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THE ECONOMICS OF CASHEW IN MOZAMBIQUE

April 2018

This publication was produced by the SPEED+ Project under Contract No. AID-656-TO-16-00005 at the request of the United States Agency for International Development Mozambique Mission. This document is made possible by the support of the American people through the United States Agency for International Development. Its contents are the sole responsibility of the author or authors and do not necessarily reflect the views of USAID or the U.S. Government.

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ACRONYMS

ACIANA	Associação Comercial, Industrial e Agrícola de Nampula
AICAJU	Cashew Industry Association
CAGR	Compound Annual Growth Rate
CIF	Cost, Insurance and Freight (named destination port)
CTA	Confederation of Private Sector Business Associations
EU	European Union
EUA	United States of America
FAO	United Nations Food and Agriculture Organization
FAOSTAT	FAO Statistical Information System
FOB	FOB – Free On Board (named port of shipment)
IIAM	Mozambique National Institute of Agronomic Research
INCAJU	Cashew Development Institute
KG	Kilogram
OPs	Producer Organizations
OE	State Budget
MIC	Ministry of Industry and Trade
MASA	Ministry of Agriculture and Food Security
R&D	Research and Development
PGPM	Minimum Price Guarantee Policies
RCN	Raw Cashew Nuts
ROFR	Right of First Refusal
SDAE	District Services for Economic Activities
SPEED+	Supporting the Policy Environment for Economic Development
TOR	Terms of Reference
MT	Metric Tons
MTN	Metical
TNS	Technoserve, American NGO
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

EXECUTIVE SUMMARY

Two decades ago, Mozambique enacted a Cashew Law (Law 13/99) to facilitate industrial development, export growth and job creation in the cashew nut processing industry. The Law, which placed an 18% tax on exports of raw cashews nuts (RCN) and gave domestic processors the right of first refusal (ROFR) to purchase raw cashews from domestic growers, is expected to be revised by the Government of Mozambique.

The original intent of Law 13/99 was to protect the cashew processing industry in Mozambique and enhance its competitiveness in the global marketplace. This economic strategy, commonly referred to infant industry protection, has only proved successful in cases where support is provided during a temporary start-up phase that allows the domestic industry to establish its footing in the global marketplace. When this temporary protection continues for decades—as is the case in Mozambique—the strategy distorts the market, creates artificially high profits in the protected industry, and often masks inefficiencies that ultimately undermine the original intent of the protective tax itself: building competitiveness.

In the current policy environment, the cashew industry in Mozambique is at risk of further reducing its competitiveness in the marketplace at a time when the global market for the nut is strengthening at a rapid pace. This study aims to provide the economic arguments for a fundamental shift in cashew policy to benefit smallholder farmers, increase cashew production, improve cashew quality and ultimately benefit cashew processors. Specifically, the study analyzes:

1) **An export tax** on raw cashews, currently 18%;
2) **The Right of First Refusal,** held by domestic processors, to exclusively purchase RCN; and
3) **A ban on exporting RCN during the high season,** between October and January.

This study reveals that the current policy regime creates a drag on Mozambique's competitiveness in the global cashew industry by **entrenching cashew processor inefficiencies**, a side-effect of the export tax, which gives processors access to RCN at below-market prices. This access comes **at the expense of domestic cashew producers,** typically smallholder farmers, who are forced to accept below-market prices for their goods. Failure to compensate producers has in-turn contributed to the **declining quality and quantity of RCN in Mozambique**, as farmers do not have the monetary incentive to invest in new trees or maintain the health of their existing trees.

Therefore, to improve competitiveness of the Mozambican cashew sector, **this study recommends**:

- Gradually phasing out the export tax, starting with an immediate reduction from 18% to 14%, then steadily decreasing over five years to 0%;
- Allowing RCN exports during the October to January period when global prices are highest,
- Improving processors' competitiveness through investments in efficiency and reductions in the cost of doing business (transport, logistics, corruption, etc.); and
- Transitioning INCAJU to serve a regulatory and policy-oriented role, while the private sector fills the demand for input supply and extension services.

A reduction in the export tax and elimination of the peak season export ban will have immediate **positive short-term impacts on farmers**, who would receive higher farm-gate RCN prices. Since **processors** will pay higher RCN farm-gate prices, they will face **smaller operational margins in the short-term**. However, over the **medium-to-long run, the anticipated increase in quantity and quality of RCN will directly benefit Mozambican processors**.

