

PERSPECTIVES

ON CASHEW IN AFRICA

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**SELECTED
ARTICLES
&
OPINIONS**

FROM KEY EXPERTS

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AFRICAN CASHEW ALLIANCE



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About the African Cashew Alliance

BACKGROUND

The African Cashew Alliance (ACA) was established in 2006 as an alliance of African and international businesses with an interest in promoting a globally competitive African cashew industry. Today, more than 100 member companies work under the ACA banner and represent all aspects of the cashew value chain, including producers, processors, traders, and international buyers.

OUR NEW VISION

A sustainable African cashew industry that delivers globally competitive, value-added products and secures profitability for all actors

OUR NEW MISSION

To create a platform for accelerating growth and investments in the African Cashew Industry through partnerships, advocacy, market linkages, technical support and global networking

OUR OBJECTIVES

ACA seeks to:

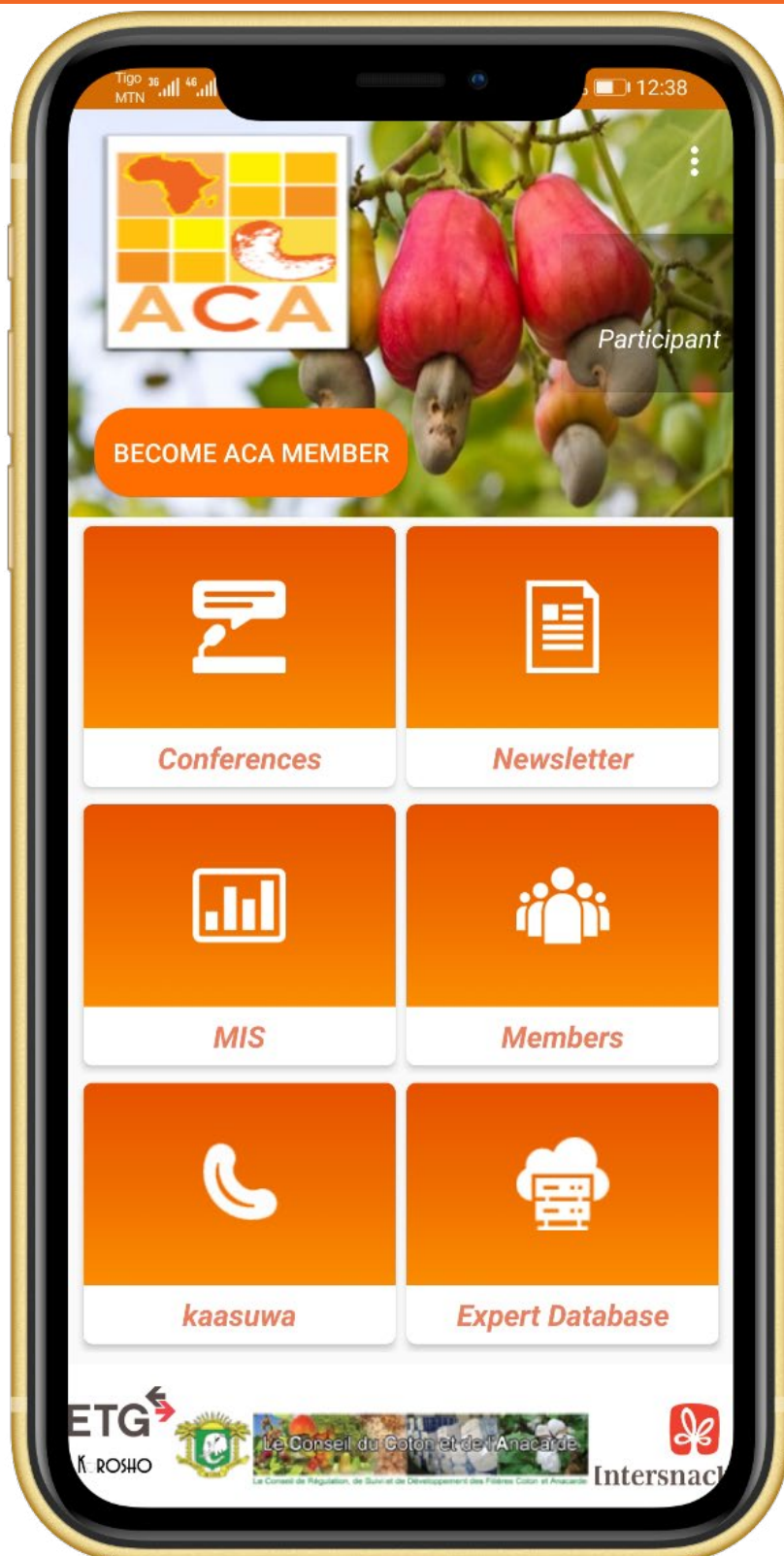
1. Facilitate networking among members and offer timely information on cashew sector
2. Advocate for sector improvements and partnerships
3. Facilitate food safety standards
4. Increase processing in Africa through investment promotion and technical support services



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FOREWORD

One of the greatest football players of all time, Johan Cruyff, said once: “football is a simple game, but to play football in a simple way is very difficult”. And that quote links to cashew processing: at first glance, it is an easy process; what is so difficult to shell and peel? However, making a positive bottom line with it is extremely difficult. It requires in-depth knowledge of many aspects of the business, from buying the right quality at the right price, to avoiding off-grades and leading a huge team of people in the processing plant. Being aware of the latest generation of processing machines, freeing funds for investing in it, and, at the same time certifying the operation for food safety and social compliance. Yet, still no guarantee for success because after doing the abovementioned, you may be confronted with a new challenge as kernel prices decreased

Unfortunately, I have seen many initiatives in cashew processing fail since 2012 when we decided as a company to start sourcing kernels from Africa. There was a lot of opportunism in combination with a lack of skills. Only a handful of plants, led by committed and skilful women and men managed to survive. The ACA Seal, developed by the technical team of ACA, Kraft and Intersnack was pivotal to laying a foundation for quality and food safety certification. The serious processing companies embraced the Seal and acknowledged its value for their operation. In order to find a place in the global market, local processing plants supplied to specialty markets such as organic a/o Fair Trade. These markets offered welcome premiums, which were business critical as the “economies of scale” were not always present.

During our last trip, visiting processing plants in Côte d’Ivoire in March of this year, I was positively surprised by the scale of the latest initiatives. COVID-19 caused a pause in our travel schedule and only via “hear-say” we knew that a new type of entrepreneurs was active in cashew processing. With great joy, we saw the teams and the plants and concluded: “this is what we have envisioned in 2012!”. All plants are still in the learning curve, basically, we all are in the cashew industry. However, the critical success factors seem to be there, and so we are of the opinion that this business has a bright future ahead. We invite you to read the Perspectives on Cashew and use the opportunity it offers to share your perspectives in the future



Wim Schipper

Director Intersnack Procurements

FROM THE DESK OF THE MANAGING DIRECTOR, ACA

We are glad to present to you the first edition of Perspectives in Cashew, a new initiative of the African Cashew Alliance (ACA). The Perspectives in Cashew is an annual publication of cashew industry articles and opinions across the value chain. The cashew industry is one that relies hugely on information, past experiences, and new learnings. It explains why the industry has a lot of information, rumours, and speculations. There is also the desire from experts, and some of the most experienced players of the industry to share their experiences. As an industry alliance, we believe it is by learning from each other's knowledge and experiences that we can build a solid, competitive, and sustainable cashew industry that benefits all players across the value chain, especially the most vulnerable.

This publication is a collection of opinions and experiences aimed at providing divergent views across the global cashew value chain. While we exercise some level of editorial control over this publication, we are mindful not to censor the opinions and views of contributors. We leave them as close as possible to their real views to allow readers to connect to these writers' realities.

We are glad about the positive response from industry players and experts to our call for opinions and articles for publication. This reinforces our firm belief that people have essential and impacting information, ideas, and opinions to share.

In this edition, we have put together 21 opinion pieces, and articles from experts and great minds in the industry. The publication has five different categories: country experiences; cashew production and quality; cashew processing and consumption; cashew policies, capacity building and collaboration; cashew food safety as well as perspectives on development partners and access to finance. We invite you all to read and learn from them, and possibly write your own perspective for consideration and publication in subsequent editions.

On behalf of the ACA Board of Directors, I express profound gratitude to all contributors for willingly sharing their knowledge and experience of the industry in this publication and GIZ/MOVE for sponsoring the printing of this publication. Finally, we would thank Mr Wim Schipper and Jim Fitzpatrick for making time to write the foreword and reviewing the publication, respectively.

Enjoy reading this publication.

Ernest Mintah,

Managing Director, ACA

Disclaimer!

Perspectives in Cashew is a collection of articles and opinions from cashew industry players. Views expressed in this publication are therefore the personal perspectives of authors and do not necessarily represent the views of the African Cashew Alliance (ACA) and its partners

COUNTRY PERSPECTIVES AND CASHEW EXPERIENCES





Gerard Klijn

Nuts2

25 YEARS OF AFRICAN CASHEW MEMORIES – 'CALLED TO MAKE A DIFFERENCE'

Benin, mid 90-ties. Well over 25 years ago I had my first experience travelling through Benin, that is where I totally lost my heart for this lovely country on this beloved continent. Why? Well, that is a story....and in writing my story I may even find reasons deep within myself that will surprise me, challenge me, make me joyful, or not....

My first trip was by invitation of SNV - <https://snv.org/> (with hindsight, it more feels like this was the call of God to move into Africa, fulfilling a desire that has been burning in me for years already), I was travelling with 'consultant Bert Beekman', who became more than a friend. He was a true inspiration, a source of joy and ignited the passion in me for the development of Africa and especially the Cashew value chain.

The idea back then was to organize farmer groups and link them to the market. However, how do you define what the market was, given at that time it was merely the international cashew traders that took RCN out of Africa. And although there was a processing plant in Benin, it was doing a meagre 10 metric tons RCN input a month. Needless to say, that factory disappeared quietly, and as things can go in a world seemingly ruled by money, one is left to wonder what the real intent for starting the factory was.

We started bravely and fearlessly (isn't that what 'the called' do?!), driven by strong desires to see farmers honoured for the crop they grew, harvested, and dried with care. We procured the first year with a loan from an impact financier (who withdrew the lending after the trial year) after which we employed all our capital to support the cash purchases.

I eagerly shared this vision back then -1995/96- to a huge group of farmers that were gathered, calling it my dream for the development of Benin cashew farmers. It brings back a memory that has given me strength and perseverance in the years following, as one farmer stood up and commented that he did not even have a dream for himself and his family in cashew farming. He went on to ask: how come a foreigner could have a dream for him? But in faith, he would join me in the endeavour to change the reality of himself, his family, and his fellow cashew farmers. Emotional memories, sweet memories, memories....

We started joining farmers into groups at the village level, then villages into larger groups. We procured their RCN for several years. Marketing it for them, taking a small commission only and plowing back any extra margin into the community. Because that is what we believed was the right thing to do, that fitted in with our desire to really impact the people.

As we consistently continued, farmers were bringing more volume each year, till the 1999/2000 season came, world crops were larger than expected stocks of kernels around the world were larger than reported, and prices crashed, really crashed to less than half it is the original starting point. Our trusted (international trading) buyer defaulted and walked away from the purchase contract, leaving us and the farmers in a major predicament.

Honestly, I lost my appetite and dream for cashews and Africa. I wanted to walk away from it all. But.... But God, really Him alone I thank, for not allowing me to just check out and call it a day! He called me again -May 2002-, now to Mozambique - East Africa, where we assisted in developing factories and marketing their processed kernels, where we saw His dream -which became part of

me in the mid 90-ties- come alive!!!

But what is left of the Mozambican industry today; how has it fared these past years; what inroads have factories made into the end-user market, and how strong are the alliances that were built since 2002? Because even a developed processing industry can change, and fast too.

The question I asked myself: 25 years of cashew experience and history, has much changed? Or is the above historic overview still the reality of many farmers and internal African traders today? And what conclusions have I drawn on the back of the experience shared?

The reality of then has changed, especially over the past couple of years, several new factories have opened, building up more processing capacity on a continent that has the largest cashew crop in the world.

But there is a big but the real link of farmers to the end-user market is limited, in fact, bar some good examples, non-existent. RCN trading is not the solution for the long-term benefit of the farming community since it lacks the long-term commitment and trust that is crucial for any relationship to being established and cemented. What has been proven is that establishing local processing creates more positiveness and impact that one can't even dream off!!

- Farmers have a stable market, year after year.
- Farmers, therefore, invest in their farm, in fact, factories invest in the farmers by providing inputs, training, beehives, links to microcredit, etc.
- Farmers suddenly see that cashews are a valuable crop, and the link with the local factory not only provides them stable off take and gives them stable income on price (measured against general market prices prevailing each year), but quality improves (which raises the price) and the volume harvested per hectare in fact increases immensely, in many instances even 3-fold or more!

Moreover, local factories that employ local people, create a huge impact in villages and cities where the plants are located. Each month salaries are paid which in turn are invested into the community.

So where not much seems to have changed, ***the good processing and farmer linkage examples that can be found in African countries, are a true signpost for the entire world to find direction on.***

What more has changed in 25 years?

Well, Africa has become a much more dominant player in the cashew world, because its share of world crop has grown from being approximately 40% of the world crop to close to 60%. However, what must be taken into consideration is that the world crop size has increased fourfold!

So African impact on the world stage has been major, which would lead to a question: Have African countries taken a lead in changing the dynamics of cashews; have African countries been successfully implementing a strategy around marketing African kernels in the world? Unfortunately, the answer to this is 'no'. The industry is rather fragmented, and it seems that only recently, representatives of certain governments have found a vision to direct the industry. Although these examples are far from representing a general trend,

they light the candle of hope that intentional governments have the ability to change their local industry for the better! The analysis is simplistic, but 3 government approaches can be identified:

- Governments that have changed nothing on discouraging RCN export, no implementation of export taxes (for example), no incentive for investment into processing, and limited or no overarching vision on establishing a local processing industry to create added value and local income for the local community.
- Governments that have tried to put some measures in place (limited export taxes on RCN, allowing the government to get some income on RCN exports, and this money to be invested in the cashew industry -is it?-), where local processing is not really encouraged or incentivized.
- Governments that have taken strong measures to reduce RCN exports and strongly incentivize the processing of cashews locally.

With the upcoming of local African processing, of course, new challenges will be faced. And one realizes that Asian processing is decades and sometimes centuries ahead of Africa. However, the world is now -more than ever- a village. And what happens in Asia on processing, can (not easily, but it can!) be implemented in Africa.

And with the increase in local processing, also the processing of by-products will (HAVE TO) take flight.

Shells have a huge value, especially today. Not only financial value for the factory but also calorific value for countries that for a great part depend on imports for fossil fuel. In the age of circularity, it is insanity to dump this as waste simply because the international market dictates. Hence, a need to also see change there.

Looking back 25 years, what stands out? Well, conclusions can -and should- be made on various levels, to avoid a one-sided view.

Trading RCN is much more lucrative in the long term than processing in Africa, hence various raw material trading companies have grown a lot and increased their footprint in Africa at a huge

pace. But it never connected the farmers to the market and hence did little to nothing to improve their long-term income and security!

Investing in processing is risky, and there are many companies that battle, or flat-out do not survive.

Lending in Africa is difficult. Working capital to procure RCN from farmers has not decreased in cost, which is partly due to the risk profile of the loan, partly because banking in Africa has not yet evolved to where for example Asia has grown to (an example would be Ghana and Malaysia which became independent in the same year. However, just look at how banking and industry -and hence cost- differ in today's reality).

In conclusion and with this note I wish to end: the fulfilment and joy that investing in Africa has, the reward of working with honorable farmers and the community around them, and the long-term linkages established, are totally and one hundred percent worth it. Therefore, we are continuing to work in Africa.

25 years has gone in a whisp of smoke, a breath, a sigh. Money made, or money lost, is -in the scope of time- really inconsequential. The Bible says: Hope deferred makes the heart sick, but a longing fulfilled is a tree of life.

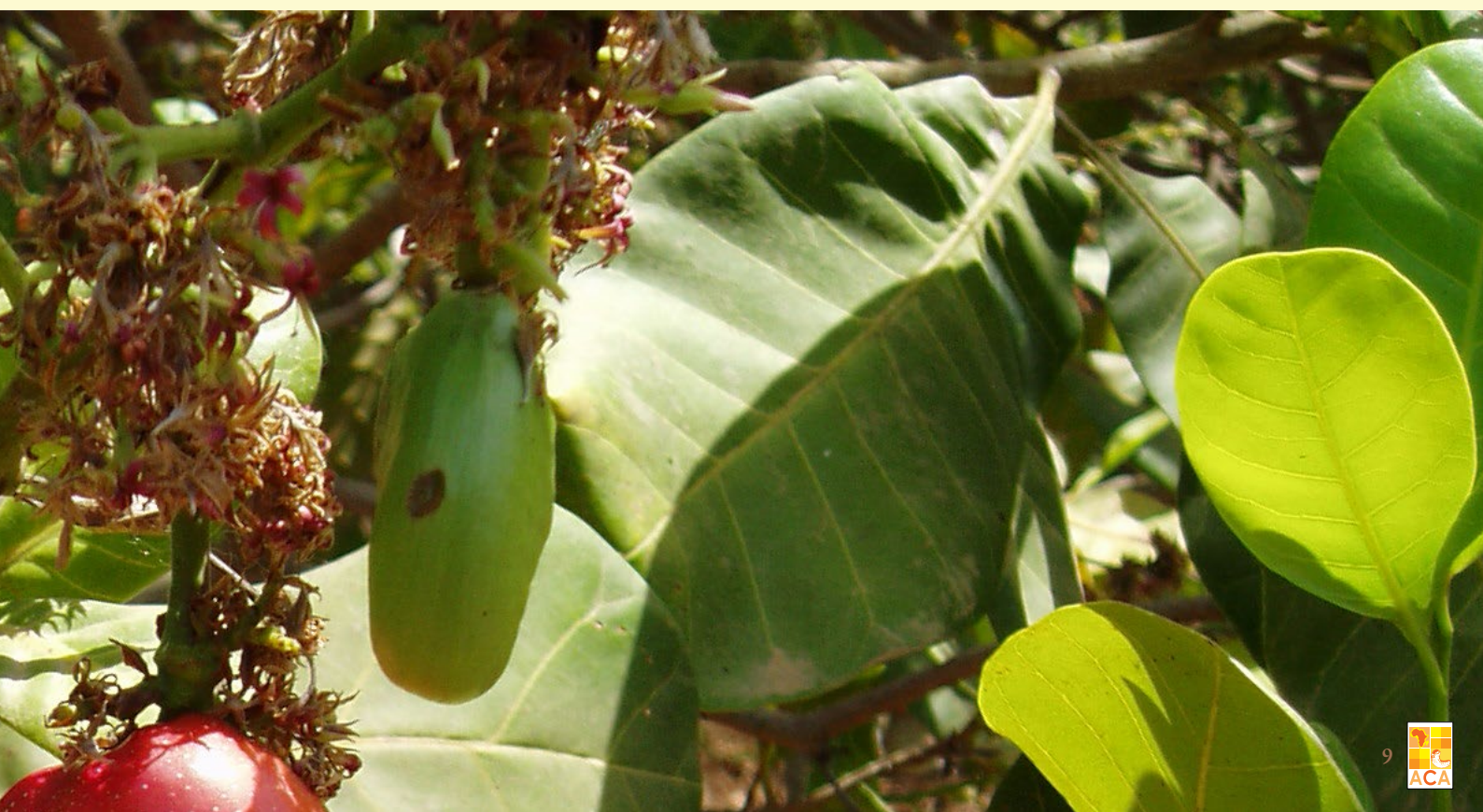
Having been working in the African cashew industry for me and my team is truly a longing fulfilled and as such it has become a tree of life! I realize that knowing that one is called by Grace is needed, for myself -it became so clear especially in times that things seem to go totally wrong- and for the entire value chain.

Because without that call, Cashews will 'only be' a trader's crop that finds its way to the market without looking to benefit the people that have put most work into the crop. ***And 25 years from now, that cannot be the conclusion!***

May The Good Lord God continue to bless each and every one who works in this industry, and that we may see a lot of change for the positive of the entire industry in the next 25 years!

Gerard Klijn

Gerard has worked in the nut industry, with focus on developing African cashew projects – linking farmers to market – for the past 29 years. Passion and faith are words that characterize him and his Dutch and African team members, and help him to stay focused at all times. Together with local partners, he believes he can unlock Africa's potential.





Alfred Francis
Cashewnut Board of Tanzania

WAREHOUSE RECEIPT SYSTEM: EVACUATING TANZANIAN CASHEW FARMERS FROM DEEP POVERTY

Marketing of cashew nuts in Tanzania has gone through several stages until 2007 when the warehouse receipt system was adopted in cashew marketing. Through this system, farmers take their crops to Agricultural Marketing Cooperatives (AMCOS) and they are given receipts for their crops. When there is enough cargo at the AMCOS, a minimum of 10 MT, collected cashew is transported to the Auction warehouse under the identified warehouse operators. Cashew quality from AMCOS is determined by checking moisture content, nut count and SOT. If RCN meets requirement, it is accepted in the warehouses and the AMCOS representative is given a receipt showing the total amount of RCN received and its quality. During the Auction, the Union which is the umbrella association of AMCOS prepares sales catalogues by using information gathered by the warehouse operator.

