RCN are not difficult to find, since buyers will even come all the way to the producers' doorsteps and villages. This may also help to explain why cashew nut production increases so much over the last decade: there is a clear market incentive to which producers respond, even when it requires long-term investment in a tree crop.

It should be noted, however, that there are no local or alternative markets for RCN. Producers are actually forced, for reasons of nut quality, to sell their produce in a couple of weeks or months' time. From that perspective, their negotiating power is not strong. They may sell at a very attractive price of FCFA 900–1,000 per kg in a good year, such as in late 2017, but will have no other choice than to sell at FCFA 150–200 per kg in bad years, such as in mid 2018. Our understanding is that cashew production may still be viable to producers even at low prices. The long-term average cost of RCN at farm level is estimated at FCFA 300 per kg.

The indicative minimum prices established by national governments, including in Côte d'Ivoire and Benin, do not present any income guarantee to RCN producers. Even when buyers are formally obliged to present receipts to producers, and even when regional price verification committees are in place, such as in Côte d'Ivoire, there is no enforcement of this indicative minimum price. As such, the minimum price does not help producers in difficult years, and it actually may create market distortions, as it feeds speculative selling and buying.

4.4 Child labour

West African economies are largely dependent on agriculture. Agriculture is mostly carried out by small-scale producers and their families. Children, relatives, neighbours and friends may well participate in agricultural operations, for example after school, on weekends, at harvest time, and in other situations. There are still a few places in West Africa where enrolment in primary education remains low, but most countries nowadays, including Côte d'Ivoire and Benin, actually manage to send a large majority of their children to primary school.

⁴⁸ There may well be processing units that pay workers more, e.g. to ensure their loyalty. This assignment did not allow us to carry out an assessment of actual income earned by unit staff and temporary workers.

Viewing children in the field in West Africa carrying out agricultural operations therefore should not be equated with child labour at a first glance. The distinction between children's voluntary work and children working out of family or other social pressure, is not easy to make. In the course of this cashew value chain scan, we have not, however, encountered any evidence that child labour might be present in cashew production or processing. Children likely do participate in cashew nut collection, gathering the nuts, but we have no indication that children would go collect nuts, for example, during the cashew harvesting period instead of attending school.

Child labour is not present either, to our knowledge, in any of the processing units in Côte d'Ivoire and Benin. In fact, any processing unit that might consider engaging in such practices, would be taking high risks of reactions from both local authorities and buyers of RCK.

Systematised information about the working and labour conditions in cashew nut processing in West Africa was not found under this assignment and may not yet exist. Any future analysis of general working and labour conditions could include an assessment of the actual status of children's contributions to cashew production and processing, and the degree to which this should be considered child labour to be curbed by legislation or by markets.

4.5 Environmental issues

Cashew trees were introduced in West Africa in the 1950s and 1960s for environmental reasons, to combat erosion and prevent land degradation. Cashew trees provide vegetative cover, are generally in place for 20 or 30 years or more, attract lots of animal species and help to keep groundwater levels high, which is favourable to annual crops planted nearby.

Few chemicals are involved in cashew production. Small-scale producers do not generally see the need or have the means to apply synthetic fertilisers and insecticides. Owners of larger plantations may use herbicides for weed control and to prevent bush fires, but this does not appear to be common practice. Organic cashew production is therefore well possible from a productive standpoint. However, certification of cashew trees is not easy with smallholders, while trees may be scattered and among fields of cotton, where synthetic fertilisers and pesticides are generally applied.

Cashew nut processing is both a mechanical and a manual operation. To favour processing efficiency, fuel is used to boil the RCN and to heat and steam the raw cashew kernels before shelling and peeling. The use of fossil fuels is too expensive in West Africa to be of interest. Wood is generally being used to ensure cooking, heating and steaming. Some processing units may use cashew nut shells as an energy source, however, their burning process is highly unequal and temperature thus difficult to control, compromising process efficiency.

Cashew nut shell liquid (CNSL) or anacardic oil probably acts as a protective measure of the cashew tree against damage by many insects, birds and rodents. The oil affects the human body after physical contact. Where cashew nut shells are disposed of, the soils and subsoils are polluted and little or no vegetation grows for a long time. Disposal of shells therefore is an environmental problem. Some units burn them, releasing toxic gases.

A better practice would be to process the cashew nut shells for CNSL production, providing additional income and converting the cashew nut shells into by-products such as oil, charcoal

and organic fertilisation materials). Few units in Benin and Côte d'Ivoire have tried CNSL production, none having actually succeeded yet. This is reportedly due to technical issues, low competitiveness in international markets and a lack of local markets.

An important environmental comparative advantage for West African processors is that the travel distance of the cashew kernels for the US and EU markets is significantly shorter than for kernels processed in Vietnam or India. Companies and consumers interested in reducing their environmental footprint may consider this to be a convincing sales argument.

4.6 Community involvement

Cashew production has not been at the core of this value chain analysis. Cashew producers are generally small-scale producers, but large-scale plantations also exist. In specific cases, plantations are owned or connected to a specific processing unit, which this way ensures at least partial access to RCN at the start of the buying season.

Producers of cashew nuts are generally organised in producer groups at village level and at more aggregated levels, such as regionally and nationally. However, these producer organisations are not necessarily involved in or connected to cashew production and trade. Cashew stands out as a crop which does not need many inputs, if any, and buyers come down to the villages seeking product, so there is no particular need for producers to be organised for access to inputs or access to markets.

At harvest time, many people are involved in gathering cashew nuts for drying, storage and sale. It is attractive for individuals to engage in cashew collection and sale, while there is a ready market at the time of harvest, and the collection work is not particularly demanding. One processing unit reported that some of its workers prefer to go back to their village at harvest time, in order to collect cashew nuts rather than to work in the processing unit. This story suggests that cashew collection is an economically attractive activity to all.

Communities may also be involved in the cashew sector in a more organised manner. In Benin, for example, the Regional Union of Cashew Producer Cooperatives (URCPA) in Atacora-Donga, facilitates group sale of RCN, as well as the conversion to and certification of organic cashew nuts.⁴⁹ In Côte d'Ivoire, one local processing unit buys cashew from people in the neighbourhood who are also participants in the micro-finance institution managed by the founders of the processing unit. Further configurations of community involvement may exist but have not been the subject of this study.

Cashew processors usually employ workers from their surroundings. That creates both a moral and a practical licence to operate. Workers and their families may also be cashew tree owners, which can in turn create loyalty in delivery and trade. Communities may also be involved in cashew nut processing, for example, through a cooperative. At least one case was identified where four small processing units collaborated in RCN purchase and RCK sales. However, volatility in markets and prices, together with leadership management issues often put such collaborative mechanisms under severe pressure.

⁴⁹ See: BTC (2016), *La noix de cajou sèche les larmes du coton. De l'anacarde naturel à la noix de cajou certifiée bio dans la région de l'Atacora-Donga au Bénin*. Belgian Technical Cooperation (BTC), Benin. April 2016, 9p.

4.7 Youth

The population in West Africa is very young. Expansion of cashew production and local processing will benefit many youth, especially young girls, through added value and job creation. Each 1,000 tons of RCN processed creates 80–200 jobs, depending on the level of mechanisation. In a general manner, better access to jobs in West Africa will reduce both the temptation and the pressure to migrate abroad or to large cities.

4.8 Gender

Gender issues are of great importance in cashew production and processing. Only a few dedicated studies have been found focusing on gender issues in cashew.⁵⁰ Further gender assessment of the cashew value chains in West Africa is recommended.

The planting of trees is a gendered issue in West Africa. Land is usually owned or registered by men under customary law. Tree planting tends to be allowed only to those having ownership rights. Migrants are not normally allowed to plant trees. Women may use trees and land but cannot generally be owners under customary law. Where national law applies rather than customary law, however, women do have equal rights and may acquire their own land.

Collection and sale of cashew nuts is an affair of both men and women.⁵¹ Women collect nuts from family owned trees or from communal lands. Men are usually the buyers, traders and agents connected with exporters. Large parts of cashew income therefore transits through the hands of husbands and men before the income reaches the women wives and collectors.

Cashew nut processing is largely a woman's affair. Women make up approximately 80% of the workforce, especially in manual work including shelling, scooping, peeling, sorting and classification.⁵² Men tend to be more involved in heavy work such as loading and unloading, in technical jobs such as mechanics, etc., and in overall factory management, in technology, management, etc. Yet, there are clear exceptions to this rule. Some processing units are managed and owned by women.⁵³ In some factories, men also participate in shelling or scooping, etc.

According to the law, women and men in Côte d'Ivoire and Benin are equally protected at work. Salaries are the same for the same type of work. However, factory jobs such as the manual roles in cashew nut processing tend to attract widows, divorced or single women who need any income to be economically independent. The low salaries in the sector, the poor labour standards and the bad contracting conditions also translate into less strict work schedules which allow workers to combine family duties traditionally assigned to women, such as caring for the ill, with work duties.

⁵⁰ See: INGRAM, V. et al. (2015), Gender dynamics in cashew and shea value chains from Ghana and Burkina Faso. LEI, Wageningen UR, Netherlands. October 2015, 59p.; and ACi (2012), Gender transformation in the African Cashew value chain – Processing. African Cashew initiative (ACi), GIZ, Germany. April 2012, 28p.

⁵¹ In Ghana, cashew nut collection was a women's affair until the 1980s, when men became to be increasing involved due to the high profits (Ingram et al, 2015).

⁵² Women are culturally considered to be better at and more secure in cleaning operations.

⁵³ Three out of 15 processing units (20%) in Côte d'Ivoire are owned and managed by women: FMA Industry, Caju Industrie and SITa. In Benin, one out of six (17%) processing units studied was led by a woman: NAD&Co. She also acts as the president of the National Organization of Cashew Processors (CNTC).

In the review and the interviews for this study, we did not come across any mention of sexual harassment or abuse in the workplace. Yet, we have not specifically inquired on the subject in interviews.

5. Competitive and comparative position of local processing

The competitive and comparative position of local processing in West Africa is a function of the global cashew market development and price volatility, as well as the comparative advantages and disadvantages of West Africa and its key competitors in cashew nut processing.⁵⁴

5.1 Competitors

Key competitors for West Africa in cashew nut processing are Vietnam and India, the exact countries providing attractive export markets for West African raw cashew nuts (RCN). These processors and countries are represented in the local RCN markets around West Africa through local traders, agents and exporters. India and Vietnam together process an estimated 85% of global RCN.⁵⁵ India reportedly imports RCN mainly for its own food market.

Vietnam, however, is dominant in the international trade of cashew kernels. Vietnam's processing capacity is three to four times higher than its local RCN production, so it actually relies on imports from West Africa, East Africa and from some Asian countries. Approximately 60% of the cashew kernels from Vietnam go to the USA and 25% to Europe. For Vietnam's customer base, there is a case for diversifying geographical sourcing, supporting cashew nut processing in third countries. The Vietnamese processors are organised under the VINACAS association, which has signed a collaboration agreement with the Cotton and Cashew Council (CCA) in Côte d'Ivoire for cashew sector development. Vietnam and India are also the countries of origin of most cashew nut processing machinery.

There is a general understanding that West African cashew processors have difficulties in competing with Vietnam and India on processing costs. Reliable figures, however, are hard to come by in the very volatile cashew markets for nuts and kernels. There is no established global market price for cashew and pricing is highly dependent on quality, the specific time in the season and the origin of the RCN. Any figures used to estimate the competitiveness of cashew nut processing in West Africa should therefore be treated with caution.⁵⁶

According to the Côte d'Ivoire's Cotton and Cashew Council (CCA), in 2015, the cost of cashew nut processing was USD 704 per ton of RCN in Côte d'Ivoire, but only USD 254 per ton in India and USD 217 per ton in Vietnam. Processing was reportedly also much cheaper in other African countries such as Tanzania (USD 309 per ton), Mozambique (USD 368 per ton), Nigeria (USD 520 per ton) and Ghana (USD 534 per ton of RCN).⁵⁷

However, other analyses suggest that the differential in processing costs may be significantly lower. A detailed 2014 study in Côte d'Ivoire by cashew sector consultant James Fitzpatrick states: *'If we consider the higher cost of funds, higher cost/lower productivity of labour and the necessity to store a high proportion of raw material for long periods, there is a significant*

⁵⁴ See also the insightful article: CRANDALL, V. (2018), Côte d'Ivoire's cashew processing sector is at a crossroads. In: How we made it in Africa. Africa Business Insight (28 May 2018).