MOZAMBIQUE CAN BENEFIT FROM A STRONG GLOBAL CASHEW MARKET

The **global cashew market is strong**, with demand from Western markets (US and Europe) expected to grow 6% annually and prices expected to remain stable at USD 5/lb. Africa produces more cashew than any other region—Ivory Coast leads the world in RCN production—while 90% of cashew processing takes place in India and Vietnam. Countries in the Southern Hemisphere, like Mozambique, can fetch a price premium of up to 15-20% due to pricing seasonality.

If Mozambique commits to improving RCN quality, the country has a big opportunity to maximize revenues from cashew. While Mozambique's raw cashew nuts are the lowest quality among peer nations due to an aging tree stock—it scores a 45 out-turn rating (out-turn is an international quality index)—the country still receives an above-average free-on-board (FOB) export price thanks to Southern Hemisphere price premiums. Tanzania, who shares this geographic price premium, has an outturn score of 50 and fetches one of the highest FOB prices in the world. ***If Mozambique can improve its outturn rating to 50*** like its neighbor, ***the country is poised to see at least a 20% increase in FOB prices***—this pricing power benefits all segments of the value chain.

BUT MOZAMBIQUE'S POLICY ENVIRONMENT DIMINISHES THE POSSIBLE BENEFITS

The 1.4 million small holder farming families bear the cost burden of Mozambique's export tax, and this contributes to low RCN quality. By being forced to sell their RCN to processors/exporters at below market prices, rural farmers directly subsidize the domestic processing industry. According to a model developed by SPEED+, eliminating the export tax and peak-season export ban would result in a 30% increase in the farm-gate price for RCN, directly benefiting incomes of small holder farmers.[1] Increased farm-gate prices would offer an incentive to producers to invest in their tree stock, resulting in higher quality RCN in the long run.

Processors are the primary beneficiaries of the export tax, in large part due to their ability to procure RCN at below market prices. Processing efficiency in Mozambique still significantly lags behind industry leaders India and Vietnam, however the business has been relatively profitable thanks to the export tax—these artificially high profits are delaying the industry consolidation that is needed to improve processing efficiency.

The prevailing policy environment directly contributes to poor cashew nut quality and low cashew tree productivity in Mozambique. Mozambican cashew nut quality continues to be one of the worst in Africa, and production levels in Mozambique are not increasing measurably, averaging 89 thousand MT of RCN over the past decade, far from the peak achieved almost half a century ago (200 thousand MT of RCN). Poor quality RCN and an aging tree stock negatively impact the competitiveness and sustainability of the national cashew industry.

THE ECONOMICS OF THE CASHEW EXPORT TAX

Like any tax, Mozambique's cashew export tax has winners and losers. **The export tax reduces farm-gate prices for producers.** A global buyer of Mozambican cashews will pay the international market price—these buyers do not pay the 18% tax above the market price. Thus, the tax directly reduces the receipt by 18% for anyone exporting the raw nuts (legally). For example, if the world market price for raw cashews is $3.50 per pound, then the tax takes away 18%, or $0.63, and the trader/supplier receives $2.87.

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[1] See SPEED+ Economic Model at https://drive.google.com/open?id=1RHXimxe1yHKkek-l8dsFq3oVMxwE7owt6ey8wiUBbUY

The payment received by the farmer is further reduced by intermediary costs for sorting, grading and bagging, transportation to the port, and home-port shipping logistics. Suppose these costs amount to 20% of the shipment value. Continuing the example above, this would amount to $0.70 per pound. The farm-gate price to the cashew grower would then be $2.17 per pound with the export tax, compared to $2.80 without the tax. The bottom line in this case is that the 18% ***export tax reduces the farmer's income by 22.5% per pound***.

The export tax and first right of refusal policy encourages inefficient processing. The export tax and ROFR for purchasing raw cashews allows domestic producers to procure raw cashews at a below-market price. In the numerical example from the previous section, farmers sell their raw cashews for $2.98 per pound in the absence of the tax, and just $2.17 per pound (in the legal market) with the tax. The flip side of this transaction is that the processors can purchase raw cashews at the farm gate for $2.17 per pound, instead of $2.80.

By reducing the procurement price for raw cashews, **the export tax either pads the profit margin for efficient processors or protects processing operations** that otherwise would not be viable due to high operating costs compared to efficiency standards in the world market (as in Vietnam). The latter effect—shielding inefficient processing—is certainly the case in Mozambique.