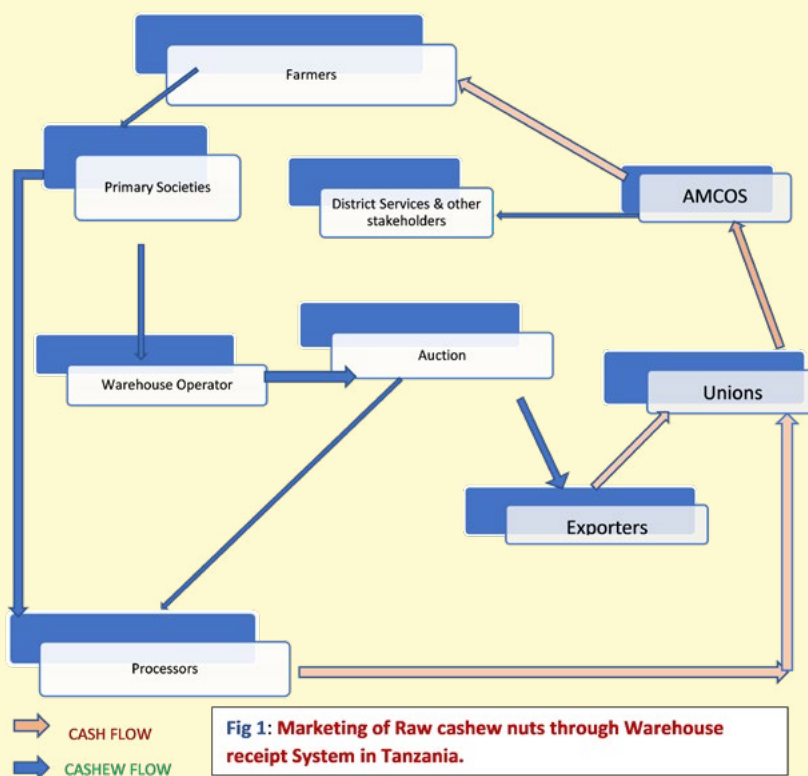
Since its introduction in 2007 in Tanzania, the warehouse receipt system (WRS) under the Agricultural Marketing Systems Development Programme (AMSDP) has played a significant role in improving the marketing of agricultural products especially, RCN. This has also contributed to improved agricultural production and productivity, farmers' confidence, stability of producer prices and technological uptake in Tanzania. After the introduction of WRS farm-gate prices of cashew nut, selling price rose from 250 (USD 0.2) Tanzania Shillings in 2000 to 800 (USD 0.343) Tanzania shillings in 2007/2008. Currently, Tanzania cashew nuts are traded at an average price of above 1 USD.

The price increment over the years has resulted in increased production as farmers keep investing in new farms and employing good agricultural practices. In 2005, Tanzania produced 71,000 metric tonnes as compared to 99,000 metric tonnes recorded in 2008 one year after the warehouse receipt system was commissioned for the marketing of cashew nuts in the country. Production kept mounting until the 2017/2018 marketing season where the country recorded the highest RCN production of 313,000 metric tonnes.

The development of the WRS has emerged as an important means of improving the performance of the Agricultural Marketing System in Africa following its liberalization in the 1980s. This is one of the reforms measures undertaken by the government of Tanzania to address the problem of inefficient crop marketing system. The problems which faced the industry before WRS included a poor and costly mechanism for financing, performance and payment risks associated with cash transactions, lack of forward contracting and lack of standardized quality and grading.

Prior to WRS in Tanzania, private companies used to exploit farmers by buying cashew at prices that were too low to cover even the input costs through a network of agents who went down to buy RCN from farmers. Low prices discouraged farmers to dedicate time and energy to the production and expansion of farms.

Furthermore, the WRS is an important contribution to improved agricultural commodity trade, reducing market instability and political risks. Through encouraging a strong and efficient private trade, it has reduced the role of government in agricultural markets.



Benefits of Warehouse Receipt System

The Warehouse receipt system facilitates trade by enabling commodities of known description to be assembled at stated locations. The WRS enhances marketing efficiency in cashew nut markets. The use of a warehouse as delivery locations allows transparent trade in agricultural commodities to develop between farmers and cooperative society thereby reducing the length of the marketing chain and narrowing distribution margins.

Agricultural productive work is the best mechanism for lifting people out of poverty and the strategies to expand economic opportunities and promote income growth. It's necessary for sustained poverty reduction highly supported by the direct relationship between cashew nut income of individual farmers and poverty. A well-developed WRS provides a forum for the development of the entire commodity chain, providing incentives for a range of different parties, including farmers, traders, financiers, and processors. Cashew nuts bring in foreign currencies an average of USD 290 million per year with a record of over USD 510 million in 2017/2018 marketing season

Bulk warehoused crop attracts buyers at very good prices as it cuts some of the costs which would have been incurred by the buyers in collecting, assembling, and ferrying materials from farmers scattered in rural areas with small quantities of cashews. Again, bulk crops provide farmers through their association negotiations power which would not have been possible if every single farmer contacted the buyers individually.

With the introduction of WRS, the life of cashew farmers has improved significantly as the income obtained from selling their cashew nuts; among other things is used to educate the young generation of the community, build new and modern houses, and has enabled them to access good health services.

As it has been said, there is no road without corners; Warehouse Receipt System is not free from challenges as it demands farmers to surrender ownership of the materials to the third party and wait for 10 working days for the payments to be effected. Second, the system involves a reasonable number of stakeholders which need financial resources to manage the system and time to complete the necessary procedures.

Alfred Francis

Alfred Francis is the Director General of the Cashew-nuts Board of Tanzania. He has a BSc degree in Agriculture and a masters' degree in International Business. He is also trained in project management. Francis has vast experience in management of both private and public institutions having worked with the National Development Corporation, Tea Board of Tanzania, FINCA International and the Ministry of Education. Francis also has a wide experience in conducting research and consultancy works in agribusiness and microfinance.





Hermann ABIHONA
IFA-Benin

CASHEW INDUSTRY IN BENIN: SITUATIONAL ANALYSIS

The cashew industry in Benin has been experiencing a positive outlook for the last five years as a result of levels of investments made in the sector by the government and private sector actors. Since 2018, there has been a general restructuring in both substance and form of State enterprises in charge of managing the country's agricultural policy. This reform has led to the establishment of a new institutional environment that has culminated in the creation of territorial agencies specifically responsible for developing the commodity chains with a particular emphasis on commodities with high economic potential, including cashew nuts.

A National Cashew Nut Sector Development Plan (PNDEFA) was therefore designed and served as a basis for orienting investments in the cashew nut sector. The operationalization of this plan assisted in initiating two major projects: the Support Project for the Competitiveness of Agricultural Sectors and Export Diversification (PACOFIDE) and the Support Project for the Development of the Cashew Nut Sector and Agricultural Entrepreneurship (PADEFA ENA) for an acceleration of growth in the cashew nut sector in Benin.

These two projects together bring an investment of more than 175 million dollars to strengthen the productivity, competitiveness, and marketing of Beninese cashew products. In actual fact, this is a demonstration of a political will to strengthen the investment environment with a view to facilitating private investment and making it easier for the weakest links in the cashew value chain to access financing. The implementation of these two major projects has already started to yield satisfactory results on the ground which are reflected in the statistics and performances achieved in the cashew nut sector in Benin.

Production

Cashew production has remained very dynamic in Benin over the last five years with substantial and structured support from the public sector. The ambitions of the Beninese government five years ago were to upgrade more than 250,000 hectares of old cashew plantations and the installation of more than 60,000 hectares of new plantations for a production target of 300,000 tons in 2021.

This ambition has given an impetus to producers and farmers to take advantage of the various subsidies to improve their productivity levels as well as their incomes. The efficiency of these support measures will have to be accompanied by the establishment of an organized system of supply of inputs (certified seeds) and of close agricultural extension advice, specifically for the cashew nut. This is the reason why the government has set up a training programme for 800 specialized cashew plantation development workers, certified 40 nurserymen, approved by private structures for local agricultural advice to producers. These actions will have a strong impact on the cashew nut production system in Benin.

Furthermore, specific research activities have been initiated by the National Agricultural Research Institute of Benin in collaboration with the research units of the national universities of Benin and some development partners such as Technoserve to provide knowledge and develop the necessary tools to create efficient plant material according to the agro-ecological zones of Benin. All these efforts together give good prospects for cashew nut production

in Benin and the Beninese government is further committed to contributing to accelerate growth in this sector.

A programme to plant 2 million grafted seedlings was initiated in 2021 and all nurserymen have been mobilized for this purpose. An acquisition subsidy of nearly 84% of the purchase cost has been put in place to allow producers and agricultural entrepreneurs to have access to quality, certified grafted plants. At the end of all these reforms, Benin recorded a production of 252,000 tons in 2021, (Source: IFA-Benin) and is on its way to be among the 5 largest cashew nut producers in the world. The objective is to reach 500,000 tons by 2030, all this as a means of controlling the effects of climate change. The producers of the National Federation of Cashew Nut Producers of Benin (FENAPAB) network strongly contributed to this performance in 2021 with nearly 80,000 producers involved and structured in nearly 900 village cashew nut production cooperatives.

Marketing

Benin's raw cashew nuts have been particularly attractive on the international market in recent years due to demand despite a significant decline in the quality of nuts offered on the local market. The National Council of Cashew Exporters of Benin (CoNEC-Benin) has registered 127 RCN exporters who have expressed their intention to export nuts from Benin for the 2022 season. A record number that confirms the attention given to the Beninese nut.

Generally, the cashew market is very open and overly liberalised, allowing exporters to interact directly with a multitude and diversity of supplier categories, thus creating an internal fluctuation in the price of cashew nuts. In 2022, the local market recorded a peak price of 780 CFA francs/Kg while the government set a floor price of 350 CFA francs/kg at the beginning of the season. In the last two years, there has been a major difficulty in accessing packaging inputs (jute bags), which situation has had a considerable impact on the storage conditions of the nuts in the villages. In addition to being expensive, the bags are inaccessible. This has affected the quality of the nuts in stock. The quality of the nuts was noted to be between 42 and 49 KOR.

It should also be noted that the Covid-19 situation has led to a general increase in freight and difficulty in accessing containers for shipments. In 2021, Benin nuts were exported to India, Vietnam, China, and Turkey. Approximately 5,612 containers of 20 feet and 5,261 containers of 40 feet were shipped for a quantity of about 233,000 tons of raw cashew nuts exported. It should be recalled that a significant quantity of Beninese nuts leaves via the land borders. That quantity is estimated at 9,000 tons according to reports by our observers at the borders. Benin exports nearly 90% of its national production. A situation that the government of Benin wants to change.

Processing

Benin has clearly defined its objectives for processing raw cashew nuts. The objective was to process 50% of national production by 2021. The indicators showed the difficulty of processors to get supplies on the market in the face of the great price competition offered by exporters. The National Council of Cashew Processors of Benin (CNTC-Benin) indicated that with its 14 member

factories, about 10,000 tons of raw cashew nuts were purchased by its factories in 2021 while some factories closed down. Some factories have even closed down. Due to these negative results, the government took the risk of raising its processing targets to 100%, this time with strong measures to encourage new investors in cashew processing, but also to support existing factories. A special programme to promote investment and industrialization was therefore initiated and resulted in 2019 in the creation of the special economic zone of Glo Djigbé (GDIZ: Glo Djigbé Industrial Zone). This zone will bring together the processing of about 80% of local agricultural raw materials including cashew nuts. It should be recalled that the 14 member factories of the CNTC have a total processing capacity of 64,800 expandable tons.

Regulation

As regards the regulation of cashew nut marketing and processing in Benin, it should be noted that in-depth reflections are underway to examine all the necessary support that should be provided to the actors for a structured development of the cashew industry. But in the meantime, the following regulatory measures are being put in place to prepare the actors for the various changes that will be brought about by the ambitions of the Beninese government:

- The decision to abolish the export of raw cashew nuts from Benin from 1st April 2024;
- The decision to systematically control the quality of raw cashew nuts loaded in containers before shipment and to issue a quality assurance certificate. This control is done by the Beninese Agency for Food Safety (ABSSA) in collaboration with the National Council of Cashew Exporters of Benin;
- The decision to organize the marketing of raw cashew nuts around self-managed shops and only through cooperatives. This decision has been taken by the members of the Inter-branch organization and is awaiting validation by the Beninese government.

In view of all these considerations, it is important to believe that the trend in Benin could seriously change by 2030 at the level of all the networks of the cashew value chain and the actors are available to welcome the partnerships/investors for a better performance of the cashew chain.

Hermann ABIHONA

Mr. Hermann ABIHONA is an agricultural engineer by training. He graduated from the Faculty of Agricultural Sciences of the University of Abomey-Calavi. He is the General Manager of H-POWER GROUP, an investment and business development company in several fields, notably agribusiness, transport, digital technology, energy, etc. With his company, he has particularly contributed to the strengthening of supply chains for tropical products (cashew, soya, shea); advised agricultural producers on smart practices to increase yields, etc. He has a good knowledge of the distribution networks of agricultural products for export and has a good experience in business management and knowledge of sectoral policies, especially in the agricultural and services sectors. With his years of experience in the export of cashew nuts, he held the position of Secretary General of the National Council of Cashew Exporters of Benin (CoNEC-BENIN) before becoming Vice President of the same association. Since November 2021, he assumed the position as President of the Inter-Branch Organization of the Cashew Industry of Benin (IFA-BENIN). It should also be recalled that he is an Expert in Strategy and Business Management and Master Trainer in Cashew Value Chains in Africa.





John Roa
Bijagos Comerciais S.a.r.l.

CASHEW IN GUINEA-BISSAU – PERSPECTIVES

Nestled on the west coast of Africa and sandwiched between Senegal and Guinea-Conakry, the tiny country of Guinea-Bissau with a population of under 2 million is often overshadowed by its larger neighbours.

But the country has one attribute: It is the third-largest cashew producer in West Africa, which makes tiny Guinea-Bissau a giant in the cashew world, right behind Côte d'Ivoire and Nigeria.

Cashew is the mainstay of the economy and has been the largest export product since 1976. The current crop size is estimated at 275,000 MT per annum with about 235,000 MT exported through the port of Bissau and a further 40,000 MT exfiltrated across the Guinea-Conakry and Senegal borders. Equally important, the raw cashew nut in Guinea-Bissau is of superior quality with a high KOR of 53-55 lbs and a thin shell. This has made it a preferred origin, especially for processors in India and Vietnam.

Given the primacy of cashew to the Guinea-Bissau economy, it is worth looking at the current cashew trade and what its bottlenecks are and then exploring future possibilities in processing and value-addition.

Village to Vessel

Farmers engage pickers to collect the nuts and bring them to the village ('tabanca' in crioulu). Intermediaries set up multiple 'posts' to aggregate these small quantities and then arrange to transport the goods from the Interior to the port city of Bissau, where exporters have either prefinanced the goods or buy on a spot basis at the authorized weighbridges. This cargo is then dried and loaded on bulk or container vessels to processing destinations in India, Vietnam and even Brazil.

The flow of goods from village to vessel looks pretty straightforward and hassle-free but as always, the twist lies in the details.

Red tape

Cashew being the biggest game in town, it is to be expected that the government will get involved and tax the same. However, in Guinea-Bissau, there are over a dozen charges and taxes imposed right from the farmer level to the exporter level. These taxes are collected by different bodies at different stages, and this creates a lot of paperwork and red tape. Further, there is a tendency to add/increase taxes every year which will sooner or later prove counter-productive to the sector's growth.

Cooperatives

Many efforts have been made, notably by NGOs, to create farmers' cooperatives, but without much success. Exporters hesitate to deal with the few cooperatives that exist as there is no guarantee of performance and no guarantee for the security of funds prefinanced.

Prefinance

Exporters prefinance intermediaries in the form of rice or cash starting in December. This prefinance is crucial, not only to stave off hunger during the months before the cashew season but also to enable the farmers to dress the plantations in preparation for the harvest.

The prefinance is given by exporters on an open credit basis with no guarantees or assets to back the same, except for the word of the intermediary. Naturally, the experienced exporters choose their intermediaries very carefully. However, the number of defaults is increasing every year, usually with new traders and intermediaries. This is limiting the appetite of exporters to prefinance and consequently, limiting trade.

Roads

A lot of the Interior villages are accessible only via dirt roads, and major sections of the highways need extensive repairs. It is common to see trucks immobilized by the side of the highways due to breakdowns caused by poor road conditions.

Port infrastructure

The Port of Bissau has been functioning with only 2 main berths for decades. Dredging has not been carried out for long, resulting in the maximum summer draft being less than what is officially stated. This means vessels, especially bulk vessels, have to spend an inordinate amount of time in Bissau to load cargo.

The net effect of all of the above factors is slower goods and funds rotation, resulting in higher operational costs.

In the neighbouring Gambia for example, the capital can be rotated twice or thrice during the season. In simple terms, this means in The

Gambia you can do \$3 million of business with \$1 mil of capital. By contrast in Guinea-Bissau, the capital is rarely rotated more than once.

In light of the above issues and also because of the obvious economic benefits, it would seem that the way forward is to move towards processing and value-addition. It is worth noting that close to 50% of the world's RCN is grown in West Africa. Yet processing and value-addition lag far behind in most of the producer countries. The case for processing becomes more pressing in Guinea-Bissau as about 85% of the families depend directly or indirectly on the cashew sector.

What then are the key factors and actions that can spur the growth of processing in Guinea-Bissau?

This is a topic that has animated discussions amongst stakeholders in the country for years. The list is long. However, in the interest of brevity, I will highlight just the following 3 issues. I have picked these issues because they cannot be solved by the individual action of private entrepreneurs acting on their own, but which will require state or sectorial body intervention.

By-products

The by-products like CNSL (cashew nutshell liquid) and testa have commercial applications. However, the initial units set up in a nascent industry are unlikely to individually produce enough volumes of by-products to be commercially viable. The government or sectorial body could organize the collection and processing of by-products in one, centralized unit.

Similarly, the disposal of the shell is or should be, a major concern in Africa. About 75% of RCN is shell, which needs to be further transformed or disposed off in an environmentally safe manner. There are several solutions available, right from manufacturing briquettes to using the shell as fuel in industry and bakeries, and even generating electricity. But these projects need centralized intervention to get them off the ground and are beyond the scope of individual entrepreneurs setting up cashew processing units. At least in the nascent stages.

Brokens and off-grades

There is currently no significant market for brokens and off-grades in Africa. The uses of brokens and off-grades in the bakery, desserts and general foods industries are many. A centralized effort will be needed to develop this value-added sector in the country. Valorisation of these items can significantly alter the cost structure of processing.

Cost of working capital

Unlike Asia which imports RCN from multiple origins throughout the year, the cashew processing units in Guinea-Bissau need to buy their full-year inventory during the season (usually 6-8 weeks) and then carry the same for the rest of the year. Bank interest rates in Guinea-Bissau are among the highest in the world and it is not viable to finance cashew inventory at such rates. The government can declare cashew processing as a priority sector and encourage banks to provide working capital financing at preferential rates.

To sum up, none of the roadblocks facing the industry is insurmountable. Côte d'Ivoire and Nigeria in this region have already shown the way by implementing innovative policies and the result is that the former has become the world's no. 2 cashew kernel exporter today. Other countries in the region can use the learnings of these countries as a template to formulate policies suited to their situations.

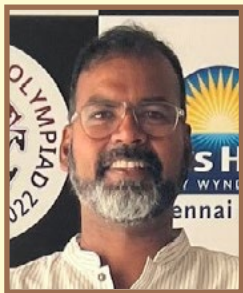
Guinea-Bissau is truly a cashew country. Drive into Bissau through the border posts at São Domingos, Pirada/Gabu or Quebo and you will see miles and miles of cashew plantations on either side of the highway.

Given the importance of this sector and its potential to transform the economy, it is hoped the government will at the earliest draw up an ambitious program for the orderly and sustainable growth of the crop, and also formulate a specific industrial policy for cashew that incentivizes investment in processing and value-addition activities within the country.

John Rao

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PERSPECTIVES ON CASHEW IN SENEGAL & GAMBIA 2022

2020 & 2021 were years of staying alive - 2022 was about traders being “fast and furious” and buying raw cashew nut like it was going out of stock.

Traders showed a lot of unneeded aggressiveness in the Market disregarding the writing on the Wall.

There was a lot of money floating behind the rumour that the West African Crop was short by 30% Not realising that even a 50% Short crop did not matter as Vietnam had dropped its buying sharply.

Most Exporters saw almost 70% of their Vietnam sales being diverted to India. We saw a Lot of trader activity from traders in Dubai.

Senegal's production was always unclear up till four years ago - This was because hardly any exports happened from the ports of Senegal and most if not all exports happened via Banjul Port. Senegal's crop was mostly attributed to crop flow from Bissau.

In the last few years, the country has shown stability in the crop size, between 80,000 to 100,000 tons. Of course, the most common statement that the Bissau/Senegal border crop keeps going to Senegal continues. In 2022, about 85,000 tons (+/- 10% Variation) was the commercial crop similar to that of 2021.