⁵⁵ See: TNS (2015), Développement de Plans d'Affaires pour la Transformation de l'Anacarde en Côte d'Ivoire. Projet d'Appui au Secteur Agricole en Côte d'Ivoire (PASEC). TechnoServe, November 2015, 67p.

⁵⁶ It may be indicative that the Deloitte study «*Étude relative à la compétitivité du secteur de la transformation de l'anacarde en Côte d'Ivoire.*» (2017) does not provide any estimate of the FOB price differential.

⁵⁷ Cited in: CCA (2017), Filière Anacarde Ivoirienne. Évolutions récentes, perspectives et opportunités. Conseil du Coton et de l'Anacarde (CCA), Côte d'Ivoire. September 2017, 56p.

*cost disadvantage ranging as high as USD 200 per ton of RCN. This is, however, offset by a lower cost of raw material.*⁵⁸

Our documentary review and our interviews with international buyers of cashew kernels reveal that little hard data is available about processing competitiveness, and that the reliability of the data encountered is limited. Besides the lack of data, there is also a tendency to cite the same and very general figures without further detail on source and definition. In interviews, the FOB price of West African cashew was pegged at between USD 300 and USD 600 per ton — a substantial difference. The same sources would cite an FOB price for Vietnam and India ranging from USD 150 to USD 400 per ton. The differential in competitiveness cited by one and the other ranged from USD 150 to USD 350 per ton.

Sources agree that there is a competitiveness gap between the processing industries in West Africa and Vietnam, but it is unknown how wide is this gap. If this differential is to be a benchmark for measuring the success of current or future competitiveness support projects, or even for defining the level of subsidies to be provided to the processing industry by national governments, it is clear that more detailed data are urgently required.

5.2 Competitiveness factors

The competitiveness of the West African cashew nut processing industry is a function of many different factors. Figure 5 lists 23 different factors of competitiveness and indicates the estimated relevance of each factor in comparison with benchmark country Vietnam.

Figure 5 is based on expert judgment following documentary review and interviews with key stakeholders.⁵⁹ A parameter marked with green colour is considered an advantage of West Africa over Vietnam. A parameter marked with red colour is considered a disadvantage of West African cashew kernels compared to the Vietnamese. The number of plus signs (+, ++ or +++) represents the estimated relative weight of the parameter for the overall competitiveness of cashew kernels from West Africa compared to those from Vietnam.

In order to increase their competitiveness, West African processors need to ensure:

- access to sufficient RCN purchasing funds at the right time in the season;
- access to spare parts to avoid costly production delays;
- systematise processes within and between units in order to rationalise costs;
- enhance management skills to operate processing units more efficiently.

These factors all point to the core of the processing industry: the production of kernels.

In addition, the processing industry in West Africa can increase its competitiveness with:

- the production and sale of by-products such as CNSL, energy, charcoal, fertilisers⁶⁰;
- improvement of labour productivity, such as through better employment contracts and worker loyalty schemes;

⁵⁸ See: FITZPATRICK, J. (2014), *Benchmarking and Development Strategy for Cashew Processing in Cote D'Ivoire*. Programme d'Appui au Commerce et à l'Intégration Régionale (PACIR), December 2014, 133p.

⁵⁹ No specific documents about the Vietnamese cashew processing industry were encountered by the authors.

⁶⁰ Away4Africa (2018) states that the net value of by-products could be up to USD 125 per ton of RCN.

- enhanced access to skilled labour;
- strengthening of general business skills.

Figure 5. Competitiveness factors and their estimated relevance for the West African cashew nut processing industry.

No.	Influencing factors	Competitiveness	Observations
1.	Government policy	+++	Government policy is very important. Can be positive, negative or indifferent.
2.	Access to finance for investment	+	Important to start processing unit. The bigger the unit, the more relevant the issue.
3.	Access to finance for RCN purchase	+++	Timely access to sufficient funds for purchasing RCN is critical to effectiveness and efficiency.
4.	Access to raw material	+++	Raw material is available in West Africa at low cost. No export, transport, import costs.
5.	Access to technology	+	Virtually all machinery in West Africa is imported. No representation of supplier in-country.
6.	Access to qualified labour	++	Access to qualified labour is low in W-Africa. Many processors hire an Indian factory manager.
7.	Service industry	+++	Poor access to spare parts, costs and delays of repairs (all machinery is imported).
8.	Use of by-products	++	Production of CNSL, charcoal and compost etc. may reduce cost-price and add to profits.
9.	Energy costs	+	Energy is more expensive in West Africa.
10.	Labour costs	++	Labour is cheaper per unit in West Africa.
11.	Labour productivity	++	Labour productivity is reportedly much lower in West Africa.
12.	Mechanisation	+	Mechanisation may increase efficiency and effectiveness. Also increases risks (capital).
13.	Systematization of processes	+++	Highly variable degree of systematisation of processes.
14.	Management skills	+++	Company management and factory management skills are less frequent in West Africa.
15.	Business skills	++	Business skills are less frequent in West Africa.
16.	Access to market information	++	Access to market information is poor in cashew sector in general.
17.	Access to markets	+++	Geographically closer to markets. Potentially shorter supply time and lower transport costs.
18.	Diversification of sourcing	+++	Diversification of origins will be a leading argument for sourcing from West Africa.
19.	Uniformity of product	++	Largely equivalent quality and uniformity of product.
20.	Certification	+++	Certification is an outcome of rationalizing processes. Certification may open up markets.
21.	Food safety	+++	Food safety is critical for access to markets. Precautions in factory. Treatment of product.
22.	Traceability	++	Traceability will be increasingly requested in future (only organic does for now).
23.	Transparency	+	Transparency will be increasingly requested in future (it is little or not today).
	* : green: better; yellow: equal; red: worse		
	** : competitiveness relative to Vietnam		

Source: Elaborated by author.

Mechanisation is considered important to achieve scale and to deliver to specific market segments such as to buyers wishing to buy one container of kernels per month. Yet, the authors believe that different scale models may be viable in West African cashew nut processing, depending on the business model pursued. In fact, cashew processing machinery is highly modular, so higher processing capacity does not automatically lead to lower cost per unit. Still, large scales do of course reduce the unit's fixed costs per ton of kernels and may enable the creation of specialised technical managerial positions within a company.

On the positive side, West Africa could capitalise on and further enhance its comparative advantages, including:

- access to abundant raw materials (RCN) of good quality;
- geographical access to markets, saving on transport from West Africa to Vietnam⁶¹ and potentially lowering supply times and transport costs to markets;
- diversification of sourcing by buyers of cashew kernels, who are now largely forced to source from Vietnam;
- the opportunity of increased traceability of cashew kernels, which is increasingly important to customers, especially in niche markets such as organic and fair trade.

Geographical distance to markets is better from West Africa than from Vietnam. Still, this comparative advantage only exists if West Africa is able to effectively translate this into shorter supply times. Transport costs might potentially be reduced as well, but this is not likely to occur in the short term, as traffic between Asia and Europe and Asia and the USA is much heavier than between West Africa and Europe and West Africa and the USA.

Other good opportunities to increase the competitiveness of the West African cashew processing industry consist of:

- favourable governmental policies covering investment, tax, subsidies, etc.;
- certification of processing and products;
- increased uniformity in products and qualities;
- better access to information about markets, prices and competitors.

These are general parameters. The main competitor in the cashew kernel market, Vietnam, may obviously work on improving the same parameters.

5.3 Observations regarding competitiveness

In addition to the above, there are a number of relevant qualitative issues that may help to understand more specifically West Africa's current competitive and comparative position in the global cashew kernel market.

1. Processing units which can operate year-round clearly have a comparative advantage over others, as their fixed costs per unit of product are lower. Vietnamese processors reportedly manage to do so very well, importing RCN from different origins (West Africa, East Africa, Cambodia, Indonesia) along the year, according to the agroecological calendars. This also enables them to establish a stable workforce year-round.

⁶¹ Sources estimate the costs of transporting RCN from West Africa to Vietnam, including export and import duties, to be around USD 120 per ton.

2. The utilisation rate of the technical processing capacity in West Africa is low on average. Many processing units run at 20% to 30% of their technical processing capacity, some even at 10%. The utilisation rate of installed processing capacity is often a good parameter for understanding the state of efficiency in an industry. In cashew nut processing, however, this may not be the same, as the parameter does not explain why low-performing processing units continue to be operational. It may make economic sense for companies in West Africa to just process part of the year when they have access to RCN. Larger units, in turn, may just continue processing because of investments made and loans to be repaid, even if profit margins are low or negative.
3. Processing units which can master the technology they use clearly have an advantage over those who depend on imported spare parts, third-party repair and maintenance or expat technical management. The processing itself is demanding on the machinery, therefore requiring frequent repairs. Cashew nut processing machinery goes obsolete very quickly. Technological progress in cashew nut processing machinery moreover is high, making equipment reportedly outdated, thus to be written off, within just two to three years. This also implies that training of operating workers needs to be continuous. All of this naturally requires high capital investment.
4. Processing units which have access to cheap labour, energy and water clearly have a competitive advantage over those that do not. West African countries stand out as having very high costs for energy and water due to unit prices, but particularly because of administrative red tape to get service, since demand for connectivity is high in general. Labour in West Africa is also expensive compared to Asia. Significantly lower labour productivity in West Africa (about a factor 2 or 3) translates into very high labour costs per unit.
5. Processing units which are close to sources or close to markets, however, obviously have a very important comparative advantage. Raw cashew nuts (RCN) have a weight that is about four to five times the weight of cashew kernels. The costs of transport, handling, exports and imports weigh therefore very much on Asian processors, even when they benefit from import tax exemptions.
6. Efficiency of RCN use is higher in Asia. After shelling, the expensive, imported West African cashew nut shells are being used in Asia for the extraction of cashew nut shell liquid (CNSL). The remaining cashew nut shell cake and the testa (after-peeling residue) can also be reused as compost fertilisers. In West Africa, usage of these by-products has not progressed much yet. The processing and marketing of CNSL oils is being piloted by some factories in Benin and Côte d'Ivoire, but so far without much success. It appears that the technology required is expensive and that processing performance is still limited, whereas local markets for CNSL are also still thin. Cashew nut shells in West Africa are currently being used by some units as fuel in processing units or simply discarded and burnt in the environment by others.⁶²
7. From our interviews in Côte d'Ivoire and Benin, it is clear that financing is a key differential between West African and Asian processors. Interest rates are high in West Africa, ranging from 8% to 12% in Côte d'Ivoire and 10% to 15% in Benin, both

⁶² Where discarded in the environment, no vegetation will grow due to the anacardic acid in the shells. Where the cashew nut shells are burnt at disposal, noxious gases are produced which may affect people in the surroundings.

of which enjoy a stable exchange rate with the Euro, to 30–35% in Ghana, where the Cedi is subject to rapid depreciation. In Asia, in turn, interest rates of 7–8% or lower are reportedly prevalent in India and Vietnam. International banks even provide credits to large international buyers at 1–2% interest rates. Capital for investment in equipment and crop purchase therefore is much cheaper in Asia.

8. The cashew business is very demanding of capital. Funds required for buying RCN are high, while West African processors need to purchase the RCN for the entire year in a short lapse of time. This is not the case in Asia, where processing units manage to buy from different origins year-round, optimizing their capital utilisation and credit reimbursement rates. Banks in West Africa view cashew nut processing as a risky business with few guarantees. The same funds that are put in cashew nut processing could be used alternatively a couple of times per year to finance the RCN or other export trading business. The banking conditions for the cashew nut processing industry in West Africa are less favourable than they are for short-term trading such as the RCN export trade.
9. The reluctance of banks in West Africa to provide capital for purchasing RCN also translates into significant delays in awarding credits. For example, bank loans may finally be provided only after several months. In the cashew sector, timely access to finance in the short lapse of the harvesting and buying period and high flexibility of finance to adjust to fluctuating prices are keys to success. While capital is difficult to obtain from banks in West Africa, local investment capital for RCN purchase and processing therefore needs to come from other sources, such as from other types of agricultural trade or other economic sectors.

5.4 Volatility of pricing and markets

Market and price volatility are very important in the cashew sector. They affected many stakeholders heavily especially in the 2017 and 2018 seasons. RCN prices at producer level and at FOB have steadily been increasing since around 2013 until late 2017, reaching prices that made cashew nut processing no longer profitable whether in Vietnam, India or West Africa. For many West African operators, RCN export trade was more profitable than blocking processing capital in inventory at low processing financial margins. For Indian processors, the high RCN prices made it less interesting to import RCN from West Africa. For many Vietnamese cashew processors, which are reportedly very dependent on loans from Vietnamese and international banks, processing continued even at excessively high RCN prices in order to continue operations and pay off loans.

In 2018, however, the market resettled with a shock. Many Vietnamese and Indian processors were no longer able to access purchasing loans from their banks, as they couldn't make a business case. In March 2018, the Indian and Vietnamese processors announced that they would no longer buy new crop unless RCN prices dropped. Some processors stopped operations and others stopped honouring purchasing contracts they had signed. The effect was immediate. Exporters stopped buying, while agents and buyers put trade on hold.

As producers were stuck with their cashew nuts and traders and exporters were bound to overpriced RCN stocks, the entire cashew business in West Africa came to a standstill. RCN price at farm level dropped from an estimated FCFA 800–1,000 per kg in December 2017 to as low as FCFA 200–300 per kg in July 2018. The indicative 2018 minimum prices set by

the governments of Côte d'Ivoire (FCFA 500 per kg) and Benin (FCFA 650 per kg) at the start of the season were to no avail as producers needed cash and no alternative markets were available. The indicative minimum price is not enforced by either government.

Once trade resumed in the second half of 2018, complaints mounted about the RCN quality. Some pointed to the high prices of late 2017 to argue that any cashew nut would find a market regardless of quality. Others consider that longer storage under inappropriate conditions may have taken its toll on the quality of RCN on offer in mid 2018. Still, others actually consider the complaints about RCN quality 'fake' and say it was being used to justify non-compliance of contracts. In October 2018, an estimated 100,000 tons of RCN were still available for sale in Côte d'Ivoire alone, making up approximately 14% of the country's total 2018 crop.⁶³

Following the 2017 heights in cashew kernel prices, global demand for cashew slowed down. Lower prices for RCN in the field, high stocks with intermediaries and the crisis in the cashew nut processing industry have all contributed to decreasing cashew kernel prices. Between the end of 2017 and mid 2018, cashew kernel prices reduced by around 25%.

Many observers of the cashew industry consider the fall in RCN and RCK prices a logical and necessary correction of the unsound and unjustified 2017 market situation. Many cashew stakeholders, however, are now in severe financial problems. Some have bank debts, other had buyers default on their contracts, others have had capital blocked by lack of buyers and others face RCN quality issues due to poor storage conditions. Many will have to take their losses in 2018 and hope for improved competitiveness in 2019, when RCN prices are expected to remain low. In turn, those West African processors that had late access to credits for RCN purchasing in 2018, may turn out to be winners this season, as they could acquire RCN at half or one third of the initial 2018 RCN market prices.

⁶³ See: N'KALÔ (2018), Cashew Market Bulletin (25 October 2018). Nitidae, France, 4p.

6. Opportunities for support activities

The cashew sectors in West Africa are increasingly coming on the radar of national governments, as well as of technical and investment partners. National governments in most countries intervene in the cashew sector through specific supportive policies, in addition to their general national investment promotion policies. Donor agencies support both national governments and cashew stakeholders to increase production, processing and trade.

6.1 Interventions to increase competitiveness

The competitiveness of the West African cashew nut processing industry can be supported and improved in many different elements and in many different ways. Figure 6 provides a list of general interventions that could help improve the competitiveness of the cashew nut processing industry. The same exercise might be repeated for every processing unit, after preliminary identification of the relative importance of each of the 23 factors considered. Yet, this falls outside the scope of the current study.

Interventions for the improvement of competitiveness will logically first focus on the most critical factors, which are highlighted in red in Figures 4 and 5. However, some interventions may also improve factors that already give West Africa a comparative advantage. The factors highlighted in green may need specific support to exploit a comparative advantage, such as potential traceability for organic production, or to operationalise it, such as traceability for non-organic RCK and marketing as product of origin, etc.

1. Providing processors with access to finance, when rightly timed and at affordable interest rates, is the key to favouring local cashew nut processing, according to our interviews. Many processing units have been established by investors with their own capital or with borrowed capital. However, technical processing capacity often lies idle due to lack of funds for building adequate stocks of quality RCN for year-round processing. Companies need bankable business plans, which require good administration of production processes and financial flows. Investors, government and donors may step in with social venture capital, low-interest loans or guarantee funds. As the cashew sector matures and professionalises, and the government stabilises the investment climate, trust by banks may be expected to increase over time.
2. Management of cashew nut processing units is an important area where improvement is possible. Few processing units hold processing certifications or product certifications. Nowadays, especially in export trade, standardisation of processes and procedures is fundamental for meeting basic food safety requirements and obtaining specific certifications that allow for sale on high-value market segments. The process that leads to certification may be long and challenging, but it will contribute to rationalising the financial, economic and administrative parts of the business. It will pay off in performance. Investors, governments and donor agencies may facilitate the process of certification.

Figure 6. Interventions to increase competitiveness of the West African cashew nut processing industry.

No.	Influencing factors	Competitiveness	Possible interventions to support competitiveness
1.	Government policy	+++	Favour a government policy that is supportive to local cashew processing.
2.	Access to finance for investment	+	Policies favoring access to land. Subsidies on assessment studies. Machinery import tax rebates.
3.	Access to finance for RCN purchase	+++	Support development of bankable plans. Establish a RCN Purchase guarantee fund.
4.	Access to raw material	+++	Ensure timely availability of sufficient funds. Promote long-term collaboration with producers.
5.	Access to technology	+	Bring suppliers to SIETTA trade fair. Exchange visits to suppliers.
6.	Access to qualified labour	++	Establish Cashew Training Centre. Tailor-made trainings - in school and on-the-job.
7.	Service industry	+++	Support local producers of machinery. Exchange visits to suppliers. Develop spare-parts services.
8.	Use of by-products	++	Promote CNSL extraction and refining. Promote carbon production and biocomposters. Develop markets.
9.	Energy costs	+	Better access to inexpensive energy through government. Develop CNS energy production.
10.	Labour costs	++	Pay well and develop worker loyalty schemes to increase efficiency and effectiveness.
11.	Labour productivity	++	Worker trainings. Pay well to ensure worker loyalty. Study competitors. Mechanize to reach scale.
12.	Mechanization	+	Mechanization is required for reaching certain scale. Impact on efficiency is case-dependent.
13.	Systematization of processes	+++	Systematization of processes is required for internal efficiency and for access to new markets.
14.	Management skills	+++	Formalized trainings and on-the-job trainings for company and factory managers.
15.	Business skills	++	Negotiating power can be strengthened, by reliable communication, better product, market information.
16.	Access to market information	++	Establish market and price information network. Explore establishment of a global cashew market price.
17.	Access to markets	+++	Study RCK markets. Inventory relative distance to RCK markets. Develop CNSL. Develop local cashew markets.
18.	Diversification of sourcing	+++	Elaborate on this comparative advantage negotiating better market contracts and risk-sharing.
19.	Uniformity of product	++	Cherish quality and uniformity of product. Systematize processes further to reduce hazards.
20.	Certification	+++	Use certification as a benchmark to improve core company processes. Adapt certification to target markets.
21.	Food safety	+++	Regular testing of food safety parameters and of the system of precautionary measures.
22.	Traceability	++	Ensure increased traceability of products - to meet requirements (organic) and/or to anticipate client demand.
23.	Transparency	+	Ensure increased transparency of the company, processing unit, workers, suppliers and markets.
			* : green: better; yellow: equal; red: worse
			** : competitiveness relative to Vietnam

Source: Elaborated by author.

3. Training of specialised cashew nut processing personnel is a major challenge and a high expense for many processing units. To address this problem, companies have been seeking their own solutions so far, however not jointly by a national organisation of industrial processors or by the broader group of cashew sector stakeholders. In Côte d'Ivoire, this may change with the establishment of the Cashew Technology and Innovation Centre (CIAT). Similar initiatives could be developed in Benin. Cashew nut processing is increasingly dependent on technically skilled labour, yet all processing units will continue to depend on a large amount of unskilled but specialised labour. Loyalty of workers is essential to keeping processing efficiency high and training costs low. Worker loyalty promotion schemes could be developed in Côte d'Ivoire and Benin by individual companies and by the sector as a whole.
4. Access to up-to-date and performing cashew nut processing machinery is a must. Processing units are faced with frequent technical stops and the machinery itself gets rapidly outdated. Machinery should reportedly be replaced at least every two to three years to keep processing efficiency up. Processing units thus are continuously receiving new machinery, spare parts and application knowledge, all of which require specific management and information. The annual cashew technology trade fair SIETTA in Côte d'Ivoire provides opportunities for suppliers to showcase their latest machinery. Yet, few international companies were present at the 2018 edition of SIETTA: one from Vietnam and one from China. African participation in similar Asian trade fairs could be promoted additionally or alternatively.
5. Cashew nut shells are a by-product of cashew nut processing, which in many cases is still not valued in Côte d'Ivoire and Benin. Thus far, there is little or no local market for cashew nut shell liquid (CNSL) and for cashew nut shell cakes. Some sector observers say that the processing of cashew nut shells, which is common in Vietnam and India, could provide West African processors with an additional income of up to USD 100–125 per ton of RCN. For this, additional investment capital and learning is required. Pilot trials could be facilitated by social investors, governments and donors, as well as learning visits to processing units in Asia. The African Cashew Alliance (ACA) could facilitate this learning and diffusion process.
6. Direct marketing of West Africa-produced and -processed cashew kernels under traceability schemes is expected to have high potential. West African producers have many attractive stories to tell about their product, themselves and their cultures. Consumers in high-end markets in the USA and Europe are keen on buying products with a well-grounded story. Individual processors expressed their interest in gaining better access to markets and market information, to liaise directly with international buyers and to diversify their clientele. Many processing units appear to depend highly on one single buyer.

6.2 Targeted interventions

Any new cashew sector support programme should be specific about the type of beneficiaries it targets and how this relates to the rest of the cashew sector. Favouring cashew nut producers may require fundamentally different policy and support interventions than favouring cashew nut processing units.

It is therefore fundamental that all cashew sector groups are represented in policy and planning processes at all times. In case certain groups, such as producers, have difficulties to be unified, they should be helped at overcoming obstacles, since there can be no sustainable cashew sector development without adequate representation of all stakeholder groups. Interprofessional bodies are key to creating synergy between actors in the value chain, for example on product quality and traceability, and should therefore be set up and supported where required. Social investors, governments and donor agencies are recommended to facilitate such.

Governments and support agencies should make a distinction in their policies between the different scales and objectives of processing units. It is also relevant from a developmental perspective to distinguish between processing units based on foreign and domestic capital, which is more likely to reinvest profits locally and care about the local workers and the operating environment. Increasing local cashew nut processing capacity as such is not a guarantee for economic improvement. Building a new cashew nut processing industry that does not pay any taxes because of exonerations, is heavily subsidised, and only provides low-skilled labour at or below minimum salary, may not be the best strategy to add value locally.