There has been a ban in place for the last 4 years on moving RCN from Senegal via The Gambia which was the accepted way of exports for at least the last 20 years. There was also a ban in place for the last four years wherein even road movement of RCN and export via Dakar port was banned. This year, the road ban was lifted after a lot of suspense and pain.

This year, the only container vessel that they had to move containers between Ziguinchor and Dakar had a break down and the repairs took a lot of time and never was ready. Finally, the Government somewhere in July after pressure from all sides gave in and lifted the road ban and permitted Containers to come from Dakar to Ziguinchor by road. To everyone's surprise the road export was smoother than expected. Trades happened between \$1,700+ levels to 1,500+ levels.

There is an Agropole Plan being put in place to promote Cashew Processing in Senegal.

The Gambia's commercial crop in 2022 was 25,000 tons, similar to 2021. The market went up to crazy highs on rumours of scarcity on the West African Crop. Trades happened between \$1,800+ levels to 1,500+ levels. The whole trade and market was in turmoil with a crash that happened in the middle of July. The exports out of Gambia have become more & more difficult due to The Gambia port becoming much more expensive than before.

By Amrith Kurien

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PERSPECTIVES ON CASHEW PRODUCTION AND QUALITY





Seth Osie- Akoto
Ministry of Food and Agriculture, Ghana

SUSTAINABLE CASHEW PRODUCTION STRATEGIES IN GHANA FROM (2015 – 2025)

Cashew as a crop was introduced in Ghana in the early 1960s. However, cashew became a major cash crop after the Government of Ghana partnered with the African Development Bank to implement the Cashew Development Project (CDP) which covered 2002 – 2010.

Under the project, cashew was introduced in three (3) different agro-ecological zones namely, Forest-Savanna Transition, Guinea Savanna, and Coastal Savanna Zones.

From 2002, there has been growing interest in cashew cultivation in the country due to its importance to the farm families coupled with the high demand by the international and local markets. Cashew cultivation provides food security for most farm families because the crop is harvested during the lean season for major activities to be carried out on all the major staples crops (e.g., maize, yam, plantain, and millet, etc.) and therefore provides income to cover critical household expenses during the period.

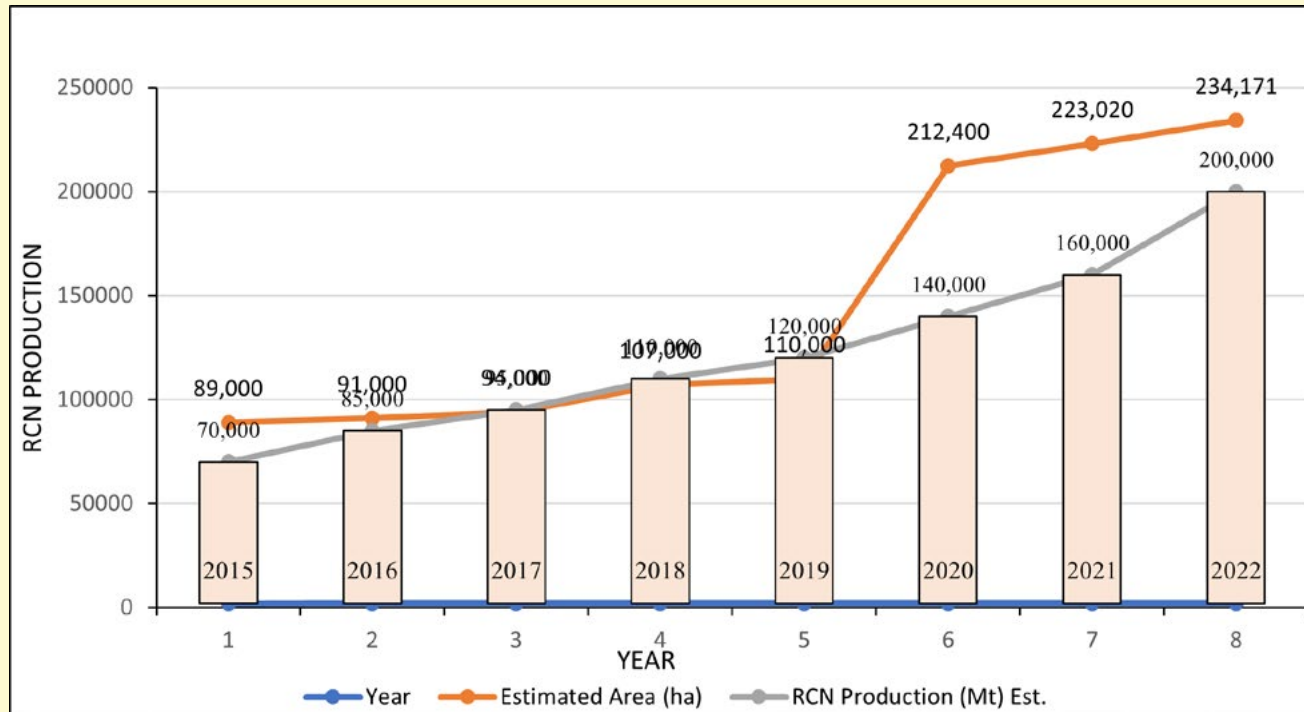
It is reported by MoFA (2008) that, cashew is grown as a smallholder crop. It is estimated that about 88% of cashew farms are owned by smallholders with farms ranging from an area of 0.8 to 3.0 ha and 12% of farms being medium to large plantations with sizes ranging from 4 to 40 ha

Major Results from Cashew Development Project (CDP) Interventions

Due to the interventions put in place by the CDP of the Ministry of Food and Agriculture and current advances made in research activities, current cashew yields range from smallholder farms ranges from 800kg/Ha to 1500kg/Ha. Similarly, processing characteristics include an average nut weight of 8g and Kernel Outturn Ratio (KOR) of 52/lb.

In the 2021/2022 season cashew production is estimated to be 200,000 metric tonnes. Ghana's production has grown quickly from a small base in 2015 with an average growth rate of 14.3 per annum, although this slowed to 12.5% in 2020 before rising sharply to 20% in 2022 (Fig.1). Strong growth is expected to continue for the next five years and above

Fig. 1: Estimated cashew production data from 2015 to 2022



Source: MoFA-DCS, 2022

It is estimated that production could reach 300,000 metric tonnes by early 2030 since the area under cultivation continues to expand due to deliberate interventions from the Ministry of Food and Agriculture and other partners such as the Cocoa Research Institute of Ghana (CRIG), Competitive Cashew Initiative of GIZ (COMCASHEW) now Market-Oriented Value Chains for Jobs & Growth (GIZ-MOVE) and Tree Crop Development Authority. Ghana ranks first for quality in the sub-region based on KOR and nut size and it may rank second behind Benin for nut processing characteristics (ACA 2021). Today the cashew sub-sector in Ghana is contributing significantly to the

economic growth of the country, contributing 40% of the USD 586 million proceeds from emerging top 10 Non-Traditional Export commodities (GEPA2020).

Sustainable Cashew Production Strategies from 2015 to 2025

To ensure sustainable cashew production, some interventions implemented from 2002 and beyond include (i) the use of improved planting materials (poly-clonal seeds and cashew grafts by smallholder farmers); (ii) the rehabilitation of unproductive farms through canopy substitution (Top working); (iii). Integrated pest, disease and weed management, (iv). pruning and selective thinning

With current farming challenges such as soil erosion and the loss of organic matter and soil fertility, the adoption of soil conservation practices as tools for sustainable production cannot be over-emphasized. This paper summarizes some of these practices and the use of climate-smart cashew clones for small holders' adoption to ensure sustainable cashew production in Ghana.

a. Soil Conservation Practices – these are tools that cashew farmers are using to prevent soil degradation and build organic matter. In this regard, cashew farmers are increasing the organic matter content in their farming areas thereby making it conducive for cashew cultivation for a longer period (Osei-Akoto; “Dissertation, 2019”). Also, farmers are encouraged to apply decomposed poultry/cow dung at a rate of between 5kg/plant for younger plants and 10kg per plant for older plants. This helps to increase the nutritional status of the soil to support the growth and productivity of the cashew plant. (Arthur et. al., 2019).

b. Intercropping practices – These involve cultivating two or more crops in a field simultaneously. These practices have regained attention in cashew-producing areas, particularly in dryer areas due to their beneficial effects. Intercropping food crops with cashew significantly improved cashew growth. Based on a field trial, by Opoku Ameyaw et. al. (2011), intercropping cashew with food crops in Northern Ghana generated additional returns besides growth and yield. It is therefore advisable to intercrop cashew with food crops specifically in northern Ghana during the early period of the establishment to generate additional returns to farmers as a strategy to ensure sustainable production.

c. Use of cover crops - Despite the low adoption rate by farmers, cover crop usage in farming systems is a proven approach and certain research have been conducted into their use in tree crop plantations with the main objective of restoring fertility, water retention productivity and environmental quality. Research results from cover crops *Mucuna braciata* and *Pueraria physioides* grown as life mulch system under cashew have the potential to improve soil fertility and maintain satisfactory productivity (Osei-Akoto; “Dissertation, 2019”).

d. Use of Climate Smart Cashew Clones- this is one of the strategies that are being adopted by farmers to increase the productivity of cashew plantations throughout the producing areas. For example, clones SG266, SG287 and BE059 with average nut weight and yield of about 7.7g and 1.4mt/ha/year respectively have been found to perform better in the northern part of the country where environmental conditions are very harsh whereas the other clones such as TAN 059, TAN 039, TAN, 992, SG265, BE079, SG136, SG185, BE107, BE018, TAN100 with average nut weights and yield of 7.8g and 1.5kg/ha/year respectively are more suited to the southern zone of the country (CRIG. 2021).

e. With climate change and its effects on cashew production, recent research studies have indicated to farmers that the adoption of these above strategies if adopted, would ensure cashew production in a sustainable manner in the coming years.

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Osei-Akoto is a Crops production expert, farming system expert, adult extension trainer and facilitator of community development programmes and agricultural projects. He has worked as a trainer, key player in research-extension activities and a facilitator of agricultural programs/projects at community, district, regional and national levels in Ghana since 1988. An experienced, matured Agronomist/Consultant in the Crops Sector who has worked on cashew for 26 years and other crop farming systems. He has participated in over 22 workshops and conferences on cashew value chain in Africa. He is a co-author of two (2) cashew reports: A Value Chain Analysis of the Cashew Sub-Sector in Ghana (2010), and Poverty Impact Assessment –PIA Case Study in Ghana (2010). Lead Resource Expert for Cashew Master Training Programme being spearheaded by the GIZ / Competitive Cashew Initiative targeting participants from cashew producing countries in Africa. To date over 900 participants from different countries of Africa had been trained on Cashew Plantations Establishment and Management. Progressive responsibility has been held from the position of Assistant Agricultural Officer to the position of Director of Crop Services in the Ministry of Food and Agriculture (MOFA), Ghana. Since 2017 to date, he is the lead Director in the implementation of the Planting for Food and Jobs campaign (Food Crop Module) which has brought positive changes to the food security needs of the country.

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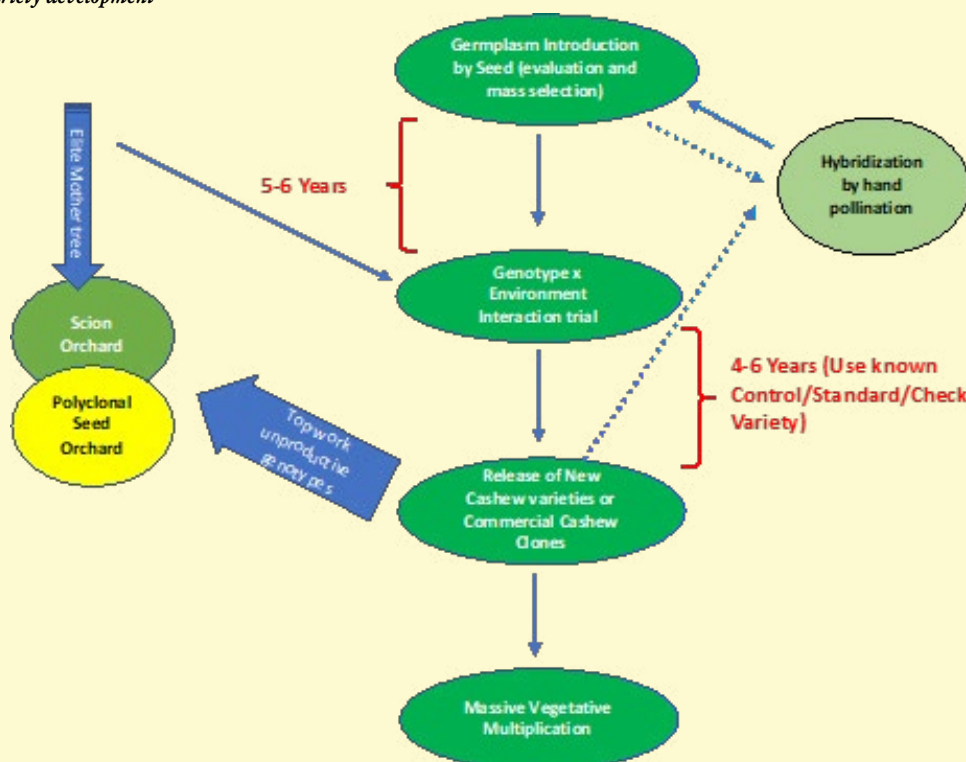
Prof. Peter Masawe
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DEVELOPING NEW CASHEW VARIETIES: IMPORTANT CRITERIA

One of the biggest challenges in the cashew industry in Africa and the whole world is inadequate cashew varieties. This is because unlike annual crops, the process of developing cashew varieties takes many years of evaluations before obtaining yield data that can provide meaningful results. Cashew is a perennial tree crop which starts producing economic yield in the third year after planting if it is rainfed. The cashew yields usually continue to increase gradually until 10 years and beyond when yield stability can be attained.

This means several years of field observation are necessary before selection can confidently be undertaken. This is followed by the establishment of cashew genetic trials which also require huge land, adequate human resource, and reliable and sustainable financial resources. It takes about 9-12 years to develop cashew varieties as shown in Figure 1. Cashew varieties are developed from cashew germplasm collection (local and foreign), hybrids and of recent, selected elite mother trees which will be discussed later.

Schematic cashew variety development



Developing new cashew varieties requires consistent yield data collection and nut quality assessments for several years as shown in Figure 1 above. Generally, plant breeding demands variety to be tested for Distinctness, Uniformity and Stability (DUS Test) before it is released. In the case of cashew, an important component among the three is distinctness because varieties are multiplied by the vegetative propagation method which naturally makes them uniform and maintains their stability. Farmers' preference is also another requirement in the variety release, and this is why it is important to ensure that the entry materials in the cashew genetic trials are also planted in small demonstration plots in farmers' fields in several locations. These plots will be used to conduct stakeholders' assessments of the preference of the varieties.

Main Criteria for Selecting Cashew Varieties

Tree Yields

Yield, in cashew is the most important selection criterion but it is not a straightforward component as it also depends on other factors. This includes tree types (dwarf, common, or hybrid), age, canopy size, soil types and rainfall. Some trees are high yielding but have small nuts. These nuts may be good to the farmer who are for income from the weight of the nuts but are not preferred by cashew processors due to high processing costs and more importantly small kernels fetch lower prices in the international markets.

Overall, high nut set per cluster leads to small nuts though the yield per tree could be relatively very high (Plate 1a). Cashew trees with very big apples and nuts usually have a lower number of nuts set per cluster which leads to low tree yields (Plate 1b). On the other hand, cashew trees with high nut set and gradual nut maturity have shown to have a high yield with big nuts (Plate 1c and 1d). There are occasions where the cashew apples are smaller but have big nuts which result in a high number of nuts setting per cluster/panicle that lead to higher yields (Plate 1e). Tree yield becomes more meaningful if it is calculated as the quantity of nuts harvested per unit area occupied by its canopy ground cover area.

Nut Shape and Size

This is a very important parameter for both manual and mechanical shelling of raw cashew nuts (RCN). Bold (kidney-shaped) nuts (Plate 1f) have higher chances of producing whole cashew kernels when shelled. Flat and or curved nuts are not good for both manual and mechanical shelling (Plate 1g). Small nuts are expensive to shell and cannot be mechanized. It should be known that; the external appearance of the RCN does not guarantee good kernel quality unless a cutting test is done which shows possibilities of it producing wholes kernel recovery at shelling depending on kernel filling in the nutshell. (Plate 1i, 1j and 1k).

The current cashew processing technology requires big and bold nuts. Each nut is shelled independently. Big nuts can have a nut count of 100/kg while acceptable small nuts can have 200 nuts per kilogram. Processors do not prefer nut counts above 200/kg because of higher processing costs due to wear and tear and also small cashew kernels fetch lower prices in the market. It should be noted that cashew kernels are sold by grades e.g. White Whole (WW) or Scorched Whole (SW) i.e. WW180, WW210, WW240, WW320, WW450 and WW500. The figures represent the number of kernels in one pound (lb) or 454g. This may indicate that varieties with big and bold nuts are most preferred without compromising productivity.

Easy separation of the nut from the apple

This parameter is always rarely considered as important by a majority of researchers. However, it is a serious problem in all cashew-growing countries as it leads to the deterioration of the RCN quality during storage. The dry apple flesh on the RCN absorbs moisture while in storage which makes the RCN start the process of germination that leads to rotting and hence low kernel outturn ratio (KOR) (Plate 1h). Select only those trees that nuts separate/detached easily from the apple at reaping.

Wholes recovery at processing

In cashew kernel trade, whole kernels fetch higher prices in the international market than splits, butts and pieces. This means the development of cashew varieties must address this problem through nut quality analysis (Plate 1i, 1j and 1k).

Kernel Peelability (Testa removal)

This is usually encountered during the removal of testa on the shelled kernels in some varieties. This is common in some West African countries. Automatic kernel peeling machines cannot remove such testas. This makes physical peeling of testa using sharp tools, to be additional work which reduces the profit margins of the processors. Further, such kernels fetch low prices due to scratching. Varieties must have kernels whose testa are easy to remove (Plate 1l).

Resistance/tolerance to diseases and insect-pests

Cashew variety needs to address aspects of climate change as well as prevailing outbreak of diseases and insect pests. Since there are no diseases of economic importance in West Africa, breeding for disease resistance is irrelevant in the region. There have been a number of studies of cashew diseases and insect pests in West Africa, but it has not yet reached the economic thresholds that require for its control. This is why there are no active disease and insect pest control initiatives promoted to cashew farmers in the region compared to Eastern and Southern Africa where breeding for disease resistance is of paramount importance.

Diseases like powdery mildew, cashew leaf and nut blight can reduce tree yields close to zero. The little available RCN will be of poor quality leading to lower farm gate prices (Plates 2a and 2b). The control of sucking insect pests like *Helopeltis* spp. (*Helopeltis anacardii*) and coconut bugs (*Pseudotheraptus wayi*) are not optional for both young and mature cashew trees in East and Southern Africa which is not the case in West Africa.

An alternative source of planting materials

To alleviate the shortage of planting materials in some cashew-growing countries, the selection of elite mother trees is highly recommended. The elite mother trees can also be used to develop cashew varieties in future after undertaking DNA fingerprinting to obtain genetically distant parents. This has been successfully practised in several cashew-growing countries in Africa.

The problem which has been noted with mother tree selection is a wrong interpretation of the traits of the mother trees. A majority of researchers focus on two important components which are high yielding and good nut quality. But in practice, this is not adequate. Consideration needs to be given to the requirement of the main cashew stakeholders including processors and consumers. It is not surprising to see cashew researchers in different countries conducting mother tree selection differently.

This is mainly due to a lack of knowledge of approaches in cashew breeding which differs significantly from annual crops. Indeed, not every researcher has the capacity to select mother trees. One needs to have a lot of field experience in cashew breeding to be able to undertake the exercise. This is because mother trees are located in different agroecological zones and monitoring for yields is almost impossible due to the time factor and financial resources involved. Cross prediction for tree yields in the farmers' field is a key to the success in the selection of the mother trees and this is backed up by reputable field experiences. In addition to this, morphological characterization (canopy density) and estimated yields, understanding nut setting habits with short, medium, and long duration of nut picking are important.

In addition, visual and laboratory nut quality assessment plays a substantial role in the identification of the appropriate elite mother trees. It involves a lot of parameters including, nut shape, nut weight/size, shelling percentage, peelability, and wholes recovery at processing (fewer splits due to proper kernel filling). All these need a researcher with good knowledge on the subject. The cutting test method can provide a lot of information about nut quality apart from Kernel Outturn Ratio (KOR) which is used by cashew traders to determine the quality of

the RCN in store. It should be noted that KOR is a function of storage and is not genetically influenced.

In summary, the development of cashew varieties needs to meet the demand of the market and processing technology for forgetting resistance/tolerance to disease and insect pests.

Plate 1. Yield and Nut quality



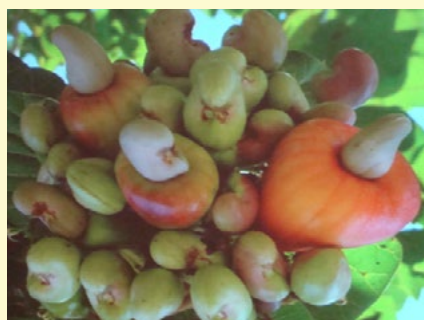
a. Heavy cluster bearing has small nuts (Bad variety)



b. Big apples/nuts tend to be low yields (Bad variety)



c. Gradual bearing with big nuts (Good variety)



d. Cluster bearing with big nuts (Good variety)



e. Small apples with big nuts (very good variety)



i. External appearance of RCN does not reveal real nut quality



j. No wholes recovery when processed (bad variety)



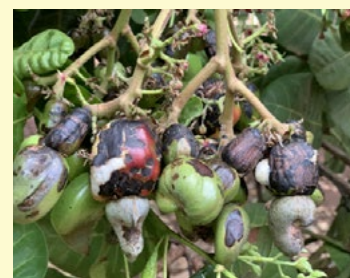
k. Easy wholes recovery when processed (good variety)



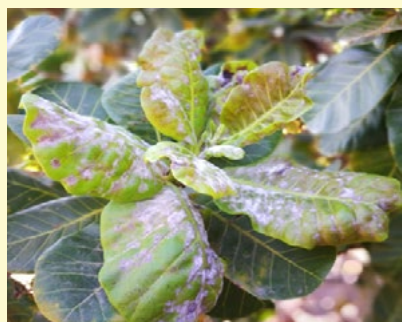
l. Good variety for kernel peelability



Plate 2. Some major cashew diseases in East Africa



a. Leaf and nut blight



b. Powdery mildew disease

Prof. Peter Masawe

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He is one of the world's leading cashew breeders after releasing 54 new cashew varieties. He has been providing consultancy services to all major cashew-producing countries in Africa funded by World Bank, African Development Bank, TechnoServe, ACA, ACi (now ComCashew), the Adventist Development and Relief Agency (ADRA), Common Fund for Commodities (CFC), the European Commission, Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), as well as governments, public and private institutions, private companies, several local and international NGOs, and individual cashew producers. He was a Deputy Principal for Academic Affairs at Stella Maris Mtwara University College in Tanzania. In January 2022, he joined Technoserve - BeninCaju Project as Director of Technical Production. He is an author/co-author of 13 cashew books and has published 66 papers in cashew.





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HIGH KOR, LOW KOR. HOW QUALITY PRACTICES DRIVE INCREASED CASHEW QUALITY

Cashew is an important industrial raw material with rising demand in the confectioneries, food, and beverage industries globally with a high potential to contribute to Nigeria's non-oil export value and Foreign Exchange earnings from non-oil exports. According to the Nigeria Export Promotion Council (NEPC), Nigeria remains Africa's third largest producer of cashew with a production volume estimated between 200,000 – 240,000 metric tons. Cashew is an important foreign exchange earner to the Nigerian economy, with the Ogbomosho area of Nigeria ranking the highest in the production of quality raw cashew.

In 2021, Nigeria experienced a rise in the value of exported raw cashew nuts valued at 138.8 million USD compared to \$94.4m in 2020 and \$74.5m in 2019 (www.tridge.com/trades). Nigeria has the potential to increase its foreign exchange earnings through cashew nut production and export, but the quality of cashew nuts produced and supplied is not consistent with other cashew-producing countries. According to Punch News, 37,000 metric tons of raw cashew nuts were rejected in Vietnam, a major export destination for Nigerian Cashew.

To ensure a continuous and consistent supply of Raw Cashew nuts, cashew value chain actors need to learn about cashew quality practices and quality control points used in other high-performing cashew-producing regions. Reaching these potentials requires that relevant quantity enablers need to be given attention and an enabling policy environment to operate. Using Hazard Analysis, we have highlighted cashew quality practices adopted by cashew actors in Ogbomosho Area and hazard areas. This article identifies quality cashew practices and hazards in the Ogbomosho area and national policy recommendations for rule makers and core market actors for adoption and consideration towards an effective upscale.

Cashew Quality in Nigeria

There are different types of Raw Cashew Nuts (RCN) that can be found in Nigeria. The specification and quality of RCN largely depend on location, the period in the season, and the vicissitude of climate, amongst other things. There are different qualities of RCN at the beginning, middle and end of the season. Also, a growing number of International Purchase Orders (IPOs) clearly indicates Ogbomosho/Idere/Iseyin in Oyo state, Ayingba/Idah in Kogi state, and Auchi in Edo State as their preferred sourcing point. These preferences are quality-focused decisions specified by the market. Ogbomosho in Oyo State for example is popularly noted for its superior quality measured by the Kennel Outturn Ratio (KOR) which attracts premium market price. Ogbomosho records between 47 and 52 KOR all year round.

Cashew quality specification in Nigeria

Parameters	Data Required	Ogbomosho	Others
Nut Count	Size of Cashew Nut	170-185/kg	180-220
KOR	Kennel outturn ratio	47-52lbs	45-51lbs
Moisture Content	% Of RCN dryness	8%Max	8%Max
Defective Nuts	% Cashew defects	15%Max	15%Max
Foreign Matter	% Of unwanted content	5% Max	5% Max

Source: Authors' conceptualization

With the cashew market growing at a compound annual growth rate (CAGR) of 4.6% over the next 5 years (www.mordorintelligence.com), it is expected that factories will compete for the already limited supply of raw cashew nuts and will take a stricter approach to quality assessment to avoid the purchase of bad-quality nuts. Market sensitivity to quality will imply that only producers and suppliers of quality verified raw cashew nuts are able to access either conventional or premium markets.

Amid the growing global potential of the cashew industry, improving cashew quality will have a positive impact on improving the nation's foreign earnings. The core market actors in the Nigerian cashew sector however depend on the rule makers for policies and regulations to facilitate a robust sector relationship towards economic growth. Nigeria needs to either maintain/exceed and sustain its current quality status to increase trade flows between current and other valuable key market destinations globally.

Quality practice in Cashew

This study identified practices and information on quality hazards and conditions that led to its occurrence. These quality management practices are practices that have a physical, biological and chemical impact on the cashew nut thereby limiting its KOR level or the level of pesticide residue.

Cashew Practices in Ogbomosho

Activities	Practices	Hazard Profile		
		Biological	Physical	Chemical
Seed selection	34% of cashew producers in Ogbomosho used Seeds raised in Nursery		Nut Weight	
Pruning	15% Prunes excess branches and trunks in cashew orchards at least once a year	Pest and Disease Infestation		
Pesticides Use	56% Use of herbicides. Producers practicing intercropping with cassava recorded high use of the herbicide and those rehabilitating old farms. Little of no fungicide is used			Pesticide Residue
Harvesting	87% of cashew orchards allow Cashew fruits to fall before picking		Nut defective: Immature nut	
Picking	93% of cashew is picked between 1-2 days after falling		Nut defective: Fungi proliferation	mycotoxins secretion
Nut removal	87% only practice pulling without twisting first. This allows the fruit flesh to remain attached to the nut.	Pest Infestation		
Drying	74% dry cashew on trampolines over a period of 3-5 days depending on rain density.	Aflatoxin risk		
Sorting	83% Perform Hand Picking to separate defectives at the warehouse		Nut defective: KOR risk	
Bagging	74% of producers use rice bags to transport dried cashew nuts to the aggregator store. 96% Use Hydro Carbon Free Jute bags		Nut defective: Mould risk	
Quality check	92% of local suppliers employ the services of a quality assessment personnel		Nut defective	
Storage	87% of Stored in a dried and ventilated room on plastic or wooded pallet		Nut defective	
Transportation	82% Use Mechanically assessed vehicles, with good trampoline or container covering		Nut defective	

Source: Authors' conceptualization

Total loss	
Partial loss	
Minimal Loss	

Ogbomosho scores high on a good number of quality practices, perhaps the reason for its consistent supply of quality cashew nuts. However, there is a need to improve its use of seed practices, pruning practices, chemical use, storage conditions and most importantly its drying condition to avoid aflatoxin risk. There should be awareness of integrated pest management techniques in cashew orchards to address growing concerns about pesticide use. For other regions to achieve a similar feat as the Ogbomosho region and beyond, access to Information on Quality Management Practices (QMP) should be provided to producers and supply chain actors. Improved access to quality-assured seeds should be promoted in order to have access to factory-preferred varieties such as the Jumbo Variety. These recommendations need to be driven by the keen commitment of three (3) major actors which are the Government, Off-takers and smallholder producers. Each actor has a distinctive role to play in achieving increased cashew quality in Nigeria.



Policy Recommendations

Rule Makers	Core Market Actors
<p>1. Government should;</p> <p>i. Support research endeavours through cashew-specific grants to learn of updated and effective management practices that improve the quality production of raw cashew nuts. Provide capacity-building support through training, cross-learning platforms and professional mentorship to core market actors and service providers to be able to handle cashew nuts in a quality assured manner. One of the key actions is to establish a private-public Cashew Research Institute of Nigeria. Currently, the Cocoa Research Institute of Nigeria oversees these functions with a number of other crops such as tea, coffee, kola etc. For the cashew sector to grow, there is a need to make deliberate attempts to change these narratives.</p> <p>ii. Facilitate a national stakeholder-led quality assurance program to further ensure the adoption of quality practices in cashew production and supply. This can also be done by promoting the adoption of other sustainable agriculture schemes such as the African Cashew Alliance label, Ecocert Organic certification or Standard Organization of Nigeria (SON) cashew standard.</p>	<p>1. Core actors such as producers, off-takers and Processors, should set quality limits on each of the quality points identified. Off takers should develop an inclusive quality management plan to help prepare for quality hazards that might occur during the production and sourcing process. Market actors can also subscribe to any quality standard.</p> <p>2. Producers should be organized through cooperatives to also implement internal management systems. This will help monitor and facilitate the adoption of quality management practices in Orchards, in transit and storage facilities.</p>

CONTRIBUTION TO ECONOMY

- i. With the above recommendations, there is expectation of an increase in the value of exported cashew nuts (shelled and unshelled) with an added trade value increase of \$222 million from the initial \$138.8 million trade value. This is expected to add more foreign exchange to the economy up to a total of \$360.8 million.
- ii. Processors, Exporters, and producers can have increased net profit potential by reducing the cost of logistics and wastages in sourcing cashew nuts, thereby increasing the volume of nuts processed and exported. This will increase the volume of generated revenue for the government.

NATIONAL EXPORT VOLUME (2021 UNSHELLED)

\$138.8 MILLION (www.tridge.com/trades).

POTENTIAL NATIONAL CASHEW NUT EXPORT VALUE

\$360 MILLION (www.nepc.gov.ng)

Adedamola Adesida

Adedamola Adesida is a market system development and sustainability professional with a track record of facilitating sustainable impacts across tree crop value chains such as Cocoa, Cashew, Oil palm, and Coffee through Assurance, Technical and Strategic management services. Adedamola supports local Agricultural Enterprises in developing robust management systems which sufficiently address systemic market issues around Traceability, quality management systems and adoption of production technologies towards increased income in an environmentally bearable manner.

Adedamola is the National Executive Secretary of the National Cashew Association of Nigeria (NCAN). He is also the Team Lead on Sustainability management at Conservation Alliance Development Initiative (CADI), a non-profit organization.

Adedamola is quality management systems lead auditor (ISO 9001:2015). Adedamola is a licensed Sustainable Agriculture Standard Auditor (RA, UTZ standards). Adedamola is a Seed inspector with the National Agricultural Seed Council (NASC). Adedamola is skilled in policy analysis, value chain analysis, agri-food program development and implementation, Food and agricultural audits, trade facilitation and Adoption Strategies.

Adedamola believes biodiversity conservation will lead to economic growth and improved human well-being.

CASHEW PROCESSING AND CONSUMPTION





Valentine Sènou
ATCHAOUE
Prosper Cashew

AFRICA IS CONFRONTED WITH PROCESSING OF ITS CASHEW PRODUCTION

“Local processing is almost non-existent, the creation of added value and therefore

jobs is too low, and industrialization is in its infancy. Rich in its raw materials that it exports in their raw state all over the world, Africa is regularly accused of being satisfied with the strictest minimum”.

It is with these words that Marwane Ben Yahmed of the famous magazine Jeune Afrique introduced the editorial of Edition No. 3113 of June 2022. Although these lines deal specifically with the issue of mineral resources and energy, a parallel can be drawn with agri-food processing in general and cashew in particular, on the continent.

Situational Analysis

- **Production side:** Over the last decade, world cashew production has increased steadily, exceeding 4.11 million tons of Raw Cashew Nuts (RCN). Côte d'Ivoire remains the world's leading producer with an estimated crop output of 1 million tons. India produced 738,000 MT in 2021, followed by Vietnam with 400 000 MT. Tanzania is the leading producer in East Africa, with a crop production of 220,000 MT. (Source: Inc nuts & dried fruits statistical yearbook 2021/22). Overall, Africa remains the world's largest producer of Raw Cashew Nuts in 2021, with a contribution of over 60%.
- **On the demand side:** The current COVID-19 pandemic crisis has confirmed and exacerbated a trend that has been underway for some time. Consumers are becoming more careful about what they put on their plates. Nuts, including cashews, are becoming increasingly popular because of their health benefits. The American and European markets, where healthy eating is a growing concern, are demanding more than ever. In fact, demand has never been so strong: the global market is expected to grow at an average growth rate of 4.6% during the period 2021-2026. The market is estimated to be worth US\$12 billion.
- **On the supply side (cashew kernel):** Vietnam (today the world's factory when it comes to cashew processing), and India (historical processor) continue to take the lion's share. The competition that Africa wants to deliver vis-à-vis these two countries remains hard and the timeline will not be easy to catch up in spite of the strong will observed by the politicians in most countries. It should be recalled that for the time being, efforts are slow, resulting in barely 10% of the volume processed locally at the moment.

Africa still has to solve problems related to infrastructure, production/conversion costs which remain very high, access to financial resources at competitive rates and the valorisation of by-products. These are unfortunately elements that cannot be solved in the short term or by a magic wand. Some of them require the implementation of more complex mechanisms whose effects can only be felt in the long term.

Nevertheless, it is not a question of mourning Africa's cashew ambitions. The African product has assets on which it will be necessary to bet. The future of processing is in Africa, that is undeniable. The continent is now seen as the future. This is one of

the messages to be retained from the 39th International Nuts and Dried Fruits Congress in Dubai in May 2022.

Organic, single origin and traceability

Organic is becoming more and more popular (organic products are more affordable (10 to 20% price difference compared to conventional types). The global demand for organic products is increasing. The average annual growth rate is estimated at 12.4%.

These are prime arguments on which African countries that have local cashew processing in their strategy would gain by positioning themselves. Africa can still, without much effort, and with a few exceptions, justify all this. By choosing to consume cashew kernels of Cote d'Ivoire or Benin origin, the final consumer can be reassured not to have a mixture of products of another origin. This is the same for most African countries, which is not the case for Vietnam and India for example.

These are segments in which the continent can boast of having a competitive advantage.

The “carbon footprint reduction” card to keep the “warmists” happy.

More seriously, the geographical position of the continent, closer to the main consumption areas, is a double advantage, firstly ecological, and secondly economic at a time when freight prices are at an all-time high.

Development of local consumption:

Cashew kernels unfortunately remain a luxury product, not very affordable to the average African consumer. Nevertheless, the African market remains to be developed. It has a huge potential and could be this “game changer”, in the medium or long term. Didn't Dr. Mukhisa Kituyi, former Secretary General of the United Nations Conference on Trade and Development (UNCTAD) say that: studies show that what Africa sells in Africa has more added value than what Africa sells to the rest of the world, namely, primarily raw materials? This means that **intra-African trade creates more jobs in the source country than Africa's trade with the rest of the world.**

Valuation of derived products

Of all the products that constitutes the cashew nut, only the kernel arouses a real interest. The latter represents only 20 to 21% of the weight of the nut. The shell (about 70% of the weight of the nut) as well as the apple (about 8 times the weight of the nut) seem to be forgotten. And yet, the potential is enormous. As an illustration, Cote d'Ivoire, whose annual production is estimated at 1 million MT, generates an estimated 8,000,000 MT of apples at the same time! Attempts to develop the fruit on a continental scale are still slow and are struggling to take off for the moment, but would benefit from being encouraged and promoted (we can cite the case of the Sweet brand in Benin launched by Benincaju, as well as Guinea Bissau, which has a certain lead in the matter, no doubt

because of its links with Brazil, which remains a pioneer in the field).

What about local policies to promote processing? I would like to present two cases.

Cote d'Ivoire: Increased support to the industry through several mechanisms, which demonstrate a firm and very ambitious will in favour of the development of the industry - supported by the development of supporting infrastructures (creation of dedicated industrial zones through the PPCA). We already know about the subsidy offered on exported kernels. Cote d'Ivoire cannot yet afford to prohibit the export of its nuts, given the very large volume of production (over 1 million tons/year) that the local industry cannot yet absorb.

Benin: The country, which closely follows the developments in terms of sectoral policy in Côte d'Ivoire, has gone even further. By a Presidential Decree No. 2022-214 dated 30 March 2022, Benin has decided not to export its cashew nuts in the raw state with effect from the 2024 season. The decision is not a random one. It should be noted that cashew processing plants are growing like mushrooms in a country with an estimated production of 150,000-200,000 MT /year. The industrial complex of Glo Djigbé (GDIZ) will see the blossoming in the very near future, factories driven among others by foreign investors.

In both cases, the strategies are good. The big groups, Singaporean or Indian, are encouraged to process locally instead of exporting the raw product, which allows the countries to capture at least part of the added value and to create local jobs. In doing so, they get closer to the source of supply, which also allows them to benefit from the single origin argument and to be part of a sustainability logic from which the producer can also benefit. A Win-Win partnership as so well-articulated by his Excellency Mr Patrick ACHI, Prime Minister of Cote d'Ivoire at the official launch of the World Cashew Convention in Abidjan in February 2022.

Valentin Sènou ATCHAOUE

Experienced Cashew professional, Valentin Sènou ATCHAOUE brings in 13 years of practical experience in the value chain across West Africa. He has held various positions in organizations in both the private sector and non-profit organizations. He is currently the Regional Business Manager for Prosper Cashew, a USDA-funded project to promote cashew processing implemented by Technoserve in Cote d'Ivoire, Nigeria, and Ghana.





Fahad Awadh
YYTZ Agro-Processing

STARTING A CASHEW PROCESSING FACTORY: MY EXPERIENCE

Andy Grove, former CEO of Intel, outlined when he described what happens to businesses in tumultuous times: “Bad companies are destroyed by crisis. Good companies survive them. Great companies are improved by them.”

Great individuals, like great companies, find a way to transform weakness into strength. They can take what should have held them back and use it to move forward. As it turns out, this is one thing all great men and women of history have in common. The ability to see obstacles for what they are; confront the most brutal facts of their reality and at the same time retain faith that they will prevail in the end, has proved powerful for coming back from difficulties not weakened, but stronger.

As entrepreneurs there are many things outside our control, but as a young African entrepreneur, this becomes even more pronounced. Buried deep within all our challenges, there is an opportunity and a silver lining. It is our responsibility to recognize those opportunities and to retain faith that in the end, you will be better because of those challenges.

I have faced my fair share of challenges but have always retained faith that I will not only prevail through it but that there is an opportunity to improve embedded in it. Early in our business, we were able to win funding from the Africa Enterprise Challenge Fund, as \$500,000 was committed to help us build our inclusive cashew nut value chain. This funding came with conditions; the biggest one being that we must get a bank loan for \$250,000, which was to be used for our raw material purchases. It is important to note that I started this company in 2015, we won this funding in 2016 and we had expected to start production in 2017. Unfortunately, all the banks we approached in Tanzania were not keen to lend to a new agribusiness with a young entrepreneur at the helm. It also didn't help that many cashew processing companies had failed in the past.

During the time that we could not start processing, due to the lack of working capital financing, we decided to focus on the core of our business — the farmers and communities. Despite not being able to start purchasing, we were building relationships in the key cashew-growing areas of Tanzania. I would travel to the South of the country several times a year to meet smallholder farmers and the women's processing groups we wanted to work with. I would listen to their stories; I would learn that many of them had been working tirelessly to process their own cashew nuts for over 15 years. The single biggest challenge they faced was access to a secure market. We had planned to purchase semi-processed cashew nuts from these farmers and women's groups. This would allow us to pay them more and provide a secure market for their value-added products. By including them in the value chain through processing, we would be able to ensure that more value reaches these rural communities.

The idea we had was novel but simple: include rural farmers and women's groups in the processing — something they were already doing — and provide higher prices for their value-added cashews. This way real value can reach these communities where cashews are grown.

I spent these years building relationships in the cashew communities at the rural farmer level, Local Government level, Regulatory level with the Cashew nut Board of Tanzania and at the Federal level with the Ministry of Agriculture. Cashew nut processing in Tanzania has always been very limited, despite Tanzania being one of the largest Cashew Nut producers in the world. Tanzania was processing less than 10% of its production; most of the production

was being exported in shell for processing in Asia. The idea for Tanzania to process more of its cashew nuts was not new, but it was beginning to garner more attention.