Large, industrial, medium-sized and small processing units must be differentiated. They each have their own logics and origins. Some reports suggest that a minimum processing capacity is required to be competitive, but this minimum capacity varies among studies from 1,500 tons to 5,000 tons a year or more. The larger units may indeed be more efficient, but they will deliver fewer jobs per ton of RCN and may have fewer multiplier effects in the local economy. The smaller units may not fully depend on cashew nut processing, but rather target specific market segments, such as local markets, and combine operations with other economic activities. Each category of processing units will therefore have its own needs and requirements with regard to support measures.

There is reason for concern that the current governmental support measures in Côte d'Ivoire, for example, favour the biggest processing units who need support the least, leaving out the rest of the sector, although small and medium processing units also have their own business models. In 2017, almost all cashew nut processing subsidies in Côte d'Ivoire went to one single company, which is based on foreign capital. Furthermore, the obligation to reserve 15% of RCN for local processing, led a number of processing units which actually lacked capital for RCN purchase, to be processing on contract for RCN exporters. This seems to create an artificial situation, which is not sustained by market forces, that also makes the added value of processing to remain only partially locally.

In view of the above, new cashew sector support programmes are encouraged to make economic, political and developmental analyses of the impacts their interventions may generate, and to do so consistently across all stakeholders in the cashew sector.

6.3 Governmental cashew support programmes

Governments in Côte d'Ivoire and in Benin are well aware of the economic opportunities provided by the cashew sector. Côte d'Ivoire, which is also the largest producer country in the world, has established a range of cashew sector interventions. More governmental

involvement in the sector will come from the new World Bank loan-financed BIRD Enclave project or Cashew Value Chain Competitiveness Project (CVCCP), which started in 2018.⁶⁴

The Côte d'Ivoire CVCCP project (USD 200 million loans; USD 285 million in total) is an ambitious governmental programme to improve the organisation and governance of the cashew value chain, to reduce marketing costs and to enhance competitiveness and inclusiveness of smallholders.⁶⁵ ⁶⁶ The project will promote cashew research and seedling development, support extension services and technology transfers and rehabilitate and maintain feeder roads to increase on-farm cashew productivity and access to the markets.

Over half of the project's budget (USD 110 million) plus the envisaged contribution from the national budget (USD 85 million), will go to the support of private investment in post-harvest and processing infrastructure, so as to increase the volume and value addition of locally processed cashew, through an integrated mix of interventions at three levels:

- a) storage and processing infrastructure;
- b) access to investment capital and risk management instruments;
- c) development of markets and trade.⁶⁷

Management of the project is in the hands of the Cotton and Cashew Council (CCA). The loan is intended to be reimbursed over a 30-year period through a World Bank-IBRD earmarked export tax of FCFA 20 per kg of RCN in the first seven years, and FCFA 30 per kg of RCN thereafter.

During the interviews for this study, it turned out that not all stakeholders and support agencies in Côte d'Ivoire are well aware of the objectives, the contents and even the existence of the CVCCP project. Producers and their organisations declared not to have been adequately consulted and involved. Others expressed concern about the governmental Cotton and Cashew Council (CCA) implementing the project. Although one of the CVCCP project's goals is to support the creation of an interprofessional body, few said they believe that this will have happened by the end of the project.⁶⁸ Further concerns include the cashew sector having to pay for most if not all of the infrastructure for storage facilities, feeder roads, dedicated industrial zones, etc., which will not be uniquely used by the cashew sector. Finally, a number of financial assumptions from February 2018 are no longer valid, as market prices have since plunged.

In Benin, the government is not yet very present in the cashew sector. There is no equivalent of the Ivoirian Cotton and Cashew Council (CCA), even if there are talks about the creation of a similar cashew and shea nut council. There is an interprofessional body in Benin, but its proposals have not been accepted nor implemented by the government so far. The Benin government levies RCN exports since 2016⁶⁹, however, the obtained funds are not being reinvested in the cashew sector, seeming to end up in the general state treasury.

⁶⁴ The project is known in French as: *Projet de Promotion de la Compétitivité de la filière Anacarde (PPCA)*. Locally it is known as « projet BIRD Enclave ».

⁶⁵ See: WORLD BANK (2018), *Cashew Value Chain Competitiveness Project. Project Appraisal Document*. International Bank for Reconstruction and Development (IBRD), March 2018, 138p.

⁶⁶ The project is known in French as: *Projet de Promotion de la Compétitivité de la filière Anacarde (PPCA)*.

⁶⁷ See: WORLD BANK (2018), *World Bank Approves USD 200 million to Help Côte d'Ivoire Increase Cashew Productivity and Promote Cashew Processing Industry*. Press release. World Bank, April 2018.

⁶⁸ It would require the handover of roles and responsibilities of the CCA (also the CVCCP project implementing body) to the new, to-be-created interprofessional body.

⁶⁹ Although at a much lower rate than the one in Côte d'Ivoire.

In its 2016 Governmental Action Plan (PAG), the Benin government identified the cashew sector as one of the priority value chains to develop. In April 2018, the Benin government agreed on a National Cashew Value Chain Development Programme (2017–2021). The objective of the government is to increase RCN production from 140,000 tons to 200,000⁷⁰ or even 300,000 tons⁷¹ by 2021, and to increase local RCN processing from 10% in 2018 to 50% in 2021. The Minister of Agriculture declared in August 2018 to have identified a foreign partner willing to invest in new processing units with the capacity to process 120,000 tons of RCN.⁷² According to reports, this processing capacity would be achieved with the help of a number of satellite units in charge of shelling, peeling and sorting.

In principle, all stakeholders in Benin welcomed the stated government objectives, according to our interviews for this study. However, respondents do not consider the objectives realistic, as there is no clarity about the implementation mechanism and the term is very short. Stakeholders did not hide their disappointment that the national government does not act upon joint proposals from the cashew sector, even after formal meetings are held from time to time. Some stakeholders were explicit in expressing fear that the Benin government might aim to exert economic power in the future cashew sector. International buyers, investors and donor agencies could facilitate talks and exchanges between the sector and the governments.

On the sub-regional level, harmonisation of national cashew sector policies would be a logical follow-up to general policy and business law harmonisation efforts in West Africa under the Economic Community of West African States (ECOWAS) and the Organization for the Harmonization of African Business Law (OHADA). Since 2016, a West African Ministerial Cashew Meeting is held twice per year, where ministers from nine (9) producer countries exchange ideas about their national cashew sector policies. Harmonisation of policies generally is a lengthy process, subject to other trade regulations such as those of the World Trade Organization (WTO). The process of exchange and harmonisation could be facilitated by support projects.

Further coordination and alignment between producer, processing and consumer countries is envisaged through the new establishment of an International Consultative Council for Cashew (CICC). The creation of the CICC is currently part of the support activity provided by the GIZ-supported Competitive Cashew Initiative (ComCashew) programme.

6.4 Other ongoing cashew support programmes

The German GIZ has been the leading external cashew sector support agency in West Africa since 2009. The Competitive Cashew Initiative (ComCashew), known as the African Cashew Initiative (ACi) until 2013, is part of the GIZ programme Broad-scale Promotion of Agricultural Value Chains in Africa. ComCashew is a multi-stakeholder partnership of private and public actors aiming to reduce poverty and to improve nutrition among smallholders by enhancing the competitiveness of the cashew sector in five countries: Benin, Burkina Faso, Côte d'Ivoire, Ghana and Mozambique.

⁷⁰ See: MAEP (2018), Programme National de Développement de la Filière Anacarde 2017-2021. Document final. Ministère de l'Agriculture, de l'Élevage et de la Pêche (MAEP), Benin. March 2018, 209p.

⁷¹ See: LE MATINAL (2018), Dynamisation de la filière anacarde au Bénin : le gouvernement pense à des nouvelles usines. Le Matinal, Benin (17 August 2018).

⁷² See: LE MATINAL (2018), Dynamisation de la filière anacarde au Bénin : le gouvernement pense à des nouvelles usines. Le Matinal, Benin (17 August 2018). The name of the foreign investor has not been disclosed.

The activities of ComCashew include research, grafting and propagation, production, processing and marketing. It also includes the training of regional master trainers, matching funds for micro-projects, the facilitation of national policy development and harmonisation and the establishment of the International Cashew Consultative Council (CICC).⁷³ GIZ expects to continue its cashew support operations after 2020 with funding from the European Union (EU) under the EU-ACP framework.

Another relevant support agency for the West African cashew production, processing and trade is TechnoServe (TNS), which implements support programmes financed by the USA. TNS built a strong cashew support track record first in Mozambique and later in West Africa.⁷⁴ TNS was an implementing partner in the first phase of the African Cashew Initiative (ACi). TNS was active in Côte d'Ivoire until 2013, and has since been involved as a cashew consultant with some Ivorian processors. In Benin, TNS currently runs a USD 22-million cashew support project called BeninCajù, together with Catholic Relief Services (CRS).⁷⁵

The BeninCajù project is being implemented by TNS in partnership with Catholic Relief Services (CRS), the Federation of Cashew Producers (FENAPAB) and the NGOs CRADIB, and DEDRAS. Activities cover farmer capacity building and farm management, expansion of cashew nut and cashew apple processing and capacity-building of trade associations and the public sector. The project works with 15,000 farmers to increase yields, 10 new cashew apple juice processing plants to create markets, eight processing units to develop bankable business plans and to pilot the production of by-products and one roasting unit in Tolaro. BeninCajù also works with the Interprofessional Organization IFA and the new public agency for cashew production ATDA4 for lobby, advocacy, coordination and exchange.

In Côte d'Ivoire, in addition to the work of the Cotton and Cashew Council (CCA) and of ComCashew, no other existing cashew support programmes were identified in this study. The EU Delegation has started initial talks to develop a new cashew sector project of an estimated EUR 20 million, but it is still in its early stages. The objective would be to enhance the sector competitiveness. The intended project would include interventions in production, including R&D and extension, in value addition through market information system, storage facilities, etc., and in the enabling environment through a guarantee fund for processing.

In Benin, the following relevant existing cashew sector support programmes contribute to creating an enabling environment to enhance cashew production, processing and marketing and improve competitiveness:

- PROFI (2016–2019): a Belgian-financed (ENABEL) cashew producer support programme⁷⁶ working with regional and national cashew producer organisations on collective marketing, processing and direct trade with large importers in Belgium.⁷⁷ The programme also comprises organic and fair trade production.⁷⁸

⁷³ See: <http://www.africancashewinitiative.org/>

⁷⁴ See: TNS (2018), Cashew for lasting change. 20 years of proven results. TechnoServe, USA, 2p.

⁷⁵ See: BENIN CAJÛ (2018), Project for integrating and accelerating cashew (.ppt). US Interagency Coordination Meeting (19 September 2018). TechnoServe & CRS, Benin, 20p.

⁷⁶ The activities are part of the larger Belgian-financed Agricultural Value Chain Support Programme (PROFI).

⁷⁷ See: ENABEL (2018), Fiche Produit : Chaîne de Valeur Anacarde. Amélioration de la qualité des plants et plantations d'anacarde. Programme d'appui au développement des filières agricoles au Bénin (PROFI). July 2018, 4p.; and BTC (2015), La vente groupée des noix d'anacarde au nord du Bénin. Le cas de l'union régionale des coopératives de producteurs d'anacarde de l'Atacora et de la Donga. September 2015, 8p.

⁷⁸ See: BTC (2016), La noix de cajou sèche les larmes du coton. De l'anacarde naturel à la noix de cajou certifiée bio dans la région de l'Atacora-Donga au Bénin. Belgian Technical Cooperation (BTC), Benin. April 2016, 9p.