In 2018, I was still trying to secure a bank loan to be able to begin purchasing and processing cashew nuts, we had secured export contracts with buyers in the Netherlands and in the US. We just needed the finance to fulfil those contracts. Later that year, we had advanced discussions with Equity Bank, our bankers in Tanzania. In 2017, I had met a director from their Head Office at the SIMLESA Conference in Arusha where I gave a dinner speech. She really liked my speech and the ideas that I had put forth on how to “Encourage Youth Entrepreneurship in Agriculture.” I would travel to meet her again at the Equity Bank Head Office in Nairobi, she really became a champion for our business and wanted to support us. She introduced me to the country director in Tanzania and I had a great meeting with him, which gave me the confidence to apply for a working capital loan. In September of 2018, I was invited to speak at the Africa Green Revolution Forum in Kigali, where she introduced me to Dr. James Mwangi, the Group CEO and Founder of Equity Bank. James and I had a great discussion, he loved our business idea and as a young entrepreneur, he really wanted to support me. As a seasoned entrepreneur himself, he knew how tough it was to get funding when he was first starting out. This was a vote of confidence from one of the region's top businessmen. As I continued the process with the Equity Bank team in Tanzania, I was confident that it would come together.

It is important to note that loan applications must first be approved by the credit committee at the country level before being sent to the head office in Nairobi for approval. Weeks had gone by, and I hadn't heard anything from the Equity Bank team. I reached out to the Credit Manager to get some feedback. He informed me that the loan application had been rejected by the credit committee. He went on to share that one of the committee members had said, “having an order for a Boeing 787 Dreamliner, is not the same as actually delivering a Boeing 787 Dreamliner.” Upon hearing this, I quickly realized that they were comparing cashew nut processing to building one of the world's most advanced aircrafts — something that still baffles me to this day — given that cashew nuts are sold on every street corner in Dar Es Salaam. Upon hearing that, I told him that one way or another we were going to prevail and get the financing that we needed, albeit from somewhere else.

During this time, we focused on building our core competencies and our relationships with farmers, we knew that our ability to source the best cashew nuts would be our competitive advantage.

Focus on the Opportunity

In 2018, the cashew nut kernel market suffered a 40% drop in prices, from record highs the previous year. Without financing for raw materials, we were not able to participate in the 2018/19 cashew nut season. In hindsight this was for the better; with rock bottom prices and a difficult environment for cashew processors, many processors in Vietnam went out of business.

It was during this time that I saw an opportunity to focus on further value addition. We wanted to build a business that paid

farmers fair prices, but with volatility in the trading of cashew nuts as a commodity, we would not be able to keep our promise to farmers. We had plans to develop our own brand of Single Origin Sustainable Cashews, and it was now the perfect time to fast-track its development.

We purchased roasting and flavouring equipment and began designing our retail packaging. We were developing a brand that focused on the needs of the conscious, sustainably minded consumer. We began developing a first-of-its-kind blockchain traceability system that would let consumers know exactly which cashew farmer their pack of cashew nuts came from. We wanted to bring transparency and intimacy to a product that not many consumers knew about; did you know 60% of the world's cashew nuts are produced in Africa?

Everything we do is in line with our ethos as a company: "Putting Farmers First! Always!"

With a consumer-packaged product, we are able to pay better prices to the farmers and women's groups we work with. We are able to protect them from volatility in the cashew commodity prices. Prices for consumer packages products are not subject to the same price shocks that affect commodities. This ensures that we can provide value to both the consumer and the farmer.

While developing our product, we were introduced to Eva Teekens from Rabobank Foundation in the Netherlands. We began discussing our business and our need for working capital financing. On your journey you will meet people that become champions for your idea, when looking back, it is easy to see that their support was in fact invaluable. Eva quickly became a champion for our business. We had lots of discussions about how Rabobank could support us with our financing needs and what terms we would be able to accept. It was a back-and-forth discussion and at the end of it, we agreed on terms that we were both happy with. We did not fit in the typical box; we were a start-up in a volatile market, and I was a young entrepreneur. Rabobank's support was a vote of confidence in our business and came at a time when we were not able to get any support from lenders in Tanzania.

We secured the financing from Rabobank in mid-2019 and were able to order our packaging equipment and materials and be ready

to start processing in the 2019/2020 season. By focusing on the opportunity regardless of the difficulties, I was able to retain faith that we will prevail in the end. I have been fortunate to embark on this journey to change the way cashew nuts are processed in Tanzania; it is the journey and the experience that have made me stronger.

We began purchasing semi-processed cashew nuts in November 2019, with farmers and women's groups lining up from 6 am to 10 pm to sell their cashews. With cashew nut prices much lower than the previous year, we were paying 70% above the market price for raw cashew nuts, and the response was incredible.

Focus on the Customer

Kenya was the first market we pursued with our Single Origin, Sustainable Retail Product. With a vibrant retail sector and a growing middle class, we saw that we could offer a high-quality product at a price that provided value to the consumer. I leveraged my network and was able to set up meetings with buyers from 4 of the leading supermarket chains in Nairobi. I provided samples of our selection of Dry Roasted Cashew Nuts and the response was unanimously positive, with several of them agreeing to list our product on the spot and seeking exclusivity for 90 days. The response was exhilarating for me as an entrepreneur, as I always knew we had a great product, it was great to see the same response from the market. Our products are now distributed in East Africa, Europe, UK and we are starting exports to the US this year.

We are focused on creating high-quality products for conscious and sustainably minded consumers. Our advantage is the work that we have done at the rural level and the relationships we have built in those communities. We are able to source the best cashew nuts and provide real value to the farmers and women's groups that we work with.

Our Raison d'être — Creating value in the Rural Communities where we work!

Fahad Awadh

Fahad is a young entrepreneur from Tanzania. He is the founder of YYTZ Agro-Processing; they are building an inclusive cashew nut value chain by working with rural cashew farmers and women processing groups to help them add value to their own crop and earn more income. YYTZ provides access to automatic shelling machines and GAP, food safety training and financial literacy training for farmers. By integrating them in the cashew value chain, the farmers are able to earn more from their crop.

YYTZ has developed the first packs of fully traceable cashews using blockchain technology. Using technology, they are able to create more value at the rural level for cashew farmers and bring transparency to the cashew nut.

By empowering farmers, YYTZ can help alleviate poverty in rural Tanzania.

Fahad is passionate about enabling young Africans to add value and create finished products; ensuring that value remains in Africa.





Serge H. KPONOU
Agro-Industrial TOLARO GLOBAL

CASHEW PROCESSING IN BENIN & AFRICA: IMPLICATIONS & OPPORTUNITIES

WHY CASHEW PROCESSING IN AFRICA?

Cashew processing is one of the few sectors in Africa where there is almost no competition among players beyond the size of the current untapped production. It is also the only sector in which the continent's empowerment regarding industry could be beneficial and upon which the continent could build to develop other industries more easily.

Failure to process cashew nuts in Africa today is to abandon its development.

Ten years ago, the cashew industry in Africa was limited to the primary processing of the raw nut into white kernels (a raw material for export). But today, the realities are quite different; the cashew industry is adding more value by moving away from the simple primary processing of the raw nut into white kernels to a total processing of various finished products: Roasted kernels, salted or unsalted; Cashew flour, Cashew paste, Pasteurized kernels etc.

The latter products are directly consumable and available in supermarkets, hypermarkets, major food retailers and other points of contact with the final consumer.

The processing into finished product is also the processing of the cashew apple into juice, into animal feed, into Vegetarian and other foods.

Furthermore, it is the processing of the shell into biogas, electric power, and bio coal for domestic use.

For example, a bag of 80 kg of raw cashew nuts at a market price of 500 CFA francs (USD 0.78) per kg could generate 40,000 CFA francs (USD62.5) in the past. But nowadays, it goes far beyond this expectation in the sense that to obtain the 80 kg of nuts we have:

Description	Weight	Apple	% Shell
Raw nut	80 kg	90% or 720 kg	75% or 60 kg
Value	500 CFA frs/kg or 40000 CFA frs	50cfa frs/kg or 36000 CFA francs	7 CFA frs/kg or 4200 CFA frs
TOTAL	80200 CFA frs		

This explains that not only do we have the 40,000 CFA francs but also the gains in apples (36,000 CFA francs), in shells (4,200 CFA francs) for various uses, which brings the overall gain to 80,200 CFA francs (USD125.4), i.e., an increase of 101%. Thus, by comparing the basic figures, we can affirm that a factory that used to employ 200 people for the raw nut in the past, will today, with the cashew by-products, employ about 225 people, 25% increase in the workforce; and the additional employees, in almost all cases, are women, who are employed in this total processing space.

It is worth noting that cashew processing is one of the few industries and value chains that is gender inclusive by nature. Indeed, since men are preoccupied with raw nuts, they do not worry so much about cashew apples; with total or even circular processing, they no longer must spend money on weeding their farms, since women are now interested in cashew apples, which give them an additional income, and to have them, they must maintain the farm. The men no longer must pay for the collection of the nuts since the women cater for that aspect when they are collecting the apples, which ultimately creates a win-win situation.

Today, comparing the apple yield and the raw nut yield, for 80 kg, we obtain the following table.

Description	Weight	Price	Amount
PROFIT FOR MEN			
Raw nut	80 kg	25	2000 CFA frs
Weeding /ha 16000	400 kg /ha	3200	3200 CFA frs
TOTAL			5200 CFA frs
PROFIT FOR WOMEN			
Apple	720 kg	50	36000 CFA frs
TOTAL			36000 CFA frs

Thus, a profit of 5200 CFA francs (USD81.6) is made for the men when collecting and weeding their farm, which they can now do without. As for the women, 36,000 CFA francs (USD56.6) come from the collection of apples.

In view of all the foregoing, it must be added that, with all the degradation of nature, where the return to organic tendency is the order of the day, thus leading to the upward trend in organic consumption, Africa today is in the lead in terms of organic by default, which is certainly due to its underdevelopment, but in the modern-day world, it is a major benefit. Therefore, it would be important to use this default organic land for certified organic cashew production, becoming at the same time an organic nut granary for the whole world and thus ensuring the sustainability of the increase for the added value of the product.

But all this is not without difficulties and challenges, as evidenced by the closure of several factories for various reasons and the current

suffering faced by those who are still carrying out business operations in the sector.

As for the challenges, they are enormous due to the sectoral reforms. Thus, the following can be noted:

1. **Quality:** being a new domain for the industry, it is necessary to think of really integrating it into the national education programmes in view of the lack of personnel and the urgent need in the current dispensation.
2. **Spare Parts Industry:** the challenge of related industries to supply spare parts does not yet exist, but good organization can contribute to its success.
3. **Human Resources:** Human resources have long been considered a challenge in Africa, but they cannot be effective without effective training. Thus, this issue needs to be revisited from a different perspective by reconsidering the aggregates of North-South performance comparison.
4. **Packaging:** is a big challenge for the continent especially when we appreciate the fact that consumers are very demanding. There is a total lack of a packaging industry on the continent, and although the initiatives of the last five (5) years are commendable, the remaining gap is still wide.
5. Despite the numerous investments and apprenticeships, it is time more than ever to reconsider the way of financing the industries according to their needs, to organize the said industries in order not to suffocate them especially with the revival of the establishment of new industries.

Given the processing opportunities and challenges, it is safe to say that Africa has everything to gain from cashew processing.

Thus, Africa, for purposes of its development, has no choice in the sense that the cashew processing industry remains one where it can assert itself.

Serge H. KPONOU

Serge KPONOU, is a Beninese agro-industrialist and manager specialising in cashew processing. He is currently the General Manager of TOLARO GLOBAL SAS, a factory specialising in the processing of cashew nuts into white kernels and roasted kernels, cashew flour and cashew purée, located in Touro, in the commune of Parakou, since 2011





Ayo Olajiga
LEVELI CONSULTING LTD

BOOSTING DOMESTIC CONSUMPTION VITAL TO BUILDING A THRIVING AND SUSTAINABLE CASHEW ECOSYSTEM IN AFRICA

It's no secret that Africa accounts for more than 60% of global cashew production, and there has been a significant effort over the last decade to increase the percentage of the crop that is processed on the continent.

However, the effort to increase processing on the continent has met with mixed success, with processors coming and going over the period. In this article, I want to share my thoughts on the processing challenges and the changes required to create a thriving ecosystem based on my experience as a processor for ten years in Nigeria.

Before sharing my lessons, I must say that the cashew industry in Africa provides anyone keen to transform lives a unique opportunity to create sustainable jobs and impact families. I moved from investment banking into cashew processing, and I enjoyed my time and learnt many lessons; some very expensive.

Here are some key challenges I experienced setting up and running a cashew processing company in Nigeria

- **Volatile and disorganised raw material market** – This was one of the biggest headaches I faced in the industry. Season after season, predicting the product's pricing and where we would procure raw cashew nuts was difficult. A big part of this was the inability to ensure a match between price and quality.
- **Multiple products with no market** – Processing output is multiple grades; however, the market demand is for some products (wholes) and not enough for the pieces, especially for small / mid-sized processors. A significant part of your production has no market, or little value is offered.
- **Large investment requirement** – Unlike Vietnam, where you have access to multiple markets and seasons, Nigeria has only access to local production. It implies that you need access to enough capital to stockpile raw materials. Hence there is a high working capital requirement, and the stockpiling affects the overall yield negatively over time.
- **High price risk** – As a processor, unless you have the size of the prominent players in Vietnam, you are exposed to significant price risk. The RCN price is locked in during procurement, while your sales price is the spot market price.
- **Low margin** – The kernel processing business is a low margin operation that is unforgiving to procurement and factory operations mistakes. The business lends itself to large-scale operations and the ability to create economies of scale.

Overall, it was challenging and stressful to make processing work below the scale of the Vietnamese processors. The kernel market is effectively commodity trading, and most African processors are price takers; at least we were. African markets must continue to increase the volume of processing on the continent. In addition, the growing demand for plant-based food in western cuisine creates demand for low-grade kernels.

However, African stakeholders must start investing in boosting domestic demand and consumption of cashew kernels and related products to create a sustainable and thriving ecosystem.

When we introduced retail products into our product mix in Nigeria, it immediately significantly improved our margins. In addition, it created a valuable market for our 'pieces' grades and improved our cash flows as they were no longer lumpy.

Introducing retail products also allowed us to start building a business with a brand value which can become a platform for other activities in the food industry.

In conclusion, cashew stakeholders in Africa must include growing domestic kernel consumption as one of their critical targets alongside the growth of local processing.

The processor should explore how to move some of their products into the local snacks market. They must also target the ingredients supply market where they can become input suppliers to other industries.

If you are a processor and need help with quality growth in your business, you can contact me via email at ayodele@leveliconsulting.com.

Ayodele Olajiga

Ayodele Olajiga is the CEO of Leveli Consulting Ltd; a management consulting company focused on business growth and transformation. He has been involved in the cashew industry since 2010, including founding and running a cashew processing company in Nigeria. He also spent 16 years in the corporate sector spanning management consulting and investment banking. Mr Olajiga is a certified six sigma lean expert and executive coach.

He has a BSc in Electronics and Electrical Engineering from Obafemi Awolowo University Ile-Ife, an MSc in Telecommunications from New Jersey Institute of Technology and an MBA from the Kellogg School of Management Northwestern University Illinois USA.

CASHEW POLICIES, CAPACITY BUILDING, SUPPLY CHAIN LINKAGE AND COLLABORATIONS





Adzanyo Mary
GIZ/MOVE

CAPACITY BUILDING OF CASHEW VALUE CHAIN ACTORS

The young cashew sector requires significant capacity building of actors



Salifou Issaka Mohamed
GIZ/MOVE

Cashew was introduced in Africa around the 1960s as an important afforestation crop. Its economic value was only recognized later, thus knowledge and skills for crop production, processing and marketing were limited. The sector started gaining economic interest in the 80s; when Asian traders started buying Raw Cashew Nuts (RCN) from Africa. Then, in the 2000s, producing countries in Africa began to recognize cashew as an important crop, starting policy interventions. In Eastern and Southern Africa, government recognition was quicker than in West Africa, where governments only began to recognize cashew as key to boosting economic growth. For example, Kenya implemented a total ban on RCN export in 2009 to promote local processing. Côte d'Ivoire then led its reforms, creating the Cashew and Cotton Council in 2013 and a vision to process a major percentage of its crop by 2025. It became a role model for many countries that followed its footprint resulting in cashew regulation in the subregion. In the past 10 years, cashew regulations were introduced in Benin, Burkina Faso, Sierra Leone, Ghana and other countries. Mozambique reexamined and reformulated its existing policies to promote local processing. Young associations for farmers, processors and traders of RCN were created in multiple countries.

Low attention, low regulation and low funding in the young sector, result in huge needs for capacity development at all levels – government decisions, extension, private investment in processing and production, research and others. Capacity building typically involves training, mentoring, coaching and financial and/or other resource support to individuals and organizations. It is a process that may take several years, and often involves experts from many fields. Typically, capacity building will result in the adoption of new skills and knowledge as well as systems to sustain and expand these improvements over time.

Research and Data are key to decision making

Data is key in decision making. As cashew had little attention, it also meant, that limited data was available on the sector. In response, the industry initiated activities to reinforce the capacity building of scientists in some cashew producing countries. An example is the Naliende Agricultural Research Institute (NARI) - which was established in 1970 as a National Coordination Research Center for cashew, oil seeds and roots, and tuber crops in Tanzania. Later in the 2000s, NARI supported cashew research in other countries, leading to a wider outreach.

In 2000, the African Development Bank launched the Cashew Development Project in Ghana. The 10-year project had a big research component implemented by the Ministry of Food and Agriculture of Ghana (MOFA) and the Cocoa Research Institute of Ghana (CRIG). It was one of the bases for fast planting material development and dissemination nationally and regionally. The programme focused on capacity building for small-scale cashew producers and processors for rural poverty alleviation.

When the ComCashew project (then ACi, African Cashew

initiative) started in 2009, the poor performance and heterogeneity of planting material were evident. The project, together with the above-mentioned and other National Research Institutes, therefore initiated an Accelerated Cashew Varietal Improvement Program in West Africa. The aim was to first build the capacity of researchers in West Africa on cashew research, and produce and disseminate improved planting material to farmers. The long-term goal of the initiative was to set up cashew breeding programs in each country as well as at a regional level to develop high yielding planting materials that are drought and disease-resistant. To start with, elite trees were identified and selected by prospectors, then nursery operators (men and women) were trained, and scion banks and cashew germplasms were established in each country.

Based on a partnership project by World Bank, West and Central African Council for Agricultural Research and Development (CORAF) and ComCashew, the Cotton and Cashew Council of Côte d'Ivoire (CCA), and national research institutions, the industry actors in 2016 formed a network of cashew researchers in Africa, called REDAA. In 2017, this network organized the first international scientific cashew colloquium in West Africa, which was attended by more than 150 participants from 18 countries in Africa, America, Asia and Europe, with 50 articles presented.

Need for more private and public research in processing

Research in processing is more recent. Examples can be cited from lecturers and scientists from the following institutions: University of Abomey-Calavi in Benin, University of Ghana, Legon, Institute National Polytechnique Felix Houphouet Boigny of Côte d'Ivoire with Canadian support, and the University of Ziguinchor, Senegal who focused on the cashew apple and basic technology development.

As processing is mainly private sector led and industries researching on their own, transparent information sharing is very limited. Jointly with private partners and the African Cashew Alliance, ComCashew engaged industry consultants for Benchmarking and Comparative Studies across the globe: In 2021, Cashew processing economics; in 2011, Competitiveness of cashew processing; in 2011 the Cashew equipment study. Additionally, selected student research works are funded to provide data on the industry, e.g. comparing Indian and Ivorian processing models, comparing policy environments, and evaluating the sustainability of the supply chain.

Whilst these studies provide good information for the sector, private sector-led organizations are now uplifting the research into industry-relevant topics: The African Cashew Alliance (ACA) has launched the Cashew Barometer (2019), established well-frequented biweekly Global Market Encounters organized jointly with Ingredients Sourcing Solutions (ISS); and technical series on cashew processing. The Sustainable Nut Initiative, in 2018 and 2020, conducted a risk assessment on sustainability issues for the local processing industry, linked up- and downstream; with ISS, BSR, and ComCashew. Further studies are under preparation. The International Nut Council (INC) has initiated the Global Cashew Council with Development Partners (ComCashew) represented, looked at worldwide issues like nutrition and health benefits of

cashew. Private information agencies Ingredient Sourcing Solutions and CashewInfo, engage in various data and information gathering and share specific topics, like market trends.

All these interventions are not yet coordinated, and therefore data is fragmented and hard to access. These huge tasks remain for organizations like ACA and CICC, and require all actors' support.



Pic. Extension material for post-harvest developed with national agencies

Enhancing Farmers' knowledge results in higher yields and income

Farmers' yields and qualities depend on the planting material and the knowledge level of producers. Trainings shall ensure good quality, with a high Kernel Outturn ratio, appropriate moisture content for the raw nuts and processing quality. The governments of various countries define the approach to farmer training. In Côte d'Ivoire for example, ANADER is the key agency mandated to train farmers, whereas in Ghana it is the Ministry of Food and Agriculture (MOFA) Extension Service and in Mozambique the research and nut institutes (AIIM and IAM). Trainings are offered to farmers by public institutions, civil society agencies as well as private firms. Based on need analysis, priority topics are as follows: Good Agricultural Practices (GAP) on farms, maintenance and rehabilitation, Harvest and post-harvest management, establishment of new plantations, RCN quality measurement (KOR), nursery management, seedling production, top-working and Farmer Business School (FBS).