- Cracking the Nut (2016–2021): a Dutch-financed, food security oriented public-private cashew nut processing support programme (EUR 5.8 million; 50% subsidy) in collaboration with the Dutch importer Trade & Development Investment (TDI) and the NGOs Woord & Daad (Netherlands) and DEDRAS (Benin). The programme also includes support to two processing units of TDI in Benin (Afokantan) and Burkina Faso (Anatrans)⁷⁹;
- Civic Engagement Alliance (2016–2020): a Dutch-financed, multi-stakeholder lobby and advocacy support programme led by the NGO ICCO (Netherlands), working on issues of equality and justice in six countries, together with other Dutch and local NGOs.⁸⁰ In Benin, the focus is on fostering dialogue in the cashew sector among stakeholders and between the sector and the national government. Reports have been published and discussed with stakeholders discussing the organisation of the cashew market⁸¹, the structure of the sector⁸², access to inputs⁸³, access to finance⁸⁴ and the level of service provision⁸⁵. The latest report deals with lessons from the cashew sector policies in Côte d’Ivoire.⁸⁶

The recently announced African Development Bank (AfDB)-funded cashew support project (USD 18 million in loans)⁸⁷, which was to start in 2018, did not receive final approval from the Benin government. The *Projet d’Appui au Développement de la Filière de l’Anacarde et de l’Entrepreneuriat Agricole* (PADEFA-ENA) had two main components⁸⁸:

- A) Renewal and modernisation of the production and processing capital, including the rehabilitation and extension of 20,000 ha of cashew plantations, the provision of cashew extension services, small- and medium-sized enterprises (SME) business skills promotion and the creation of communal socio-economic structures;
- B) Promotion of agro-industrial clusters and of agricultural entrepreneurship in the value chain, through the promotion of access to land, the organisation and structuring of stakeholder groups, the creation of youth employment, technical and managerial support to stakeholders, marketing and export support, activities on ITC and nutrition, and the creation of a cashew value chain development fund.

⁷⁹ See: <https://www.rvo.nl/subsidies-regelingen/projecten/cracking-nut>

⁸⁰ See: <https://www.icco-cooperation.org/en/Civic-Engagement-Alliance>

⁸¹ See: AKOMAGNI, L.A. & J. ICHOLA (2017), *Étude diagnostique du fonctionnement du marché de l’anacarde et perspectives sur les politiques nationales de développement de la filière au Bénin*. November 2017, 100p.

⁸² See: EGAH, J. & F. ADJOBO (2017), *Analyse de la structuration de la filière et propositions d’actions pour de meilleures performances*. December 2017, 87p.

⁸³ See: ETEKA, A. & V.A. FAAKI (2017), *Étude Diagnostique sur les contraintes et les opportunités à l’accès aux intrants dans les maillons de production et de transformation au Bénin*. December 2017, 73p.

⁸⁴ See: YABI, J.A. & G.B. AIHOUTON (2017), *Étude diagnostique sur les contraintes et opportunités pour l’accès au financement dans la filière anacarde*. December 2017, 85p.

⁸⁵ See: OFIO, A.C. & C.T. AKOMEDI (2018), *Analyse diagnostique de la performance des offres de services (de formation, techniques, technologies, de conseils, etc.) dans la filière anacarde*. January 2018, 63p.

⁸⁶ See: VAN SETERS, J. & D. KONNON (2018), *Capitalisation des expériences et acquis de la Côte d’Ivoire dans le domaine de la politique, structuration et de la gestion de la filière anacarde*. Rapport provisoire. ECDPM, June 2018, 40p.

⁸⁷ See: <https://www.afdb.org/en/projects-and-operations/project-portfolio/p-bj-a00-005/>

⁸⁸ See: AfDB (2018), *Projet d’Appui au Développement de la Filière de l’Anacarde et de l’Entrepreneuriat Agricole (PADEFA-ENA)*. Résumé du Plan Cadre de Gestion Environnementale et Sociale. African Development Bank, May 2018, 22p.

It is not clear to the authors why the project was ultimately not approved by the Benin government. The AfDB loans at stake will now reportedly be used for general budget support to electrification in the energy sector.

6.5 Other cashew value chain intervention options

There is a trade-off between the use of RCN export tax income for subsidizing local cashew nut processing and the promotion of other high-potential productive cashew value chain activities. During this study, a number of areas have been identified where future cashew support programmes could be beneficial in West Africa. Below, we will analyse cashew value chain interventions in production, processing and marketing. The interventions would significantly contribute to local value addition, but not address export markets.

6.5.1 Cashew nut production

Cashew nut production, collection and sale provide a valuable source of income to small-scale producers and large plantation owners in the West African cashew belt. Production is profitable, competitive and complementary to other crops. However, farm productivity and profitability can still be increased significantly. Yields, currently estimated at 300–350 kg of RCN per hectare⁸⁹ are still low compared to other producing areas, such as in Asia, where there are yields of up to 2,000 kg of RCN per hectare. The creation of adequate nurseries, the use of new varieties, the propagation of grafting, the rationalisation of tree density on existing plantations as well as the provision of specialised cashew extension services are all in their early stages in West Africa.

One significant and often overlooked method to increase cashew nut production is the propagation of pollination by honey bees. Apiculture combines very well with cashew nut production, as the perennial cashew trees provide a stable environment for bees, which increase pollination and hence RCN yield.⁹⁰ Apiculture by-products such as honey, wax, propolis, etc., tend to find local markets easily. The additional income generated by smallholders can be very important. An apiculture propagation programme should make an integral part of any cashew production support programme.

6.5.2 Cashew apple processing

In the cashew sector, reference to by-products is often understood to be the cashew nut shells, which can be processed into CNSL, energy, carbon and fertilisers. However, cashew apple should also be included. The cashew nut comes with the apple, which weighs several times the cashew nut. In West Africa, the apple is left to rot in the field after collection.

In West Africa, virtually all cashew apples go to waste, as the apple needs prior processing before consumption and there is no significant local market yet. Cashew apples are rich in magnesium and vitamin C, and can be processed into juice, jam, chutney, alcohol, etc. The

⁸⁹ See: RABANY, C., N. RULLIER & P. RICAU (2015), The African Cashew Sector. General trends and country profiles. African Cashew initiative (ACi) & RONGEAD. October 2015, 37p.

⁹⁰ See: AIDOO, K. (2013), Study of the Effects of Integrating Beekeeping into Cashew Farms in Ghana and Benin. African Cashew initiative (ACi), GIZ, Germany. June 2013, 34p.

cashew apple is a fragile product though, and therefore needs to be harvested rapidly and processed within a few days from harvest. Transport and storage compromise quality.

In Benin there is already significant support for cashew apple processing from ComCashew and the BeninCajù projects.⁹¹ Yet, product uniformity and marketing remain key issues to be resolved. In Côte d'Ivoire, no substantial cashew apple processing or project was found.

6.5.3 Cashew product promotion

Local markets for cashew products are yet to be developed. There is a need for generally improved appreciation and understanding of the value of cashew trees and cashew products. Cashew-based products should enter local cuisine, including cashew qualities that do not find export markets.

A cashew culture could be introduced in Côte d'Ivoire and Benin, including tasting challenges, recipe challenges, processing demonstrations, cultural shows, cashew tree biodiversity challenges, etc. Home consumption may be enhanced through the promotion of home-based cashew shelling and peeling methods and devices, coupled with awareness raising about prevention from contact with CNSL.

⁹¹ See: EGBEJULE, E. (2017), How Cashew Apple became Africa's New Power Drink. In: The Daily Dose (26 September 2017), 2p.

7. Opportunities for a CBI cashew sector support programme

7.1 CBI support programmes

The Dutch Centre for the Promotion of Imports (CBI) aims to stimulate economic growth and promote employment in development countries through international trade. CBI supports small- and medium-sized enterprises (SMEs) in developing countries to enter the European market and to integrate in global value chains. CBI aims for improved exports both in terms of quantity and quality.

In general, CBI's services and activities include:

- Export coaching programmes to prepare SMEs in developing countries for export markets;
- Technical support to business support organisations in developing countries to increase the added value for their exporting members;
- Developing market information on potential export sectors in Europe;
- Informing and influencing policymakers;
- Involving importers in the development and implementation of CBI programmes.

Each CBI programme specifically deals with the issue of corporate social responsibility (CSR) and other sustainability issues.

7.2 Potential CBI support areas

In paragraphs 5.2 and 6.1 we provided a list of West African cashew sector competitiveness factors and their relative weight, identifying a number of possible project support interventions to increase competitiveness. Figure 7 elaborates on this analysis, proposing potential support areas for CBI, clustering them by theme.

The potential support areas for CBI are described in a general manner. Colours indicate which areas would seem to be valid for CBI support based on previous CBI programmes and activities. Five theme clusters are proposed, which can later be elaborated by CBI after final decision to engage or not in a new cashew sector support programme: A) Markets; B) Quality; C) Efficiency; D) Finance; and E) Exchange. The total number of 'hits' per cluster may potentially serve as a key for budget allocation in a future CBI project.⁹²

In principle, CBI could consider working on almost all factors of competitiveness. The most logical factors for intervention are marked in green. The costs of energy and labour in red are not considered CBI intervention areas, but rather issues for the national government. CBI would also not normally work on government policies, which are highlighted in orange. Yet, a valid activity for CBI would be to favour the collaboration and exchange among governments on policy harmonisation such as through the International Cashew Consultative Council (CICC).

⁹² Budget could, for example, be allocated as follows: 50% for quality and efficiency support to processing companies, 15% for sector-wide market development, 15% for facilitation of value chain stakeholder meetings and consultations, 10% for finance linking and learning and 10% for project management and overhead.

Figure 7. Possible CBI intervention areas and support clusters to increase competitiveness of the West African cashew nut processing industry.

No.	Influencing factors	Factor	Possible interventions to support competitiveness	Potential CBI support areas	CBI support clusters				
					Markets	Quality	Efficiency	Finance	Exchange
1.	Government policy	+++	Favour a government policy that is supportive to local cashew processing.	Advice on policies				X	X
2.	Access to finance for investment	+	Policies favoring access to land. Subsidies on assessment studies. Machinery import tax rebates.	Facilitate access to investors				X	
3.	Access to finance for RCN purchase	+++	Support development of bankable plans. Establish a RCN Purchase guarantee fund.	Facilitate access to investors				X	
4.	Access to raw material	+++	Ensure timely availability of sufficient funds. Promote long-term collaboration with producers.	Support partnership with producers				X	X
5.	Access to technology	+	Bring suppliers to SIETTA trade fair. Exchange visits to suppliers.	Support access to suppliers.			X		X
6.	Access to qualified labour	++	Establish Cashew Training Centre. Tailor-made trainings - in school and on-the-job.	Support National Cashew Training Centre.		X	X		
7.	Service industry	+++	Support local producers of machinery. Exchange visits to suppliers. Develop spare-parts services.	Support exchange visits to suppliers.		X	X		
8.	Use of by-products	++	Promote CNSL extraction and refining. Promote carbon production and biocomposters. Develop markets.	Provide market information.	X	X	X		X
9.	Energy costs	+	Better access to inexpensive energy through government. Develop CNS energy production.						
10.	Labour costs	++	Pay well and develop worker loyalty schemes to increase efficiency and effectiveness.						
11.	Labour productivity	++	Worker trainings. Pay well to ensure worker loyalty. Study competitors. Mechanize to reach scale.	Worker trainings. Study competitors.		X	X		
12.	Mechanization	+	Mechanization is required for reaching certain scale. Impact on efficiency is case-dependent.	Facilitate access to mechanization.			X		X
13.	Systematization of processes	+++	Systematization of processes is required for internal efficiency and for access to new markets.	Support towards certification.		X	X		
14.	Management skills	+++	Formalized trainings and on-the-job trainings for company and factory managers.	Integrated management support.		X	X		
15.	Business skills	++	Negotiating power can be strengthened, by reliable communication, better product, market information.	Market information and training	X	X	X		

16.	Access to market information	++	Establish market and price information network. Explore establishment of a global cashew market price.	Develop market information.	x					x
17.	Access to markets	+++	Study RCK markets. Inventory relative distance to RCK markets. Develop CNSL. Develop local cashew markets.	Develop market information.	x		x			x
18.	Diversification of sourcing	+++	Elaborate on this comparative advantage negotiating better market contracts and risk-sharing.	Support product-of-origin marketing.	x					
19.	Uniformity of product	++	Cherish quality and uniformity of product. Systematize processes further to reduce hazards.	Support quality management		x	x			
20.	Certification	+++	Use certification as a benchmark to improve core company processes. Adapt certification to target markets.	Support towards certification.		x	x			
21.	Food safety	+++	Regular testing of food safety parameters and of the system of precautionary measures.	Support towards certification.		x				
22.	Traceability	++	Ensure increased traceability of products - to meet requirements (organic) and/or to anticipate client demand.	Support traceability of products.	x		x			
23.	Transparency	+	Ensure increased transparency of the company, processing unit, workers, suppliers and markets.	Support open management culture.			x			x
	* : green: better; yellow: equal; red: worse			* : green: yes; yellow: possible; orange; maybe; red: no	6	10	14	4		8

Source: Elaborated by author.

CBI might also consider developing support activities for two issues that do not commonly make part of CBI programmes, which are marked in yellow:

- **Financing:** This is a critical issue in local cashew processing development. CBI could play a role, for instance, in mapping the demand and the actual offer of financial services, the exchange of information between processors and financing institutions, support the development of appropriate financial services, and support companies in developing bankable business plans;
- **Mechanisation:** This item depends on each company's own business plans and sources of financing. In view of the rapid advances in machinery and technology, and the need for spare parts, CBI might consider supporting activities such as the production of annual cashew technology catalogues, exchange visits to suppliers and initiatives to provide local spare parts services.

All other areas appear to perfectly fit within the CBI's mandate and project interventions, as we present below per cluster:

1. Markets (sector-wide)

- Develop market information on the markets for cashew kernels, cashew by-products and cashew processing machinery;
- Study the cashew trade and industry in Vietnam as the main competitor on the market for cashew kernels;
- Carry out an in-depth economic analysis of the actual competitiveness gap between processors in West Africa and their competitors;
- Analyse the geographical and the relative distance to market as an advantage of West African processors' competitiveness;
- Support business skills development for companies and unit managers;
- Support adoption of systems for increased traceability of products such as 3S⁹³;
- Explore opportunities for cashew kernel marketing according to origin.

2. Quality (with selected processors)

- Ensure quality and uniformity of product, including food safety;
- Systematise processes and procedures. Use certification as a tool for change;
- Strengthen capacity development of technicians and workers through a cashew processing training centre;
- Support management skills development for companies and unit managers;
- Provide tailor-made formal and on-the-job training to workers;
- Enhance exchange and interaction among local processors and suppliers of processing machinery through field visits and participation in trade fairs;
- Consider the production of annual cashew technology catalogues, exchange visits to suppliers and initiatives to provide local spare parts services.

3. Efficiency (with selected processors)⁹⁴

- Strengthen capacity development of technicians and workers through a cashew processing training centre;
- Support management skills development for companies and unit managers;

⁹³ The Securing Sustainable Supply (3S) system is being promoted by the Sustainable Nut Initiative (SNI). For more information, see: <https://www.chainpoint.com/use-cases/3s-sustainable-nut-supply-chains/>

⁹⁴ Activities in the clusters Quality and Efficiency largely align, while quality improvement is expected to translate into better processes, products, prices and higher efficiency.

- Provide tailor-made formal and on-the-job training to workers;
- Promote access to technology through participation in trade fairs and exchange visits;
- Develop worker loyalty schemes adapted to the sector and to local contexts;
- Support business skills development of companies and unit managers;
- Ensure quality and uniformity of product.
- Systematise processes and procedures. Use certification as a tool for change.
- Support adoption of systems for increased traceability of products such as 3S;
- Develop market information on the markets for cashew kernels, cashew by-products and cashew processing machinery;
- Enhance exchange and interaction between local processors and suppliers of processing machinery through field visits and participation in trade fairs;
- Consider the production of annual cashew technology catalogues, exchange visits to suppliers and initiatives to provide local spare parts services;
- Develop local markets for cashew kernels of different grades.

4. Finance (sector-wide)

- Support processing units in the development of bankable business and investment plans, including crop purchase and cash flow management;
- Promote the exchange of information between the cashew sector and financing institutions to identify best practices and new inroads for enhanced collaboration;
- Facilitate improved access to social and institutional investors;
- Promote the establishment of RCN purchase guarantee funds.

5. Exchange (sector-wide)

- Facilitate the organisation of regular public-private and interprofessional stakeholder exchange meetings to evaluate the previous season and prepare for the following season;
- Promote long-term collaboration between producers and processors. Document case studies. Exchange best practices.
- Develop market information on the markets for cashew kernels, cashew by-products and cashew processing machinery;
- Enhance exchange and interaction between local processors and suppliers of processing machinery through field visits and participation in trade fairs;
- Consider the production of annual cashew technology catalogues, exchange visits to suppliers and initiatives to provide local spare parts services.
- Facilitate general transparency within the cashew sector in order to enable collective learning, such as through market information, the promotion of national annual cashew directories, company case studies, documentation of pilots on by-product development, etc. Consider support the creation of national cashew observatories.
- Enhance the integration of corporate social responsibility (CSR) and other sustainability issues into the processing units' business plans.

6. Sustainability (sector-wide)

- Enhance the integration of corporate social responsibility (CSR) and other sustainability issues into the processing units' business plans;
- Ensure adequate worker protection against contact with CNSL during processing;
- Ensure the reuse or safe disposal of cashew nut shells;
- Support the development of worker loyalty schemes;
- Support gender integration in the processing units' business plans.

Figure 8. Possible CBI support clusters and activities to strengthen the competitiveness of the West African cashew nut processing industry.

		CBI support	Support agencies to collaborate with	Other potential partners
1. Markets (sector-wide)				
1.1	Develop market information on the markets for cashew kernels, cashew by-products and cashew processing machinery.		ACA	Nitidae, VINICAS
1.2	Study the cashew trade and industry in Vietnam as main competitor on the market for cashew kernels.		ACA	VINICAS
1.3	Carry out an in-depth economic analysis of the actual competitiveness gap between processors in West Africa and their competitors.		ACA, ComCashew, TNS	CCA
1.4	Analyze the geographical and the relative distance to market as a factor of West African processors' competitiveness.		ACA, TNS	CCA, Bolloré, SNI
1.5	Support business skills development of company and unit managers.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
1.6	Support systems for increased traceability of products (e.g. 3S).		ACA, ComCashew, TNS	FMS, SNI
1.7	Explore the opportunities for cashew kernel marketing according to origin.		ACA, ComCashew, TNS	FMS, SNI
2. Quality (with selected processors)				
2.1	Ensure quality and uniformity of product, including food safety.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
2.2	Systematize processes and procedures. Use certification as a tool for change.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
2.3	Strengthen capacity development of technicians and workers through a Cashew Processing Training Centre.		CITA, CCA, ComCashew, GIC-CI, CNTC	FMS, Away4Africa, Mokanti
2.4	Support management skills development of company and unit managers.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
2.5	Provide tailor-made formal and on-the-job trainings to workers.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
2.6	Enhance exchange and interaction between local processors and the suppliers of processing machinery, through field visits and participation in trade fairs.		ACA, ComCashew, CCA, GIC-CI, CNTC	
2.7	Consider the production of annual cashew technology catalogues, exchange visits to suppliers, and initiatives to provide local spare parts services.		ACA, ComCashew, CCA, GIC-CI, IFA	
3. Efficiency (with selected processors)				
3.1	Strengthen capacity development of technicians and workers through a Cashew Processing Training Centre.		CITA, CCA, ComCashew, GIC-CI, CNTC	FMS, Away4Africa, Mokanti
3.2	Support management skills development of company and unit managers.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
3.3	Provide tailor-made formal and on-the-job trainings to workers.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
3.4	Favour access to technology through participation in trade fairs and exchange		ACA, ComCashew	
3.5	Develop worker loyalty schemes adapted to the sector and to local context.		ACA, ComCashew, CCA, GIC-CI, CNTC	
3.6	Support business skills development of company and unit managers.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
3.7	Ensure quality and uniformity of product.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
3.8	Systematize processes and procedures. Use certification as a tool for change.		ACA, ComCashew, TNS	FMS, Away4Africa, Mokanti
3.9	Support systems for increased traceability of products (e.g. 3S).		ACA, ComCashew, TNS	FMS, SNI

3.10	Develop market information on the markets for cashew kernels, cashew by-products and cashew processing machinery.		ACA	Nitidae, VINICAS
3.11	Enhance exchange and interaction between local processors and the suppliers of processing machinery, through field visits and participation in trade fairs.		ACA, ComCashew, CCA, GIC-CI, CNTC	
3.12	Consider the production of annual cashew technology catalogues, exchange visits to suppliers, and initiatives to provide local spare parts services.		ACA, ComCashew, CCA, GIC-CI, IFA	
3.13	Develop local markets for cashew kernels from different grades.		ACA, ComCashew	
4. Finance (sector-wide)				
4.1	Support processing units in the development of bankable business and investment plans, including crop purchase and cash flow management.		ACA, ComCashew, TNS, banks	FMS, Away4Africa, Mokanti
4.2	Favour the exchange and information between the cashew sector and financing institutions to identify best practices and new inroads for enhanced		ACA, ComCashew, CCA, GIC-CI, CNTC, banks	FMS, Oikocredit, Mokanti
4.3	Facilitate improved access to social and institutional investors.		ACA, ComCashew, CCA, GIC-CI, CNTC, investors	FMS, IDH
4.4	Favour the establishment of RCN purchase guarantee funds.		ACA, ComCashew, CCA, GIC-CI, CNTC, banks	
5. Exchange (sector-wide)				
5.1	Facilitate the organization of regular public-private and interprofessional stakeholder exchange meetings to evaluate the last season and to prepare for		ACA, ComCashew, CCA, GIC-CI, IFA, TNS	
5.2	Promote long-term collaboration between producers and processors. Document case studies. Exchange best practices.		ACA, ComCashew, CCA, GIC-CI, IFA, TNS	FMS
5.3	Develop market information on the markets for cashew kernels, cashew by-products and cashew processing machinery.		ACA	Nitidae, VINICAS
5.4	Enhance exchange and interaction between local processors and the suppliers of processing machinery, through field visits and participation in trade fairs.		ACA, ComCashew, CCA, GIC-CI, CNTC	
5.5	Consider the production of annual cashew technology catalogues, exchange visits to suppliers, and initiatives to provide local spare parts services.		ACA, ComCashew, CCA, GIC-CI, IFA	
5.6	Facilitate general transparency within the cashew sector in order to enable collective learning, e.g. through market information, the promotion of national Annual Cashew Directories, company case studies, documentation of pilots on by-product development, etc.. Consider support to the set-up of national		ACA, ComCashew, CCA, GIC-CI, IFA, TNS	
6. Sustainability (sector-wide)				
6.1	Enhance the integration of Corporate Social Responsibility and issues of sustainability into processing units' business plans.		ACA, ComCashew, CCA, GIC-CI, IFA	Unions, FMS, Away4Africa, Mokanti
6.2	Ensure adequate worker protection against CNSL during processing		ACA, ComCashew, CCA, GIC-CI, IFA	Unions
6.3	Ensure the re-use or safe disposal of cashew nut shells		ACA, ComCashew, CCA, GIC-CI, IFA	Unions
6.4	Support the development of worker loyalty schemes		ACA, ComCashew, CCA, GIC-CI, IFA	Unions
6.5	Support the integration of gender in processing units' business plans		ACA, ComCashew, CCA, GIC-CI, IFA	Unions

Source: Elaborated by author.

Figure 8 presents the list of themes and activities per cluster where CBI could consider providing support services. The table highlights what role CBI could take up given the presence and the involvement of other support agencies in the cashew sector. Themes and activities highlighted in green colour are those where CBI could play a leading and sometimes innovative role, complementary to the other organisations' support efforts. Themes and activities marked in yellow would require cooperation and coordination with agencies already working on those issues. Themes and activities in orange colour indicate areas where other support initiatives already play a leading role and CBI would provide support for similar or complementary activities.