Training material is developed in a participatory approach, involving public and private actors, including lead farmers. It is crucial to use easily understandable expressions with pictorial and practical illustrations. It is presented as guides, brochures, image blocks, leaflets, posters, audiovisuals, 3D animation videos, messages on social media and radio, etc. Prior to the farmer training, training of trainers (ToTs) sessions are organized for joint understanding of technical issues, as well as an approach of implementation. The manuals developed by ComCashew and partners are made available to the public.

Since 2010, ComCashew and partners have trained about 800.000 farmers in Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mozambique and Sierra Leone. Results from yield surveys show that the trainings have significant positive impact: The annual yield per hectare has improved from 228kg/ha in 2010 to 532kg/ha in 2021 in all ComCashew intervention countries (official partner figures), translating to today EUR 653 cashew related income per farmer

Steep growth of quality cashew produced and processed in Africa requiring more capacities

Global demand for high quality cashew kernels has been growing

at 7-10% annually. Africa produced 61% of the world's cashew in 2021. However, less than 10% of this is processed on the continent. It was about 3% in 2008. Since then, processing of raw cashew nuts has grown over 700% in Africa, however not enough for interested buyers. Existing companies have shown that local processing can be a profitable venture if competitiveness with Asia can be increased.

A competitive processing industry requires highly specific capacity building measures which cannot be easily found on the African continent. Jointly with the African Cashew Alliance, Technoserve, Fairmatch Support and Ingredients Sourcing Solutions and others, the ComCashew project targeted specific capacity measures for medium and small industry actors. It was essential that the established companies already in processing in Africa, notably OIAM and Nuts2 (before Trade and Development Group) openly shared their experiences – successes and failures - and even actively engaged in trainings. Multiple needs were identified with priorities on market requirements, sourcing RCN, trading kernels, business planning and finance facilitation, factory design, processing technology, including installation, food safety, product quality, legal, managerial and human resource management, just to name a few. To address these needs, trainings were developed, both for individual companies as well as group trainings.

When starting, a 3-year incubation support was provided to each processing unit, with the project's dedicated business advisors to train the management and staff of the processing units. Most companies even received intensive "hand-holding" support, with technical advisors placed in factories. The African Cashew Alliance organized workshops and trainings and online seminars, allowing learning across factories. Specifically for the food safety aspects, the engagement of buyers from Europe and US were key, to accelerate the understanding for the market requirements. ACA installed the ACA seal with structured support to willing industries, preparing them stepwise for international markets. Since 2019, the Ivorian Center for innovations in Cashew processing (CITA) offers formalized trainings for staff at different tasks in the processing industries. Beyond the nut processing, capacities are equally built for byproduct processing, mostly cashew shells, and cashew apples. However, for these, innovation and investments are slow.

With the growing sector, current support focuses on strategic orientation and process optimization to companies, with a special focus on ensuring the supply of raw cashew nuts from farmer groups. Through the Cashew Matching Grant Fund, 51 projects were financed by ComCashew involving over 100 organisations/ farmer associations/ processing factories and 20 international buyers. As part of the Matching Grant projects, many trainings were held, with projects' backup support and Master Training ensuring quality. In conclusion, the capacity building for the processing industry remains crucial for a competitive African incountry processing.



Pic. Gender sensitive extension material

Master Trainers multiplying knowledge and cross-country learning across Africa

One of the flagship training programs for the cashew sector is the Cashew Master Training Programme (MTP) organized by the African Cashew Alliance in collaboration with ComCashew, the Ministry of Food and Agriculture of Ghana (MoFA), the Cocoa Research Institute of Ghana (CRIG), the Cotton and Cashew Council (CCA) in Côte d'Ivoire, and other partners. It aims to create a pool of qualified experts in the cashew value chain to facilitate knowledge exchange, learning and innovation within the cashew sector in Africa. The Master Training Program (MTP) targets participants working in the private, public and NGOs gathering them in a single assemblage of all actors of the value chain: Farmers, Processors, Traders and Exporters, decision-makers, Ministries, Universities, Research, Finance etc for joint learning. The program addresses open sharing of available knowledge and information, mutual understanding and transparency as well as promoting peer exchange and personal growth using organizational and adult learning principles (based on Gestalt theory). The cashew learning journey which started in 2013, has reached its 14th edition with 1037 graduates trained, among which 392 women and 645 men from 20 countries namely: Benin, Burkina Faso, Cameroun, Chad, Côte d'Ivoire, Gambia, Germany, Ghana, Guinea Bissau, Guinea Conakry, Kenya Madagascar, Mali, Mozambique, Nigeria, Senegal, Sierra Leone, Tanzania, Togo, and Zambia. The MTP covers a period of 5-8 months, with three one-week classroom sessions. During the intersession programs, participants share their knowledge in their host institutions and do hands-on work in the field. The working languages are English, French and newly also Portuguese. The Master Training Program continues, with the subscription for next editions ongoing, under the ACA leadership for the development of the cashew sector in Africa.

Formalising Cashew curricula for the Agricultural Technical Vocational Training

With funding from the Swiss State Secretariat for Economic Affairs (SECO), ComCashew worked with the Ghana Skills Development Initiative (GSDI) and the Commission for Technical and Vocational Education and Training (CTVET) and developed curricula and learning materials on cashew. This was to equip young people with employable and certifiable skills that meet the needs of the tree crop sector in Ghana such as the National Certificate 1 and 2 levels. 6 curricula consisting of 119 learning materials have been developed for the National Proficiency 1 and 2 and National Certificate 1 and 2, HND and BTech and incorporated into the educational system in Ghana. Over 130 trainees were trained on how to use the curricula developed to better equip the youth and young entrepreneurs about the opportunities in the formal and informal employment in the cashew value chain. These training materials are being anchored into the existing educational institutions in Ghana, and can be shared with other countries



Pic. Nursing mothers, with children, nannies and pediatric nurse at the Master Training Programme, ACA and ComCashew, Sunyani, 2022

Encouraging Women Participation in Trainings

One key factor affecting women's participation in capacity building opportunities is their inability to leave their children behind or assure good care in their absence. All ComCashew supported programmes now encourage women's participation in the industry by providing an enabling environment for their learning. In some trainings, especially in the Technical and Master Training Programs, pediatric nurses doubling as nannies are sponsored to take care of the children also including health screenings and care whilst their mothers work. This indeed brought a great relief for the nursing mothers, providing them with the avenue to fully participate in the training activities, including field visits. It is also observed that more men are supporting their wives in this regard by taking care of the children. The mentioned incentives for women's participation in capacity building measures would be continued to ensure gender transformation for the cashew sector in Africa.

Contributors:

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- **Mintah, Ernest; Dehode, Reine; Okam, Blessing;** African Cashew Alliance

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Mary Adzanyo

Mary Adzanyo is a food scientist, international business expert, Organisational and Systems Development practitioner, a Gestalt intervener and a trainer. With 25 years' experience in private sector development, Mary Adzanyo has experience with several value chains including cashew. Her strength is in sustainable development, private sector engagement, partnership development and cooperation.

Mohamed Salifou

Director of Production for the Competitive Cashew Initiative (ComCashew), a GIZ regional project implemented in Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mozambique and Sierra Leone.

Mohamed has worked with local NGOs in Benin before joining GIZ in 2009. He has also worked with the African Cashew Alliance (ACA) between 2014 and 2015 as the Regional Expert to support the implementation of the USAID-TIME Project in Benin, Cote d'Ivoire and Nigeria.

Mohamed is a cashew value chain expert with more than 10-year experience in the design, planning and implementation of cashew development projects.

MOVE

Market Oriented Value Chains for Jobs and
Growth in the ECOWAS Region



A **NEW PROJECT** ON THE RICE AND CASHEW VALUE CHAINS
SUCCEEDING THE GIZ COMCASHEW AND CARI PROJECTS

OBJECTIVES

Processing

To increase the level of value
creation within West Africa through
private sector engagement

Production

To increase areas cultivated
with climate-smart methods

Consumption

To increase local consumption of
rice and cashew products through
marketing initiatives

Youth & Gender Inclusion

To develop and share good
examples of inclusive business
models

Policy Advise

To strengthen public-private
cooperation in policy making to
reduce regional trade barriers



Isaac Piyuori
Journalist & MTP Participant

CASHEW MASTER TRAINING PROGRAM: BALANCING GENDER ACCESS TO CAPACITY BUILDING

Among the challenges of the cashew industry in Africa over the years is inadequate skilled labour across the value chain. This has affected the growth of the industry in general, but especially in good farming practices, processing, marketing, and local consumption. Capacity building, is therefore, a necessity in ensuring the sustainability and growth of the African cashew industry.

To address this challenge, the Market Oriented Value Chains for Jobs and Growth in the ECOWAS Region (GIZ/MOVE) and the African Cashew Alliance (ACA) with support from various governmental institutions and other stakeholders have been co-organising the Cashew Master Training Program (MTP). The Cashew MTP aims at building a strong expert base for the cashew industry by increasing the theoretical knowledge and enhancing the practical skills of cashew experts and newcomers while sharpening their self-awareness and attitude to consequently promote the competitiveness of the African cashew industry. The three weeks intensive training program in three sessions across a five-month period is facilitated by capacity development experts with a great understanding of the cashew industry and dozens of cashew experts as resource persons.

On Friday, 29th July 2022, 74 people, including five nursing mothers, from 10 African countries graduated from the 14th edition of the Cashew MTP, in Sunyani, Ghana. This increases the total number of MTP graduates to one thousand and thirty-seven (1037) from 20 countries since the inception of the training in 2014. The graduates of the 14th edition were made up of 63 participants and 11 learners from 10 countries: Ghana, Cote d'Ivoire, Nigeria, Benin, Togo, Sierra Leone, Gambia, Burkina Faso, Senegal, and Guinea Bissau.

For years, the participation of women, especially nursing mothers in many training programs has been a challenge. Women are mostly at a disadvantage as they are either faced with the decision to leave their children at home or are concerned about the likely inconveniences having their children with them at such international trainings will cause them and others. Women, particularly nursing mothers, as a result, continue to lose opportunities to participate in important career and personal training programs, affecting their professional and personal growth.

The organizers of the MTP have always prioritized women's inclusion in the selection of participants. To make it more convenient for nursing mothers to fully participate in the training program without much worry about their children, they had the opportunity to attend all three sessions of the training with a nanny of their choice, some with their husbands, while extra provisions were made by the organizers by employing the services of a professional nurse and nanny to cater for kids while their mothers were in the conference room. Out of the 74 graduates of edition 14, 29 were women, including five nursing mothers.

Speaking at the closing and awards ceremony of the 14th edition, the Team Leader of the GIZ/MOVE project, Rita Weidinger, said the extra provisions made for nursing mothers were part of conscious efforts to ensure gender equity and transformation in MOVE's capacity building agenda for the cashew industry in Africa.

"The Market Oriented Value Chains for Jobs and Growth in the ECOWAS Region (MOVE) funded by the German government

remains committed to capacity development incorporating gender equity and gender transformative approaches. Seeing the confidence that women Master Trainers exude taking the space on stage and the nursing mothers attending with their children and even the children seated today at the learning table makes me very proud and happy," she said.

She added that the GIZ/MOVE is creating a network of women experts in the cashew industry.

"Since 2017, we have started a network of cashew women with four publications full of live stories so far. I hope to read some more of the women graduating today," she said.

A representative of the graduating class and a nursing mother, Dedesi Nyanyegbe Aimee, who attended the training from Benin with three children and a nanny expressed gratitude on behalf of the graduands, especially the nursing mothers, to the organisers of the MTP for giving them the opportunity to learn and develop themselves.

She was particularly thankful for the special arrangements put in place for the nursing mothers to attend with their children and a nanny.

Mary Asari, one of the nursing mothers who graduated was particularly grateful to the organisers for the opportunity to be at the training with her husband and child. Mary started her MTP journey in 2021. She however could not complete the program because she had a baby in the process.

"I was part of MTP 12. I came for the first and second sessions, but I couldn't attend the third session. I thought that was the end. But the organisers offered me another opportunity and even gave me the opportunity to come with my husband to take care of our child. His presence here helped me to focus on the training. I am glad to have finally graduated from MTP," she said.

Managing Director of the ACA, Ernest Mintah, believes the role of women in developing the African Cashew sector cannot be overemphasized.

"Women play an important role in cashew. Over 2 million women are involved in cashew one way or the other across the value chain in Africa. We will continue to give as many women as possible the opportunity to build themselves through the MTP," he said.

According to him, the ACA will continue to remain committed to the MTP initiative which aims at strengthening and building participants for the sustainability, competitiveness, and growth of the cashew industry in Africa. He believed that with the number of Master Trainers so far, the African cashew industry is poised for growth.

"Through the MTP, we have over three sessions in each edition taken participants through topics such as the cashew market and value chain concept, food safety and certification, training material development, design of adult training program, as well as practical sessions in facilitation skills training, improved planting material development, grafting material development and new plantation development, negotiation techniques, facilitation skills, among others.

"In the process, 962 participants have already graduated from the MTP program, and we are here today seeing the graduation of 63

new graduands and 11 learners from 10 different countries which effectively puts us past the one thousand mark, and we do know that with that kind of number produced in Africa, we are prepared to significantly and effectively impact the cashew sector on the continent,” he said.

While entreating the new graduates to be agents of positive and impactful change, he called on them to take responsibility for their personal learning and development by exploring other opportunities and learning platforms in the cashew industry.

Highlighting the significance of cashew and the need for cashew by-products processing and marketing, he emphasized the need for participants to take advantage of this year’s ACA Cashew Conference to learn and broaden their horizons.

“This conference brings together all the actors of the cashew value chain and it’s held in the various cashew producing countries. This year, it will be held in Abuja, Nigeria under the theme;

Strengthening Sustainable Kernel & By-products Marketing in the African Cashew Industry” he emphasized.

The United States Department of Agriculture (USDA), through its LIFFT project, implemented by Shelter for Life sponsored 12 of the participants of the 14th edition of the MTP. The Coordinator of USDA projects in West Africa, Gerald Tumball said “the USDA’s interest in the cashew sector is to increase productivity and processing and to improve the livelihood of people,” which informs its decision to sponsor participants to attend the MTP program.

22 of the participants were from Ghana, 10 from Burkina Faso, nine from Benin, five each from Sierra Leone and Cote D’Ivoire, four each from Guinea Bissau and Senegal, three from The Gambia and one from Togo. The learners, who are workers of GIZ/MOVE and ACA, had five people from Ghana, and two each from Burkina Faso, Nigeria, and Cote D’Ivoire.

Isaac Piyuori

Isaac Piyuori holds a degree in Communication Studies (Specialising in Journalism) from the Ghana Institute of Journalism (GIJ). He was part of the 14th Edition of the Master Training Program.

VISIT WWW.MTP.ACALIVEEVENTS.COM TO READ MORE ABOUT MTP AND APPLY FOR THE NEXT EDITION

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- Training materials development
- Trainer’s attitudes

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Session 2: Planting material development and good agricultural practices

- Improved planting material development
- Good agricultural practices (GAP) and harvest & post-harvest

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Session 3: Cashew processing, sector organisation and cross-cutting issues

- Cashew nuts and by-product processing
- Organization of the cashew sector
- Cross-cutting issues

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Inter-sessions

The inter-sessions are the periods between the class-room sessions. During this period, participants carry out practical activities to develop and deepen their knowledge attained on the technical sessions

Team



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Plant Geneticist
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Ms. Cynthia Benon

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[Read more](#)



Venkatraman S.
CashewInfo

OPPORTUNITIES FOR COLLABORATION BETWEEN AFRICA AND INDIA IN THE CASHEW SECTOR



Srivatsava Ganapathy
Eventell Global Advisory Services Private Limited

Africa produces over 2.0 million tonnes of raw cashew nuts annually and can scale up its production by another one million tonnes in the next 10 to 15 years. Likewise, Africa currently processes over 300,000 tonnes of raw cashews and aspires to process over one million tonnes in the next five years and around two million tonnes in the next 10 years. Governments of key cashew-producing countries in Africa are working together to harmonise policies, share best practices and sustainably grow the sector, thereby creating employment and export opportunities. It is a golden moment for the African cashew sector. In achieving these objectives, Africa needs several partners, partnerships, and collaborations. Africa has always counted on Europe and USA as partners. Perhaps, it is worthwhile to look at India as a partner with significant expertise and potential to contribute to this great journey. This article aims to explore some of the areas of partnership between Africa and India in the cashew sector.

What has India done well in its cashew sector?

1. **Excellent research programmes** leading to the development of new hybrids to suit various agro-climatic conditions as well as the emerging processing industry/market requirements (nut count, size of the nut, timing of production, high-density plantations and varieties suited for cashew apple etc).
2. **Created a competitive marketing system** for raw cashew that optimizes farmers' revenues. This is supplemented with a minimum support price for raw cashews in some states. Indian farmers get one of the highest prices for raw cashews, which are at least USD 300 more per tonne for a comparable quality.
3. **Evolved multiple business models** for different types of cashew processing industries from manual to mechanical to fully automated plants based on proximity to product, labour availability, processing difficulties, purchasing power of the market and so on.
4. **Developed the most equitable and sustainable value-chain** for cashew business wherein no single entity is privileged to take disproportionate gains. Not only does an Indian farmer gets one of the highest prices for raw cashews, but also an Indian consumer gets quality cashew kernels at the most competitive price (Retail price at DMart, a leading retail chain is USD 11.25 per kg for ww320).
5. **Cashew nut shell is an integral part of the economics of processing** and hence is fully utilized, post extraction of oil, by processors for meeting energy requirements.
6. Understood that the cashew kernel is not one product but at least 24 products and each needs to be nurtured and developed continuously to optimize value realization.
7. Even though very little money has gone into promoting cashews, India has done well to promote cashews as a 'healthy nut for the entire family thus emphasizing the daily usage of cashews.

Opportunities for collaboration

a. Scientific development/expansion of cashew plantation:

India would be open to technology transfer agreements to establish new cashew plantations as well as reviving existing senile plantations in exchange for access to raw cashew production. So, it could be a very good opportunity for some of the African countries aspiring to enter and grow the cashew sector such as Cameroon, Zambia and so on as well as some of the existing cashew-producing countries that suffer from low productivity or are keen on expanding acreage under cashews using modern technologies and practices such as high-density cultivation etc. It would be a win-win opportunity for both partners as it provides a time-bound plan for growing the cashew production for the African partner while giving an assured supply source of raw nuts for India. As the cashew production scales up, one may consider moving into local processing in Africa as a part of production.

b. Multiple business models for cashew processing:

Cote d'Ivoire has been very successful in moving into cashew processing. In 2022, it is expected to process 180,000 tonnes of raw cashews, mainly through large-scale industrial units. While most of the processing factories are centralized, large, fully mechanized, and semi-automatic set-ups, one needs to remember that there is room for other business models as well. For example, a less-capital intensive, small-scale, semi-mechanized set-up, owned and managed by self-help groups and closer to the production centres could also be a viable business proposition. Especially, such a set-up of small to mid-size production can do well for large nuts, where revenue realization potential is high or in countries where the scale of raw cashew nut production is low such as Gambia, Togo etc. Of course, such distributed production centres should be supplemented with efficient aggregation and strict quality control protocols. However, it is worth exploring this option, given its uniqueness in empowering local communities and job creation potential. The second aspect of processing is cost reduction. Some of the best practices of Indian cashew processors such as the use of de-oiled cashew shell cake as fuel and roof-top solar for meeting a part of electricity requirements can be adapted in some of the African processors. This could improve the economics of small and mid-sized cashew processing units. Collaboration with technology providers in India can greatly help African processors in this.

c. Developing markets for cashew kernels in Africa:

India always had at least two markets for every grade of cashew kernels. It could be domestic or export market for wholes or it could be ice cream or halwai (sweet manufacturers) for 2 and 4 pieces, cookies, or cakes for baby bits, and recently cashew milk or cashew cheese for JH and so on. Opening up more than two markets greatly improves the bargaining power of the processor, helps in better demand management, and also reduces the risk of concentration. For Africa that has started the processing journey, the first step in the process is to develop the pan-African market for cashew kernels. There shall be no trade and non-trade barriers to the movement of locally processed kernels within Africa. The next step is to focus on opportunities where lower-grade cashews (brokens and splits which fetches no value in the international markets) can be used as food ingredients. In the case of India, it was a 'sweet' segment (Kaju Katli). In the case of Africa, it could be sauce, cashew spreads, cashew

paste for curries, cashew cheese and baby bits in breads, cakes and cookies, trail mixes and so on. Yes, there is a huge opportunity to develop the cashew snacks market using smaller wholes. Here, some of the successful value-added product manufacturers of India can be invited to invest in countries with sizeable lower grades availability for further processing and value-addition.

d. Utilization of de-oiled cashew shell cake for power (electricity) generation:

De-oiled cashew shell cake is a good source of fuel. It can be used for generating electricity. In many African countries, the cost of electricity is high, and availability is erratic. In such situations, it would be an excellent proposition to utilize de-oiled cashew shell cake for electricity generation. India has strong expertise in power generation from a variety of biomass sources, including de-oiled cashew shell cake, with a range of operating capacities starting from 1 megawatt (MW) to 10 MW. A collaboration with Indian companies would solve two critical challenges – (a) electricity availability; (b) disposal of cashew shells.

e. Utilization of cashew apple:

At the current raw cashew production of two million tonnes, cashew apple production in Africa can be estimated at 10 million tonnes per annum. A range of products is being produced and marketed in India starting from the famous alcoholic beverage 'cashew feni' of Goa to cashew apple jam, cashew apple pickle, cashew apple squash and so on. In some instances, the revenue realization from cashew apple takes care of fertigation expenses of cashew farm or labour expenses associated with picking cashews during harvest season. On the whole, cashew apple utilization measures improve the economics of cashew plantations. India would be more than keen to extend cooperation in utilizing the cashew apple by transferring

technology and training potential entrepreneurs and so on.

Conclusion:

Historically, India has played a pivotal role in the development of the cashew sector in Africa. Initially, it was predominantly in pre-financing of cashew farmers and assured buy-back of raw cashews. Then in the supply of inputs such as jute bags, basic machines for cashew processing and testing, recently setting up cashew processing units in several African countries and so on. Most of these initiatives were individual or company driven and usually bilateral. Therefore, very little information is available on these.

The emerging scenario presents a great opportunity for establishing a country-to-country partnership between India and some of the African countries in the following areas. (a) to grow/revive cashew plantations using technical and research support from India; (b) to invite investors and investment for the utilization of cashew shells for oil extraction and power generation; (c) to invite entrepreneurs for setting up factories for value-addition or deep processing and develop market for lower grades; and (d) to establish collaboration with universities and technical institutes for utilization of cashew apple.

Cashewinformation would be happy to engage with interested stakeholders in taking forward any of the above-mentioned agendas forward.

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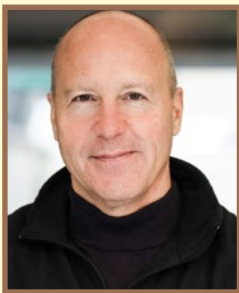
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Jean Francois Guay
CNEA / West Africa Pro-Cashew Project

INCREASING WEST AFRICAN CASHEW COMPETITIVENESS: PRO-CASHEW PROJECT IMPROVES EFFICIENCY AND QUALITY IN PRODUCTION AND TRADE

Cashew Policy Context

The cashew sector in West Africa has developed rapidly in the past twenty years to become the largest producing region. Kernel 50% of the World's cashews will be grown in West Africa in 2022. The five PRO-Cashew countries are estimated to grow 38% of the world's cashews in 2022 according to estimates undertaken for this study. Production is almost entirely based on smallholder farms of 1-5 hectares. Average on farm yields are low compared to those found in Asia. Production increase has been primarily by extension, based on locally sourced seeds without national programs for improved varieties or research.¹

In 2021, Vietnam supplied 89% of the US import of cashew kernels and 77% of the EU/UK imports. Vietnam's share of these markets has increased over the past five years at rates of 7% and 5.5% CAGR respectively in the absence of alternative suppliers.²

Combined African market share has been growing too. The growth of African imports to the US market, a price-sensitive destination, was 1.4% CAGR for the same period. European imports from African countries have grown strongly with an impressive growth of 29% CAGR in the five years up to 2021. However, the African market share in these key markets which between them consume 40% of the world's cashew kernels, remains lower at 11% in Europe and 4.6% in the US in 2021. Further growth is dependent on the development of new African processing plants and the ability of the existing plants to reach their installed capacity.¹

Over the last decade, countries implemented anti-competitive practices, such as *price-fixing mechanisms, tariffs, and other protectionist measures* to safeguard their interests and policies in exporting raw cashew nuts to major primary processing countries, such as India and Vietnam, which primarily control the raw cashew trade. This has led to an asymmetric regional policy environment, with countries competing for a larger market share individually rather than cooperating to develop a regional trade position by investing in critical opportunities to improve the competitiveness and sustainability of West African agriculture. This also results in smuggling raw cashew nuts across the land borders of producing countries to neighboring countries. This smuggling represents high costs and loss of earnings for these countries, sometimes ranging from 30,000 tons to 140,000 tons (Smuggling estimations by N'Kalo, 2021).

Policies such as direct subsidies can help achieve broad policy objectives but are not usually sustainable in the long term. They can also create dependency or attract the wrong kind of investors. Other policies such as "Imitative" measures, which entail replicating policies/actions from other countries, may not be appropriate for the West African cashew sector given the economic structure, business ecosystems, and other critical political and policy differences. And finally, policy support for production and transformation must be based on studies and not on recommendations that are, to some extent, outdated to major markets and technological changes. Policies need to be designed in line with country-specific conditions, depending on the stage of development and economic growth. Thus, a one size fits all approach may not apply to all

countries.

With the operation of new large cashew processing factories in the last five years and additional processing companies setting up factories in the next three years, mainly in Benin, Cote d'Ivoire, and Nigeria, there's a potential to increase the cashew kernel export directly to Europe and North America. Industry Direct export to Europe and North America will also be a shorter logistic route, which reduces carbon emissions and cuts down the delivery timeline³. The establishment of processing companies also leads to direct farmer linkages supply chain in West Africa for nut traceability – from farm gate to processing factories without intermediaries. Finally, technology is a game changer. The development of cashew plant mechanization, it increases efficiencies of the cashew processing factories and develops more specific skills and reduces lack of qualified labor. This is a significant shift in the structure of the cashew industry in West Africa.

Policies are evolving, and countries are developing new reforms and policies. Some West African countries are adopting policies to stop exporting raw cashew nuts to enforce the development of local processing. These examples of protectionism measures are part of the overall West African cashew enabling environment.

USDA PRO-Cashew Intervention

The five-year USDA West Africa PRO-Cashew Project (PRO-Cashew) (2019-2024), funded by USDA and implemented by Cultivating New Frontiers in Agriculture (CNFA), is a regional project active in Benin, Burkina Faso, Cote d'Ivoire, Nigeria, and Ghana. The goal is to boost the competitiveness of West African producers by improving efficiency and quality in production and trade and creating a more competitive West African cashew sector for the international market.

The proactive or reactive approach to policies can change the trajectory of industry development in countries. There is a causal relationship between policy interventions and market forces. The policy works well when stakeholders are consulted and motivated rather than presented with already formulated policy measures. With this in mind, PRO-Cashew opts for a consultative approach, working to practical, coherent regional trade and investment policies in collaboration with government stakeholders, implementing organizations, African Cashew Alliance (ACA), which is the umbrella organization of most cashew-producing countries, and the Consultative international cashew Council (CICC).

I. National Cashew Policy Committees – Approach

The PRO-Cashew project held the first workshops in Benin, Burkina, and Nigeria, which have allowed the project to (i) identify the priority policy areas on which each country will work and (ii) initiate the implementation of a national cashew policy committee. The National Cashew Policy Committees identified a key policy area in Benin and Burkina Faso, and the policy committee

1 Fitzpatrick, J. (2022): *The Effectiveness of Policy and Regulation in the Cashew Sector 2008-2022. Cashew Policy Series 2022* (pg. 6,11,13). West Africa PRO-Cashew Project.

2 <https://africacashewalliance.com/en/news-and-info/blog/cashew-market-analysis-africas-share-eu-market-production-increase>

3 Fitzpatrick, J. (2011). *Competitiveness of the African Cashew Sector. African Cashew initiative (ACi)*

meetings are ongoing. In Cote d'Ivoire and Ghana, PRO-Cashew is at the preparatory stage of a National Steering workshop.

PRO-Cashew provides technical and financial support to government institutions and regulatory authorities of the cashew industry in different countries for the design of strategy documents for the development of the cashew value chain, particularly in Nigeria, Burkina Faso, and Ghana. Moreover, experience-sharing trips are also organized on different critical points. Thus, to date, a trip to Tanzania has been funded for researchers from Nigeria, Burkina Faso, and Cote d'Ivoire in 2021. For the year 2022, a trip has been organized to Côte d'Ivoire in July to allow the main actors of Burkina Faso to visit the scientific research on the creation of cashew parks and better understand how the Cote d'Ivoire government is managing the cashew sector.

2. Policy studies and technical assistance– Know-How

In coordination with these partners, the project's approach is to build advocacy at the national level in each country based on the results of the initial policy reform study conducted by ACA in 2021. Moreover, to support these national policy committees, an international expert, Jim Fitzpatrick, is completing a study on Policy and Regulation Effectiveness, informing stakeholders on the best cashew policy practices. The series of four studies will assist or guide policymakers in making sound policy decisions. These studies will also provide some policy initiatives which could improve the competitiveness of the West African cashew sector. The PRO-Cashew project will introduce the paper at the ACA Annual Conference in September 2022. Finally, PRO-Cashew completes this technical policy package with the support of an industry expert, Shakti Pal, who will add hands-on support to the national policy committees in the next two years.

3. Regional Market Information System – Paving the way for the future

Stakeholder engagement and trust are critical to long-term policy success. Perceptions of unfairness to one group can undermine stakeholder buy-in, make implementation difficult or impossible, and distort monitoring and evaluation. The cashew sector lacks

independent and impartial market information systems. This makes it challenging to assess stakeholders' needs. In collaboration with Development Gateway, PRO-Cashew has developed a regional cashew data collection and analysis system (Cashew-IN) for cashew-related data storage, usage, and dissemination. Multi-stakeholder Steering Committees in Benin, Burkina Faso, Cote d'Ivoire, Ghana, and Nigeria guided the development of the tool to meet policymakers, farmers, and private sector needs. The Cashew-IN platform will provide government agencies, development organizations, and the public with data on cashew production, weather data, cashew processing activities, interactive analysis, good agricultural practices for cashew production, and the latest news on the cashew value chain in West Africa and globally. This will become an essential tool for the countries and the CICC.

PRO-Cashew Holistic Approach to the Farmers

In addition to the broad policy activity, PRO-Cashew intervenes directly with the cashew farmers, bringing new planting materials, training contents, grants, and market linkages. For example, PRO-Cashew promotes adopting organic practices in its training to reduce the use of US and EU non-approved chemicals. PRO-Cashew also fosters the exchange of the high yield trees (seedling and grafts) between West African countries to improve the overall production and productivity of the West African farmers. As a result, the PRO-Cashew project helps the farmers in the short term through Good Agricultural Practice (GAP), Renovation and Rehabilitation, Harvest and Post-Harvest trainings, grants, and better planting materials, while also working on the long-term drivers of the cashew competitiveness of the West African cashew sector through better policies and reforms.

Through these interventions, PRO-Cashew aims to strengthen producer capacities as well as develop incentives to renovate and rehabilitate cashew farms, improve production and quality and create a more competitive West African RCN for the international market.

Jean Francois Guay

Jean Francois Guay is an International Agribusiness Finance manager with over 22 years of professional experience in developing countries and 8 years in the Canadian banking sector. His background includes 12 years of experience as a Managing Director for USAID and USDA contracts, managing a yearly budget between \$3 million and \$15 million. In the last 30 years, he led teams between 30 and 75 employees, always reaching goals and given targets. He is now the Chief of Party of the USDA West Africa PRO-Cashew project covering 5 countries with a total budget of \$23 million over five years. Mr. Guay has a commerce degree from HEC Montreal and a master's degree in Science of Administration, with a project management major.

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INTEGRATED SUPPLY CHAINS IN CASHEW

The supply chain in the context of cashew nut is continuously evolving. With pressure on margins around normal processing of raw cashews and marketing of kernels thus produced, we see the industry looking forward to newer trends which address the felt needs of its customers, especially millennials. This could include health-conscious food alternatives derived from cashew or promoting value chain activities which minimizes damage to the environment and contribute to a healthy and sustainable ecosystem.

The Raw Cashew Nuts industry is unique as compared to most of the other edible nuts since the production, processing, and consumption of the same are dispersed between three different continents. While Africa dominates the production, the processing is concentrated in Asia and consumption is between Europe and United States. Such distant within the value chain links not only contributes to a higher cost of production/processing but also leads to undesirable side effects like higher carbon emissions etc.

The industry in Africa and Asia has been deliberating hard on how to garner the missing piece. In Africa, most of the efforts to promote processing have been led by the public sector. Cote D'Ivoire has taken the effective lead in terms of promoting production of RCN and has put in place policy support to promote processing within the country. While the support does not completely negate the competitive disadvantage as compared to Asian counterparts, it has been effective to develop a basic processing footprint within the country. The concern around the efforts is that, in the rest of the region we can observe a lag in policy support. Governments in Burkina Faso, Ghana, Benin, Nigeria etc have developed policy frameworks which are operating in silos and have not been as effective as reflected in the poor processing capacities within the mentioned countries. Recent efforts by the Nigerian government in terms of the RT 200 support scheme and the Benin government to promote processing in the special economic zones look promising. But we will need to see continued policy stability over many years to see effective results.

On the other hand, the efforts in Asia to promote crop production look on the right track. Special mention needs to be made of Cambodia in terms of aggressively expanding cashew plantations with high yielding varieties. With the global supply chain disruptions resulting in increased ocean freights and the intensive efforts by African governments to retain the crop within Africa and process locally, we believe that the crop production efforts in Asia would continue to be on a growth trajectory.

Over a period, we expect the cashew industry in Africa and Asia to be self-dependent on the local crop and compete over cost and other efficiency parameters.

We have seen many of the kernel players expressing interest in promoting value chain efficiencies through concentrated production and processing of cashews. Example, demand for African processed cashew kernels have been improving recently with many players committing to support the industry in Africa.

With shortened supply chains, the industry would then focus on other possibilities to offer the customers value. Two major trends highlighted on this front are digitalization and sustainable sourcing. Through the digitalization of the supply chain, the industry players are trying to offer the customers visibility on the origin of the cashew, whereabouts of the farming community and a chance to make an impact on their lives. Customers have the option now to make an impact on the welfare of specific communities if they are willing to. Advanced information on carbon footprint of the cashew sold and assurance on sustainable crop production practices are also being offered recently.

Specifically in Africa, the industry needs to plan beyond the core processing framework. There is a need to develop a market for the by-products developed in processing, invest in training of population to make skilled laborers available, and create an enabling environment for machinery and spares producing companies to invest in local manufacturing.

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FOOD SAFETY AND CASHEW MYTHS





Achta IBN Cherif
Cashew Coast

FOOD SAFETY/CERTIFICATION: UNDERSTANDING BRCGS REQUIREMENTS

Food safety standards have been developed over the past 20 years to provide a system of assurance that food from farm to fork is safe. This is partly a response to certain food fears, but also to the globalization of the food supply. They provide an externally validated framework for assessing the safety and quality of food production and distribution.

Many of the major standards have been developed under the leadership of consortia of major retailers – BRCGS in the UK, IFS in France, Italy, and Germany, and SQF in the US. Another step was the formation of the Global Food Safety Initiative (GFSI) to provide benchmarking operational criteria for private standards.

1. What is BRCGS?

Brand Reputation Compliance Global Standard previously known as the British retail consortium (BRCGS) was founded in 1996 by retailers who wanted to harmonize food safety standards across the supply chain. The BRC first published its Global Standard for Food Safety in 1998, developed to help the food industry comply with United Kingdom (UK) and European Union (EU) food safety laws.

The BRCGS food safety standard was the first to be benchmarked by the GFSI as well as introduced requirements for the food safety culture, food fraud and reduced audit burden through additional modules. Now in its 8th edition with the 9th edition published in August 2022, the standard has evolved to meet industry needs and to protect the consumer. The BRCGS operates a compliance program to ensure consistent audit results brands can rely on.

2. Why is it required by cashew buyers?

Within the food industry, there are numerous standards that need to be followed to ensure the safety of all food produced. For cashew that is generally grown in Africa, processed in Asia then consumed in Europe and US, BRCGS becomes essential for buyers to ensure the safety, quality, and legality of the product as well as to ensure that the product is traceable.

In other words, a cashew company with a BRCGS certificate offers a supplier a better guarantee regarding the product's safety, traceability, and quality.

3. What are similarities/differences with any other main food safety certification?

Today BRCGS are globally recognised across both food and non-food categories and operate the most rigorous third-party certification scheme of its type. Also, it has the most rigorous schemes and the highest trained auditors giving the best results possible.

BRCGS standards are used by more than 30,000 sites in 130 countries, and accepted by 70% of the top 10 global retailers, 60% of the top 10 fast food restaurants and 50% of the top 25 manufacturers. FSSC 22,000 certifications have been adopted by

27,000 sites, IFS in 17,000 sites, and SQF in 10,000

4. What does it mean when a cashew factory does not have BRCGS?

A BRCGS-certified cashew processing plant means that the site is producing safe product that meets customer requirements. Also, this means that the site has met the legal requirement for the country where the product is produced and the legal requirement of the country where the product is intended to be sold.

5. BRCGS implementation requires Top management commitment - what does that mean? And what does it take?

Senior management commitment is a requirement for any successful business venture. There is no business initiative that could be a success without the commitment of senior leadership. The same applies to the implementation of food safety management systems; senior management plays a critical role. BRCGS requires that Senior Management show commitment to food safety and continual improvement of the food safety management system to ensure the production of a safe, high quality, authentic and legal product.

Staff members are likely to take food safety seriously if their leaders lead by example. Also, top management commitment means providing the required resources including financial & human resources for the proper implementation of the system. This would ensure the production of safe, and high-quality food and can even improve the morale of staff, which can have a positive impact on staff productivity.

6. Differentiate between companies which have received a BRC certificate vs those which have had repeat audits, and have changed their work culture. Use examples from Cashew Coast

The difference is that the companies have completed an audit cycle and their employees are familiar with the standard required and the system is mature. Also, it means that they have mastered the BRCGS system that has been put in place and that they continually improve it to maintain it.

7. A few practical tips for successful BRC implementation

The requirements of BRCGS should be embedded in the day-to-day activities. Have a committed team while defining the responsibilities of each member for an efficient result.

It should also be noted that BRCGS certification is not only the responsibility of the quality manager or the team, but also part of everyone's responsibility.

Achta IBN Cherif

Achta is the first female Ivoirienne QHSE Director to successfully lead a cashew processing facility's BRC audit. She great experience of cashew processing is currently the Quality Director of Cashew Coast, an Ivorian cashew processing firm.

PERSPECTIVES ON DEVELOPMENT PARTNERS & ACCESS TO FINANCE





Rita Weidinger
ComCashew/GIZ

“DEVELOPMENT COOPERATION / FUNDING”

Cashew the Grey Gold for Africa



Nunana Addo
ComCashew/GIZ

Cashew is increasingly becoming the priority cash crop of most Sub-Saharan African countries. Over the past two decades, the tree crop has succeeded in coming into close competition with cocoa as a cash crop and major foreign exchange earner to producing countries. Climate change has further enhanced the importance of this crop as it is a hardy tree with the ability to withstand harsh climatic conditions and doubling as a tree which is ideal for afforestation programmes and rehabilitation of degraded lands. Most African countries began planting the cashew tree as a way of checking deforestation, without necessarily paying attention to its economic value.

However, over time, its economic importance and other potential have been discovered and the interest in increasing its production has soared in most African countries. The crop contributes significantly to food security for its producers as its proceeds come during the lean, so called “hunger” season, and it has international demand which is growing by 7% annually on the global market. Additionally, its cultivation allows for intercropping, thus diversifying income for the farmers. Aside these, the entire cashew fruit is useful for diverse purposes – the kernel is processed into snacks, paste and used in the baking industry. It is used in breakfast cereals and for major healthy snacks for many people around the globe. The apple is used in the production of fruit juices, jam, jellies, vinegar, wine, ethanol for industrial use, and brandy. The shell that contains Cashew Nut Shell Liquid (CNSL) is used extensively in the petroleum and paint industries, among other things. The residue after pressing out the oil is used in the production of briquettes, a greener and environmentally-friendly fuel alternative for industries.

Despite these benefits that the cashew sector presents, less than 10% of the over three (3) million tonnes of crop is processed on the continent. With the current production and activity in the cashew sector, over five (5) million Africans are employed locally by the sector. An estimated 500.000 people are expected to be employed in processing if an additional 2 million tonnes is processed locally.

Currently, about 3 billion USD accrues from RCN sales annually. The sector, thus, holds potential for employment creation especially for women and youth, revenue generation, contributing to the improvement of climate change mitigation and adaptation, mitigation of migration and food security enhancement. Considering the ability of the sector to respond to a good number of Sustainable Development Goals, there has been a growing interest and level of investment in the sector by development organisations.

Increasing interventions by Development Partners over the past five decades

The cashew sector has, over the period, benefited from the support of Development Partners. Whilst the number and volume of projects were rather marginal 15 years ago, these have increased since. Committed development partners for the African cashew sector, such as the African Development Bank, European Union, World Bank, Brazilian research (EMBRAPA), Brazilian, German, American, Swiss, Belgium, Dutch cooperation agencies, and many more national and international organisations, have joined hands with national governments and private actors in leveraging these potentials.