7.3 Potential CBI project beneficiaries

CBI has a mandate to support local small- and medium-sized enterprises (SMEs). In principle, international companies installed in the countries of intervention are not eligible for CBI support. In Côte d'Ivoire, this would apply at least to OLAM, CASA, KOROSHO and FMA. In Benin, Fludor and Afokantan would also not be eligible for support.⁹⁵

Furthermore, the definition of SME sets limits on the number of personnel per company. The EU definition states that a SME should have a staff of no more than 250 persons and a turnover below EUR 50 million per year. The CBI definition of SME, however, includes companies of up to 500 persons.⁹⁶ Assuming that each 1,000 tons of processed RCN corresponds to 80–200 jobs on average, units processing up to 3–6,000 tons would be eligible for CBI support. Given currently low machinery utilisation rates not exceeding 50%, often at only 20–30%, this would translate into eligible processing units having a technical processing capacity of up to 10–15,000 tons of RCN per year. By size, only the large facilities of OLAM and CILAGRI (in Côte d'Ivoire) and Fludor and ANI (in Benin) would therefore not be eligible.

For reasons of productivity, profitability and export marketing, interviewees consider minimum levels of 5–7,000 tons or even 10,000 tons of annual RCN processing capacity as essential for industrial cashew nut processing. The authors recommend applying this same criterion for relevant future engagement of CBI in cashew nut processing. CBI should best focus on the range of companies having an existing processing capacity of 5–10,000 tons of RCN, and companies aiming to expand their current capacity to that same level by the end of project. The project can guide and facilitate existing producers in the process of business expansion.

A third criterion for CBI to decide to engage or not to engage in a sector support programme is the number of SMEs per country to be supported. CBI considers a minimum number of five (5) companies per country to be required.⁹⁷ For involvement in the cashew sector in Benin, this can be problematic because only one processing unit (Tolaro) would currently classify in addition to possibly one of the smaller processing units such as KAKE5, if they indeed plan to expand capacity. In Côte d'Ivoire, there would be more grounds for a national support

⁹⁵ If it were not for this criterion, CASA and FMA in Côte d'Ivoire and Afokantan in Benin could probably benefit a lot from a future support programme. The challenges these processing units face are primarily operational.

⁹⁶ In specific cases, CBI can decide to also include somewhat larger companies.

⁹⁷ See: CBI (2018), Terms of Reference for Value Chain Selection for Egypt, Kenya, Uganda, Sierra Leone and Guinea. CBI, Netherlands. October 2018, 11p.

programme. Approximately six to eight companies out of the 15 companies studied could then be eligible for a country programme: STNC/SOTRAPACI, Cajou du Fassou, SOBERY, Afrique Agri Industrie, Nord Cajou, Africa Négoce, and possibly the smaller processing units Global Cashew Industries and Agro-Fronan.

Alternatively, CBI might consider developing a regional West African programme instead of a country program, and select to support a number of cashew processing units both from Côte d'Ivoire and Benin. The precise number of companies will be dependent on the available budget. Inclusion of cashew sectors in neighbouring countries, especially in Burkina Faso and Mali, might be considered.^{98 99}

For further internal programming, Annex 3 provides a cashew processing value chain baseline measurement according to CBI format.

7.4 Risk management

For formulation and implementation of a future CBI cashew sector support programme, general risks should be anticipated and managed, including political risks, price volatility risks, financial management risks, ownership of the interventions and other key sustainability issues such as labour and working conditions, gender issues and waste management.

However, the biggest risk would seem to be the institutional embedding of the activities. Good cooperation and coordination with following cashew sector support agencies is pivotal:

- Côte d'Ivoire: CCA, Ministry of Commerce, GIC-CI, ComCashew.
- Benin: Ministry of Agriculture, IFA, CNTC, TechnoServe, ComCashew.

Therefore, we recommended the organisation of a CBI project formulation mission at the start of the project, with a mandate to coordinate and negotiate the memoranda of understanding (MoU) and terms and conditions for the agencies' collaboration and involvement in implementation of the future CBI cashew sector support programme.

⁹⁸ A large part of the RCN and the cashew kernels from the land-locked countries Mali and Burkina Faso is likely exported through the ports of Côte d'Ivoire.

⁹⁹ Depending on the outcomes of the recent CBI value chain selection studies in Guinea and Sierra Leone, support to their emerging cashew processing sectors might also be considered under a regional program.

8. Conclusions and Recommendations

8.1 Conclusions

1. The cashew sector in West Africa has been growing consistently over the last decade. World demand for cashew shows steady growth at around 6% per year in the same period. Local cashew nut processing is a relevant source of largely low-skilled but specialised jobs, at a rate of 80–200 jobs per 1,000 tons of annual RCN processing capacity, depending on the degree of mechanisation. Growth of local processing in West Africa will contribute directly to job creation, especially for young women.

2. The conditions that prevail for successful local cashew nut processing depend on governmental policies, market forces and the industry's comparative and competitive position. Governmental policies vary importantly between the two countries. Côte d'Ivoire intervenes very actively in the cashew sector, generally in favour of the processing industry. Benin intervenes much less, largely leaving the sector to market forces.

3. This study identified a high degree of dynamism in cashew nut processing both in Benin and in Côte d'Ivoire. Investment is taking place in both countries. The growth in Côte d'Ivoire seems to be directly related to the subsidies provided to cashew kernel exports. Part of the new ongoing investments in Benin may be anticipating increased state intervention in the cashew sector, since it was declared a priority sector.

4. The West African cashew processing industry has several competitive advantages compared to key competitor Vietnam:

- A) availability of good-quality raw material (RCN);
- B) geographical access to markets;
- C) traceability thanks to proximity to source;
- D) low negative environmental impacts.

5. Diversification of cashew kernel sourcing by buyers presents a big opportunity for West Africa in view of the dominance of Vietnam in current international cashew kernel markets. Direct sourcing is also expected to become more important for customers in Europe and the USA. This could increase demand for more traceability, shorter supply times and possibly lower transport costs for cashew kernels from West Africa. Traceability could be improved through the use of existing management information systems, such as Securing Sustainable Supply (3S).¹⁰⁰

6. Data on the competitiveness of the West African cashew nut processing industry are hard to find. The competitiveness gap between West Africa and Vietnam is estimated by resource persons at between USD 150 and USD 350 per ton of RCN in favour of Vietnam. In-depth analysis of this gap is urgently required.

7. Many factors contribute to competitiveness. Key factors of competitiveness that require support in Côte d'Ivoire and Benin from governments and support agencies include:

¹⁰⁰ For more information, see: <https://www.chainpoint.com/use-cases/3s-sustainable-nut-supply-chains/>.

- Timely access to finance at affordable interest rates. Companies need bankable business plans, which require good administration of processes and financial flows;
- Management of cashew nut processing units. Support in the process to certification of processes and products will contribute to opening up new export markets. Companies will also rationalise the financial, economic and administrative parts of the business;
- Development of gender policies and interventions and increased attention to good contracting and working conditions. Worker loyalty schemes will lower absenteeism and training costs;
- Training of specialised processing personnel, for example through a national cashew training centre. Personnel training is a collective, sectoral need.
- Access to up-to-date cashew nut processing machinery. Interaction between buyers and sellers should be enhanced through trade fairs and exchange visits;
- Market development and production of by-products from cashew nut shells.

8. Government and support agencies should be specific about the objectives and expected outcomes of their cashew support programmes. There is not one single way to develop the processing industry. Processing units should be analysed differently according to their scale and objectives, for example by volume of monthly output, mechanisation for efficiency, employment creation, quality of output, and according to their sources of investment capital, whether foreign or domestic.

9. Increasing local cashew nut processing capacity as such is not a guarantee for economic improvement. A lot of existing processing capacity actually lies idle. Moreover, building a new cashew nut processing industry that does not pay any taxes because of exonerations, is subsidized, and only provides low-skilled labour at or below minimum salary, may not be the best strategy to add value locally. It would be pertinent to study and discuss with stakeholders inside and outside the cashew sectors the impacts of different models of cashew processing industry development.

10. The stakeholders interviewed in the cashew sectors in Côte d'Ivoire and Benin would welcome a future CBI cashew sector support programme. For such, cooperation and coordination with the following cashew sector support agencies is pivotal:

- Côte d'Ivoire: CCA, Ministry of Commerce, GIC-CI, ComCashew.
- Benin: Ministry of Agriculture, IFA, CNTC, TechnoServe, ComCashew.

11. For reasons of productivity, profitability and export marketing, interviewees consider minimum levels of 5–7,000 tons or even 10,000 tons of annual RCN processing capacity as essential for industrial cashew nut processing. This scale is considered to be adequate for international buyers in terms of quantities and qualities, sufficient to ensure essential technical and managerial positions within the unit, a relevant size for creating employment, and a size which may still be achievable, yet ambitious, for domestic capital investment.

8.2 Recommendations

R1. Develop a new CBI cashew processing support programme, regionally in West Africa or nationally in Côte d'Ivoire, which aims to enhance the general competitiveness of the industry, contributes to increasing real processed volumes, and prepares SMEs for export and export expansion of cashew kernels to the European and international markets.

R2. Consider in the CBI cashew processing support programme all factors of relevance to the competitiveness of the West African processing industry. Structure the CBI-led support activities in six clusters of themes: A) Markets (access and information); B) Quality (improve practices); C) Efficiency (improve practices); D) Finance (support linkage and preparation); E) Exchange (support coordination and exchange between stakeholders); and F) Sustainability (improve practices). Potential activities per cluster have been listed in the report.

R3. While selecting partners and beneficiaries of the support programme, focus on the range of companies having an existing annual processing capacity of 5–10,000 tons of RCN, and on companies aiming to expand their current capacity to that same level by the end of the project. The project would guide and facilitate these companies in the process of business expansion.

R4. Ensure institutional coordination and collaboration of activities with the authorities and with key cashew sector support actors. Organise a CBI project formulation mission at the start of the project, with a mandate to coordinate and to negotiate the Memoranda of Understanding (MoU) and terms and conditions for the agencies' collaboration and involvement in the implementation of the future CBI cashew sector support programme.

R5. Ensure that the support interventions in the cashew nut processing industry take into account the positive and negative effects of the continuity of governmental interventions in the sector, as these may largely define the competitive and comparative position of the processing industry.

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Annex 1. Programme of the study and list of resource persons

Benin

Date	Resource person
Sunday 23 September	Travel Amsterdam -Cotonou
Monday 24 September	Cotonou
09.30	ICCO / Benin / CEC / Sébastien DOHOU
10.30	CNTC & NAD & Co / Georgette TARRAF
14.00	DPP / MAEP / Marius SODJINOÛ AÏNA
15.30	BPS (Calavi) / Joji VARGHESE
Tuesday 25 September	Cotonou-Bohicon-Parakou
09.00	Kake 5 (Savalou) / Dominique SOUNLIN
11.00	Fludor / Roland RIBOUX
	Fludor / Ramesh REDDY
Wednesday 26 September	Parakou-Tourou-Parakou
08.30	COTEF & CIDEV/ Dieudonné KONNAN
11.00	TNS / BeninCajú / James OBAROWSKI
	TNS / BeninCajú / Soulé MANIGUI
12.00	Tolaro (Tourou) / Jace RABE
15.00	FENAPAB / Chabi Lafia ABDOU RAFIAOU
16.30	IFA / Achadé ATÉNI
18.00	DEDRAS / Jean KPETERE
	DEDRAS / Emmanuel AWE ALABI
Thursday 27 September	Parakou-Komiguéa-Tchaourou-Savé-Cotonou
08.30	Sweet Benin / Sariki YANTANNOU
11.30	Afokantan (Tchaourou) / Charles KAYEMBE (DG)
	Afokantan (Tchaourou) / Josianne YABADI (DGA)
16.30	CRA-Centre (Savé) / Saliou BELLO
	CRA-Centre (Savé) / Raphiaou MALIKI
Friday 28 September	Cotonou
09.00	Embassy NL / Annelies VAN DER BERG
10.30	GIZ / ProAgri3 / Evelyne SISSINTO (TA Sector org / Marketing)
15.00	ENABEL / PROFI / Wilma Frouke BAAS
17.00	GIZ / ProAgri3 / Joachim BECKER (Project Director)
Saturday 29 September	Cotonou-Porto-Novo-Cotonou
10.00	ANI (Doregbe) / Ayman Mohamed DO REGO
	ANI (Doregbe) / Nouriath DO REGO
	Consultant / Léonard HINNOU

Côte d'Ivoire

Date	Resource person
Sunday 30 September	Travel Cotonou - Abidjan
17.00	Mokanti / Consultant / Daouda YAO
	Mokanti / Consultant / Alain ADINGRA
Monday 1 October	Abidjan (with Daouda YAO)
10.30	CCA / DGA / Mamadou BERTE
	CCA / Assistant to DGA / Bésogon KONÉ
	CCA / Legal service & litigation / Pierre KLA
16.30	Ministry of Trade, Industry and SME / Laure TCHICAYA
Tuesday 2 October	Abidjan (with Alain ADINGRA)
14.00	Africa Négoce / Mesmer Amani KOUASSI
	Africa Négoce / Julien KOUASSI
	Africa Négoce / Célestien SARAKA
17.30	Embassy NL / Ambassador / Robert VAN DEN DOOL
	Embassy NL / Advisor Trade & Econ / Joel Amani KOUAMÉ
Wednesday 3 October	Abidjan (with Alain ADINGRA (morning) and Daouda YAO (afternoon))
10.30	FENAPACI / D-G / Salif Tenena COULIBALY
	FENAPACI / Administrator / Djedjé Crépin DAGOU
	FENAPACI / Administrator / Lagnimé COULIBALY
14.00	SOTIC & SOCADI / D-G / Aboubakar BAKAYOKO
	SOTIC & SOCADI / Technical Officer / Yves DROGUY
	SOTIC & SOCADI / Financial Officer / Ismaël CISSÉ
Thursday 4 October	Abidjan - Bouaké (with Alain ADINGRA)
08.00	CCA / Processing / Karim BERTHÉ
10.00	EU Delegation / Jean Gbedji DOUZO
12.00	GIC-CI & CILAGRI / Luckman DIABY
13.30	SOBERY / D-G / Didier COULIBALY
Friday 5 October	Bouaké (with Alain ADINGRA)
09.00	CASA / Dir Operations a.i. / Hussain GILANI
	CASA / Engineer / Sampe Ganesh KAMATH
	CASA / Chief Factory / Eugène DAHIN
14.00	SOBERY / Chief Production / Abdoulaye KONÉ
	SOBERY / Chief Factory / Sunilkumar BHAHULEYAN
	SOBERY / Chef Input supply / Namory BAKAYOKO

Saturday 6 October	Bouaké - Dabakala - Katiola - Fronan - Bouaké (with Alain ADINGRA)
10.00	ANAD / President / Noumina BAMBA
	ANAD / Assistant to President / Diara TRAORÉ
	Consortium SOMON / René FERKÉ (telephone)
15.30	Agro Fronan / D-G a.i. / Fabrice NADOHOU
	Agro Fronan / Deputy PDG / Noël KONÉ
	Agro Fronan / Mechanic / Ahmed DANGNOGOU
Sunday 7 October	Bouaké - Yamoussoukro - Abidjan (with Alain ADINGRA)
20.00-21.30	ANADER / National Coord Cashew / Bassoumori TRAORÉ
Monday 8 October	Abidjan (with Daouda YAO)
08.00	GIZ / ComCashew / Sector Organisation / Bernard AGBO
10.00	World Bank / Agro-Economist / Philippe TRÉ
11.30	FIRCA / Program Officer Cashew / Eman NONKPIN
14.30	OLAM / Vice-President / Mallickarjuna KUMARASWAMY
16.30	SITA / DGA / Sarata TOURÉ

SIETTA & ACA conference (8-10 November 2018)

Date	Resource person
Wednesday 7 November	USA / Camer Farm LLC / Pascal TAGNE
Thursday 8 November	Tradin / Maren PETERS
	TDG / Ronald ZAAL
	FairMatchSupport / Herman UITDEBOSCH
	Intersnack / Bas VAN DEN BRINK
	Away4Africa / Wim SIMONSE
Friday 9 November	GONZATO / Emmanuel DE DAELE
	Kenya / Afrimac Nut Co. Ltd. / Isaac WAITITU
	Burkina Faso / GEBANA / Claudio SCOTTO
	GIZ / ComCashew / Wolfgang BERTENBREITER
	Benin / TNS / James OBAROWSKI
	Benin / Fludor / Roland RIBOUX
	Benin / TNS / Soulé MANIGUI
	GIZ / ComCashew / Florian WINCKLER
	Burkina Faso / HAM-CO / Hamza KONÉ
Saturday 10 November	Tradin / Maren PETERS
	GIZ / ComCashew / Mary ADZANYO
	Mozambique / Condor / Gonzalo CORREA
	Mozambique / Duplo Farm / Orlando LANGA
	RCI / Min. Of Commerce / Guy KOUASSI ANIBE
	RCI / Afrique Agri Industrie / Koffi YEBOUA
	RCI / Global Cashew Industries / Moustapha TOURÉ

Netherlands

Date	Activity
Friday 14 September 2018	CBI Focus Group Processed Vegetables & Dried Nuts CBI / Phaedra VEENENDAAL
Monday 17 September	Egesun (D) / Kees MARIS TDG / Gerard KLIJN FairMatchSupport / Herman UITDEBOSCH Woord & Daad / Gerjan AGTERHOF
Tuesday 18 September	Benin / Consultant / Léonard HINNOU CNV Internationaal / Nicole MATHOT
Wednesday 19 September	ECDPM / Jeske VAN SETERS CBI / Martin HULST CBI / Phaedra VEENENDAAL Oikocredit / RCI / Yves KOMACLO
Thursday 20 September	RCI / Consultant / Daouda YAO RCI / Consultant / Alain ADINGRA
Thursday 11 October	Nutland / Valerio SILVESTRI ACA / Ernest MINTAH
Friday 12 October	Intersnack / Bas VAN DEN BRINK
Wednesday 17 October	Away4Africa / Wim SIMONSE
Friday 19 October	IDH / Annelotte CRENA DE IONGH
Wednesday 31 October	CBI / Martin HULST CBI / Phaedra VEENENDAAL
Tuesday 27 November	ACA / Ernest MINTAH

Annex 2. Interviews with processing companies

Benin

Date	Resource person
Wednesday 3 October	ANI / Mohamed Ayman DO REGO
Friday 5 October	Fludor / Barthélémy GAGNON
Sunday 14 October	NAD & Co / Georgette TARRAF
Monday 15 October	Afokantan / Charles KAYEMBE
Friday 30 November	KAKE5 / Salvador ACLASSATO

Côte d'Ivoire

Date	Personne-ressource
mercredi 10 octobre	CILAGRI / Lucman DIABY
jeudi 11 octobre	Africa Négoce / Richard BOSSO CASA / Hussein GILANI
vendredi 12 octobre	STNC (ex-SOTRAPACI) / Ahmed KAMIL Agro Fronan / Charles PRAKPRA AYEPA
samedi 13 octobre	FMA / Marc Ibrahim TRAORÉ Caju Industrie / Namaro KANATÉ épouse KONÉ
mercredi 17 octobre	Afrique Agri Industrie / Ali Seydina SOW
mardi 23 octobre	Cajou de Fassou / Raphael KOUAKOU
jeudi 25 octobre	Nord Cajou / Siriki BAKAYOKO SOBERY / Didier COULIBALY Global Cashew Industries / Moustapha TOURÉ
vendredi 26 octobre	SITA / Sarata TOURÉ

Annex 3. Cashew Processing Value Chain Baseline Measurement

Stakeholder	Indicator	RCI - Value (2017)	Benin - Value (2017)
With SMEs	Number of SMEs operating in this sector	Total: 29 companies registered by CCA; approx. 27 SME.	Total: 6 companies active in 2017; approx. 5 SME.
	Number of SMEs with international business contacts (EU/EFTA and non-EU/EFTA)	Estimated 27 SMEs.	Estimated 5 SMEs.
	Number of exporting SMEs in this specific value chain	At least 10 exporting cashew kernels to USA and Europe. Five new companies started operations in 2018. One closed in 2017 for expansion in 2018.	3 companies exporting ashew kernels to Europe and the USA. Three other companies marketed in a consortium. One company started operations in 2018. One closed in 2017.
	If company audits are conducted: level of export knowledge and capacities, incl. reference to current growth (in turnover and/or export)	General level of export knowledge is moderate. Minimum criteria for export are respected. Growth % is irregular between companies and within sector.	General level of export knowledge is moderate. Minimum criteria for export are respected. Growth % is irregular between companies and within sector.
With BSOs and sector associations	Number of BSOs and sector associations active in this value chain	10 (CCA, FIRCA, GIC-CI, AEC-CI, CNE-CI, FENEPACI, FENECAJOU-CI, ACA)	8 (IFA, CNTC, FENAPAT, CONec, FENAPAB, CNCB, APIEx, ACA)
	Type of export-enabling services provided by BSOs and sector associations	Training, Exchange, Fairs, Lobby & advocacy, Credit guarantee, etc.	Sector coordination, Training, Exchange, Fairs, Lobby & advocacy, etc.
	Level of cooperation between the private sector, government, NGOs and knowledge institutions	Good. CCA and FIRCA facilitate sector coordination, exchange and financing of e.g. research, extension, credit guarantees, processing subsidies, etc.	Good between private sector and public service providers (ATDA-4, CRA-Centre). Poor level of cooperation with sector by national government.
	If BSO-assessments and / or SC-model is implemented: Management capacities of BSOs	n/a	n/a
With local government	Number of relevant export development strategies and international trade-related policies formulated and implemented	n/a	n/a
	Level of access to finance for SMEs	Poor to moderate. CCA credit guarantees provided to some units. Credits often come late.	Poor. No specific credit lines or guarantees available.
Contextual factors	Production figures of main products in this value chain (esp. Those products that CBI would want to focus on) incl. product pricing	Production: 780,000 tons RCN and approx. 45,000 tons RCK. Prices highly volatile in 2017 and 2018 (ranging USD 1.200-2.200/ton RCK).	Production: 140,000 RCN and approx. 13,000 tons of RCK. Prices high volatile in 2017 and 2018 (ranging USD 1.200-2.200/ton RCK).
	Direct export to neighbouring and other non-EU/EFA countries in volumes and EUR incl. growth in %	Direct export of RCN to Vietnam, India and Brazil. Small % through Ghana. Direct export of RCK to USA and Europe. Growth% estimated at 8-12%.	Direct export of RCN to Vietnam, India and Brazil. Direct export of RCK to Europe and USA. Growth% estimated at 8-12%.
	Main export destinations	Mostly USA. Also EU.	Mostly EU: Rotterdam, Hamburg, Felixstowe. Also USA.
	Employment figures (if available)	Estimated 3.600-4,500 persons; of which 80-90% women.	Estimated 1,050-1,300 persons; of which 80-90% women.
	Level of foreign investments	n/a	n/a
In this Value Chain	Main bottlenecks in this value chain for exporting SMEs	Access to finance. Technical and HR management. Machinery rapidly obsolete. Diversification of markets. No local markets for by-products.	Lack of government support and coordination. Access to finance. Technical and HR management. Machinery rapidly obsolete. Diversification of markets. No local markets for by-products.
	Main certification standards in this chain in this country	Compliance with AFI and US Food Safety standards. ACA certification. BRC certification (planned).	Compliance with EU Food Safety standards. ACA and HACCP certification. BRC certification (planned).