The German Cooperation (GIZ) has supported the sector in Africa since the seventies, starting with improved planting material selection and development in Tanzania and Senegal, and since the early 2000s particularly in Benin, Burkina Faso, Côte d'Ivoire, Ghana, Madagascar,

Mozambique, Nigeria, Sierra Leone, and Togo. The organisation has contributed through its interventions to boosting production volumes, increasing the volume of local cashew and by-product processing, building capacity, support research, facilitating sector organization as well as regional and international exchanges between African countries and Asian, European and American countries. One of such projects is the Competitive Cashew initiative - ComCashew (formerly African Cashew initiative), which has merged recently into the new Market-Oriented Value Chains for Jobs and Growth in the ECOWAS Region (MOVE). The uniqueness of ComCashew lies in the partnership set-up, where 22 private and public partners, amongst which several development partners, come together to achieve a joint goal, thus, increasing the competitiveness of production and in-country processing of African cashew. As part of the project, 51 Matching Funds with private and public agencies were implemented on local cashew and by-product processing, or improvement of yield in cashew production, and similar. All partners have jointly trained about 800.000 cashew producers so far. Additionally, the support of ComCashew has resulted in the training of over 1.000 experts (Master Trainers), creating a knowledge pool for the cashew industry. It has more than doubled the volume of cashew production, increased processing in the targeted countries by over 700% and created over 700.000 job equivalents in partnership with cashew stakeholders.

Development partners in the sector observed the high dominance of men at the decision level, hampering inclusion and innovation. Concrete mitigating actions were taken, such as training women and youth on grafting, helping them to earn revenue and resulting in the establishment of nurseries by some. Today Master Training participants are up to 50% women. Together with CashewInfo, the CasheWomen initiative was launched, bringing women together to exchange with one another, learn and network. Over the past 5 years, the initiative has become a platform that promotes the contributions of female actors to the cashew sector and amplifies their voices on relevant industry topics. This has left a visible mark in the industry and has enhanced gender mainstreaming in institutions.



Pic. ACA conference in Guinea Bissau, Womens' engagement by Development Partners, September 2016

Organising actors in the sector is a task for all

Whilst the sector has gained economic importance, the need for regulations and organization of actors increased. Each country, at their pace, created cashew responsibility structures in their public sector. Based on the examples from long existing cashew boards and institutes in Tanzania, Mozambique and Guinea Bissau, West-African countries

further developed cashew desks into regulatory structures, until full cashew boards were designed. Starting in 2012, Côte d'Ivoire led an exemplary consultative process to develop the now well-known Conseil Coton et Anacarde (CCA), involving all actors from the value chains. Many other countries took advice when drafting their respective legislative frame conditions and structures – the latest ones are the Burkina Cashew Council (CBA) and the Ghanaian Tree Crops Development Authority (TCDA).

Similarly, the private actors in various countries came together, often under the initiative and with the support of the African Cashew Alliance, which also grew alongside the industry expansion. Each segment of the value chain creates their associations – processors, exporters and traders. The large number of producers is the most challenging actors' group to be organized, and government and private support are indispensable in creating representative organisations, with clear economic goals, and transparent and efficient management, including owning their own data. It is for the sake of representativeness of each aspect of the chain in various concertation settings that the Interprofessional bodies became necessary and were established in most cashew producing countries.

It was in 2016, when governments formalized their joint political and economic interest in the sector, that the Consultative International Cashew Council (CICC) was created. The international commodity organization, with its seat in Abidjan, pursues the goal to promote the sector and its benefits for concerned countries. At the first ministerial meeting in Abidjan, Côte d'Ivoire, the CICC appointed ComCashew/GIZ as a representative organization for the Development Partners that intervene in the cashew sector and wish, by their work, to support the CICC in attaining its objectives.

African Cashew sector remains underfunded, with huge gaps on research

Over the past 20 years, more than 50 different investment and implementation agencies have intervened in the sector. Between 2009 and 2017, more than €250m was invested by Development Partners alone in the African cashew sector (Source: ComCashew Development partner mapping). With increasing importance attributed by governments and the private sector, development partner contributions multiplied to an estimated €500m in the last 5 years. Comparing with investments in other crops, this corresponds to less than 5% of development investment funding for the rice sector, as an example. Adding the low budget attributions to agriculture, and the cashew sector, it is well understood, that required investments into capacity building, research and infrastructure development for this new industry are greatly insufficient.

Furthermore, ComCashew partners' contributions over the last 12 years show extremely low investment into cashew research in Africa, which should be at the centre of attention for a young and fast-growing industry. It was through the initiative of the ComCashew partners together with World Bank, and the West and Central African Council for Agricultural Research and Development (CORAF), that a regional project started for production-related cashew research topics, led by the Ivorian Cotton and Cashew Council (CCA). Based on this project, the African Cashew Researchers network (REDAA) was formed, and its first conference was held in 2017. The conference also saw the participation of Asian, European and Brazilian researchers, thus promoting fruitful exchanges with stakeholders from other equally important global production areas and markets. This has grown into a platform that holds monthly webinars to exchange new developments on the crop. Equally important are south-south cooperations that were initiated, for example between Ghana, Brazil and Germany on improved planting material development and by-product processing.

To promote local processing and its associated technologies, an essential initiative was started by the Ivorian government with support from ComCashew in 2014 – the biannual International Cashew Equipment and Technology Fair – SIETTA (Salon International des Equipements et Technologies de Transformation d'Anacarde). With further World Bank funding, and a partnership with the Ho-Chi-Minh- University, the Ivorian Centre for Cashew Processing (CITA) was established, to train and promote innovations' development. Unfortunately, these initiatives are not

mirrored in all countries, and the continuous gap in research funding needs to be urgently addressed by all actors.

Next steps and Vision of Development Cooperation for Africa

With the establishment and operationalisation of the CICC, Development Partners (DPs) that are intervening in the cashew sector, especially in Africa, are in the process of coming together to form a Development Partner Working Group, with the next meeting to be held in Abuja during the 16th annual ACA conference. This group is expected to help clearly coordinate DPs' contribution to the CICC's work, provide the platform for building synergies, enable DPs to undertake joint activities and encourage concerted support to all permanent structures within the cashew sector. Regular exchange on members' activities in the sector will prevent replication of efforts and overconcentration on one aspect of the chain to the neglect of others:

- Ensure that 2 million tonnes are processed in Africa by attracting new investment to increase local processing. Local management and business skills for processing and acquisition of appropriate equipment have to be developed in that direction to establish sustainable business practices in the sector.
- Ensure that 3.5 million tonnes of Raw Cashew Nuts (RCN) are produced in Africa by mobilising funds and expertise to support research on the development of high-yielding, drought- and disease-resistant varieties with good processing qualities and establishing scientific knowledge exchange between countries/ continents. 2 million farmers in Africa require capacity building.
- Collaborate and harmonise development interventions in the sector to ensure higher value of government and donor investments and reduce potential duplication of efforts, support in creating an enabling business environment and regional trade efficiencies.



Pic. Cashew related concertation at the Organisation of African Caribbean and Pacific States Secretariat, 2014 in Brussels.

Rita Weidinger

Rita Weidinger is the Executive Director of the Competitive Cashew initiative (ComCashew/GIZ). Rita is an organizational development advisor and agricultural socio-economist. She is working in Africa with the Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ (GmbH) since more than 20 years. Her focus and passion are in the private sector-led agricultural and rural development and gender-related issues. She is a visionary leader and practitioner of precompetitive private-public alliances and (youth) employment.

Nunana Addo

Nunana is a Development worker with about six (6) years' experience working in development cooperation, with emphasis on the cashew value chain. Having worked in various positions in a regional multi-stakeholder programme, she possesses significant knowledge and experience in development communication, sector organisation, stakeholder engagement and facilitation as well as capacity building. She is passionate about work that focuses on and actively contributes to improving livelihoods and making real positive impact on communities.



**Solène PRINCE
AGBODJAN**
Injaro Investments Limited

PERSPECTIVES ON CASHEW FINANCING

Market Overview

The cashew market is growing steadily, with a global production of 4.18 million tons in 2020. Over the last five years, the world consumption of cashew kernels has risen by almost 20%¹, with 45% consumed by Americans and Europeans. India maintains its position as the world's largest consumer and producer country.

This growing appetite for cashew kernels is reshaping the market. West Africa has faced a substantial increase in raw cashew nuts and cashew kernels. However, Vietnam wishes to reduce its dependence on raw African cashew nuts. Africa represented 60% of the global production of cashew nuts. The top producer on the continent is Côte d'Ivoire. The country has set up regulations to help the local producers by providing processing companies with premiums on RCN processed to stimulate local processing before exportation.

Injaro Investments Limited is involved in the cashew nut supply chain through the Agribusiness Capital (ABC) Fund as the Fund provide working capital loan to processors in Bénin and in Burkina Faso.

The cashew nut sector stands out as one of the highest value-added flagship sectors, given its:

1. High potential to contribute to employment and income generation;
2. Contribution to food and nutritional security; and
3. Excellent export potential.

For the smallholder farmers who grow cashew nuts in rural areas in Africa, making a steady living can be precarious. Many of them struggle to find buyers for their crops. Most of them do not have access to loans and other financial services, making it difficult to save for the future or grow their businesses. The unpredictable weather patterns result in inconsistent production, adding complexity and risk to smallholder farming activities.

To date, the local cashew processors are facing difficulties finding local banks and/ or financial institutions to provide sufficient working capital loans to purchase raw cashew nuts and cover their operational costs. As a result, the processors are forced to access loans from more than one financier to meet their working capital needs. The large cashew processing companies with processing capacities exceeding 5,000MT of cashew nut per year, could require up to EUR 30 million working capital if they were to operate at a total capacity.

One of the main challenges is to connect financial institutions with cashew value chain actors during each cashew season to help them obtain the funds needed to operate and improve their efficiency. These actors include farmers, cooperatives, producers, and final buyers of raw products (exporters). Most of them do not have the necessary funds or guarantees to apply for a loan at the bank level. In addition, most banks are reluctant to invest in the sector because of the associated risks and the unknown potential among players.

The COVID-19 pandemic has had a severe impact on the cashew market, negatively impacting both the quantity of raw cashew nuts (RCN) produced and sold, as well as the amount of funding provided to players along the cashew value chain to continue their operations effectively.

Financing instruments :

The financial institution provides four main types of financial instruments:

1. Pre- harvesting financing facilities for farmers and cooperatives
 - Use: Purchase of raw cashew nut + operating expenses from purchase to delivery to the final buyer
 - The tenor of the loan: Usually, a one-year working capital loan linked to the cashew nut season
 - Beneficiaries: this type of funding could provide direct financing to farmers or cooperatives and/ or indirect funding by supporting those who are buying from farmers or cooperatives (typically processors or local exporters of raw cashew nuts)
 - Collateral: Assignment of receivables, raw cashew nut inventory, mortgage on the land, personal guarantee
2. Raw cashew nut stocks financing/Trade Finance financing
 - Use: Coverage of operating expenses from raw cashew nut instore to delivery to the final buyer
 - The tenor of the Loan: Usually, a one-year working capital loan linked to the cashew nut season
 - Beneficiaries: Local processors
 - Collateral: Assignment of receivables, raw cashew nut and/ or cashew kernel inventory, pledge on the processing equipment, mortgage on the land and/ or buildings
3. CAPEX loans-Equipment financing/Construction financing
 - Use: Building of new cashew processing units or expansion of existing units, purchase of equipment
 - The tenor of the loan: usually between 3 and 5 years
 - Beneficiaries: Local processors
 - Collateral: Current equipment (if any), new equipment, personal guarantee, pledge on land/buildings
4. Equity and quasi-equity
 - Use: Increase the capital of the company
 - The tenor of the loan: usually between 6 to 7 years
 - Beneficiaries: Local processors

Main risks associated with access to funding

Access to funding is challenging. The financial institutions identified several risks which prevent them from providing loans to the actors of the cashew nut supply chain in Africa:

1. Early-stage operations and short track- record
2. Negative track record- the high rate of default- poor credit history
3. Lack of managerial capacity (lack of management team,

lack of proper staff to support the growth of the activities)

4. Lack of access to market thus unstable revenue
5. Lack of sufficient quality collateral
6. Lack of guaranteed access to supply (poor quality, low productivity)
7. Lack of suppliers (break-even volume)
8. The selling process is not completed (only LOI available)
9. Inadequate processing equipment
10. Lack of knowledge of international market/language barrier
11. Lack of required certifications to access the international markets

Access to financing

Based on our experience, the main challenges in obtaining financing are:

1. Local banks face a high cost of borrowing, which is a contributing factor to high lending rates.
2. Generic credit products and loan terms are not adapted to the cashew nut activities (e.g., amortization schedule not aligned with the cash cycle, funding comes in later than needed)
3. Processors enter a cycle of unprofitability due to the first two factors, resulting in an inability to pay back loans on time and a bad credit history.
4. There is a lack of understanding of the trade finance cycle and underlying transactions by the local banks and financial institutions.

Accessing funds is not impossible but a set of conditions is required to be fulfilled. The Agri Business Capital (ABC) Fund managed to support the cashew nut supply chain by providing working capital loan to 2 processors in West Africa. The first investments were done early 2020, at the time when the Covid 19 pandemic started and when the financial institutions stopped financing the cashew supply chain.

With regards to the financial institutions, some cautions as outlined below could be taken to de-risk the funding of the cashew nut supply chain:

1. Have a focus on operations as much as on financials
2. Make a proper risk assessment of the underlying transaction of the loan
3. Understand the cashew nut production cycle, supply chain, and seasonality

4. Understand the market rules and regulations of the cashew nut supply chain in a specific country
5. Identify the sequence of events, related risks, and mitigations of the underlying transaction
6. Identify a proper structure of the loan (time/ cost/ collateral/ disbursement and repayment terms)

The actors of the cashew nut value chain should:

1. Understand that the financial institutions are profit-driven businesses and have negative experiences working with the sector
2. Have a robust business plan which could be defended, together with a proper strategy
3. Create a sustainable organization with good governance
4. Understand the challenges affecting them and propose workable financial solutions to the financiers to have custom-made financial products to meet their needs.
5. They should understand their internal processes and identify and understand the various costs and how best to manage them to ensure better returns for the company.

Financing innovations

At Injaro Investments Limited and Agri Business Capital (ABC) Fund, the Investment team identified some tools which could be used to de-risk lending in the cashew nut supply chain and support access to funding for farmers, cooperatives, exporters, and/ or processors.

1. Access to a capacity-building program to support the actors to be more prepared and competitive thus easing access to finance. Some of the program providers include COLEACP, GIZ, AGRA, Agriterria, Advance Consulting, and Technoserve.
2. Liaise with an independent third-party guarantor (USAID, African Guarantee Fund) to support better collateralization of the loans
3. Insurance coverage on the cashew nut supply chains
4. Apply to get support from a market incentive facility designed to make agricultural Small and Medium Enterprises (SMEs) more attractive to lenders (Trade Hub, USAID, Aceli)
5. Consider a financing mechanism that is a guarantee fund to be set up by the government of a multilateral partner

Solène PRINCE AGBODJAN

Solène PRINCE AGBODJAN is Credit Portfolio Manager at Injaro Investments Limited in charge of the direct investments of the Agri-Business Capital (ABC) Fund. Since joining Injaro in 2019, Solène has played a critical role in developing Injaro's Agri-business portfolio across Sub-Saharan Africa. She has led investments in key agriculture value chains, including cocoa, coffee, shea nut, mango, pineapple, cereals, and cashew nut.

Prior to Injaro, she led the investment activities of the Oikocredit Agri Unit in Africa, where she was responsible for the expansion and diversification of the agriculture portfolio of Oikocredit. She played a crucial role in Oikocredit's work in cocoa, tea, cashew, and cereals and contributed immensely to the institution's visibility in the agricultural finance sector across the region.

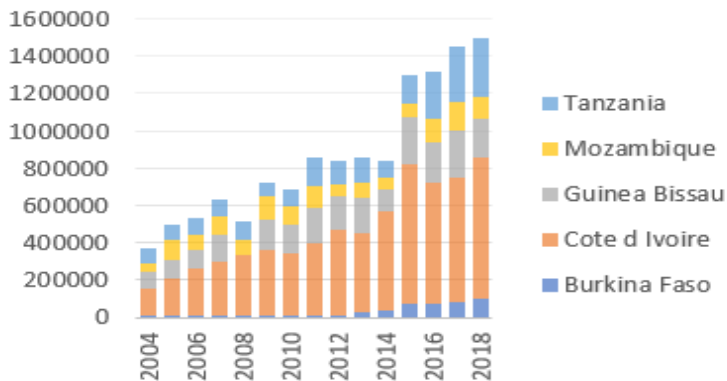
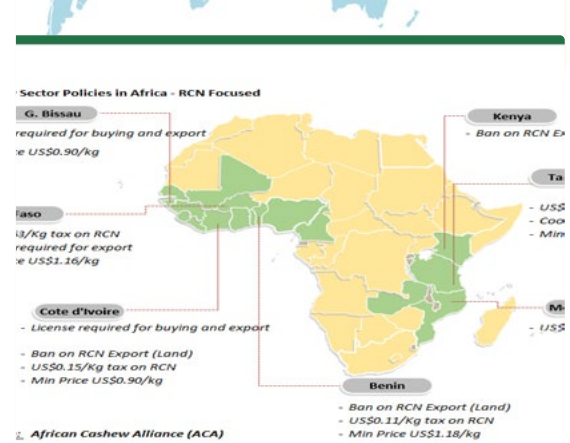
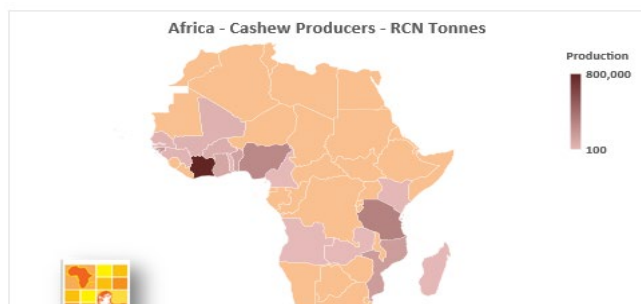
Solène has experience in finance and agriculture at ACE Global (Côte d'Ivoire, Switzerland, and Dubai), Ancile Investment (Switzerland) and SIFCA Group in Europe and Africa, where she held several senior positions. Solène has a master's degree in Economics from Paris Dauphine University.

Cashew Barometer

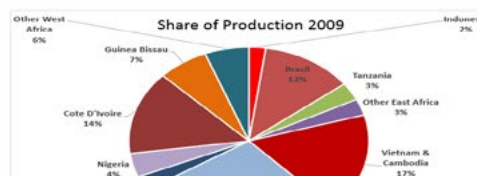
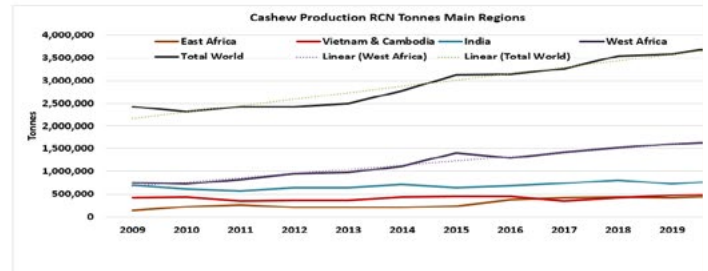
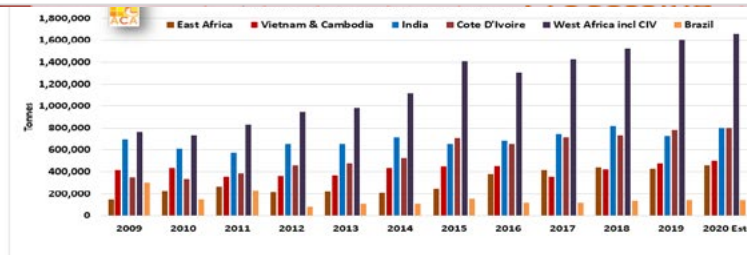


More than 10 years Global & Country-level Cashew Data and Analysis

Latest Estimate	
Production	
Kenya	5,000
Madagascar	7,000
Mozambique	150,000
Tanzania	300,000
Zambia	700
Cameroon	100
Nigeria	260,000
Benin	120,000
Togo	10,000
Ghana	100,000
Cote d'Ivoire	800,000
Burkina Faso	60,000
Mali	40,000
Guinea-Bissau	200,000
Senegal	30,000
Gambia	7,000
Guinea	25,000
Angola	400



2. Cashew Sector Policies in Africa - Processing Focused									
G. Bissau									
Kenya									
Ban on RCN Export									
Tanzania									
US\$ tax on RCN required for buying and export									
US\$0.90/kg									
Cote d'Ivoire									
US\$ tax on RCN required for export									
US\$1.16/kg									
Guinea-Bissau									
License required for buying and export									
Benin									
Ban on RCN Export (Land)									
US\$0.15/kg tax on RCN									
Min Price US\$0.90/kg									



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For more than 10 years Global & Country-level Cashew Data and Analysis, covering:

- Production Area, Volumes and Quality
- Processing Volumes, Utilized Capacities
- Price Data (RCN, Kernel)

- Export Trade Volumes
- Import Trade Volumes
- Sector Organization and Regulation Information