Current policy in Mozambique is economically costly and socially inequitable. Given there are an estimated **7 million people benefitting from cashew production** and only **150,000 benefitting from the processing industry**, the current policy environment is inefficient at achieving domestic poverty alleviation goals. Further, when policies intended to provide temporary protection during the start-up period for an 'infant industry' are maintained for decades, they generally end up subsidizing inefficiencies—in the case of Mozambique, these subsidies are coming at the direct expense of the country's poor farmers.

A MODERN CASHEW COMPETITIVENESS STRATEGY

In developing a new cashew competitiveness strategy, the **dilemma facing policy makers** is choosing between **I)** maintaining the status-quo, where RCN quality and quantity will likely decline and negatively impact industry sustainability, and **II)** proceeding with a few challenging short-term adjustments that will improve the fortunes of both producers and processors in the medium-to-long run. Decision-makers should keep in mind that **short-term adjustments can be made less challenging** by taking measured decisions such as phasing out the export tax over five years and addressing key business enabling environment issues that reduce transaction costs.

Based on recommendations in this report and accompanying economic model[2], it is anticipated that:

- **Producers** will see an immediate economic benefit, with an **increase in farm-gate prices of over 10%** (with the export tax reduced to 14%), **increasing to around 30%** as the tax is completely phased out and the peak-season ban eliminated.

- **Processors** will face near-term pressure on their **operating margins of at least -10%** based solely on increased RCN costs. However, operating **margins pressure will be offset** over time based on the **increased quantity and quality** of domestic RCN to process.

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[2] **Note:** Figures derived from the SPEED+ model are illustrative, based on plausible parameter values, and meant to show the estimated depth of impact to producers/processors—it is a decision-support tool that stakeholders can use by plugging in parameter values that reflect their experience and account for geographical differences. The 'processor operating margin' figures reflect changes due only to increased farm-gate RCN prices—the model does not measure how increased quantity and quality of RCN might offset these higher input prices, directly benefitting processors.

- The **quantity of domestic RCN available to process will increase** in the near term, thanks to the lower export tax. As illustrated in Figure 12, a positive correlation exists in Mozambique between farm-gate prices and RCN supply. This 'supply response' evidence indicates that increased farm-gate prices will lead to more available RCN to process.

- The **quality of domestic RCN will improve** as producers receive higher prices, directly benefitting processors who will be able to fetch higher prices on the global market—we **estimate Mozambique would see at least a 20% increase in FOB price** if its RCN quality can reach to the same level as Tanzanian RCN quality.

As these policy changes will shift market dynamics in Mozambique, **complementary and enabling activities** will be required across the value chain, for producers, processors, and for INJACU:

- **Producers** will benefit from their improved pricing power but will need support in gradually assuming control of cashew tree seedling production and tree spraying activities as INCAJU transitions out of this role. Rural farmers will also benefit from investment in capacity building of producer organizations who can better collaborate with the research and development program (led by IIAM), processors, and traders.
- **Processors** will need to adjust to paying the prevailing market price for RCN, and thus must be supported by investments in processing efficiency, such as infrastructure improvements (e.g. port handling, intermediate aggregation warehouses, access roads) and market information systems that provide credible data around production costs, technologies, market behavior, price trends, etc. Labor force adjustments may be required—job training should be provided in the case of layoffs; however recent evidence shows that improved processing technology and increased RCN volume can increase processing sector jobs as well (discussed further in Chapter 5).
- **INCAJU** has already begun transferring control of the main production support programs to the private sector, so that investments in raw material quality will be led by the commercial enterprises who process and export cashews. As INCAJU transitions into a regulatory role - and is funded out of the general budget for agricultural development - they will help decrease the cost of doing business and shift the center of gravity to formal market norms through activities such as licensing, setting standards, improving contract enforcement, etc.

Altogether, these recommendations suggest the entire Mozambican cashew value chain will need to pull in the same direction to overcome short-term discomfort and achieve a competitive, thriving, and sustainable domestic cashew sector. This study provides the background to illustrate where Mozambique currently stands in the global cashew marketplace, and how a few changes to Law 13/99 can enable the country to regain its global competitiveness in the cashew industry.

1 INTRODUCTION

1.1 OBJECTIVE OF THE STUDY

SPEED+ (Supporting the Policy Environment for Economic Development) is a 4-year project whose purpose is to support structural policy reforms in 4 areas: (1) agriculture, (2) trade, business environment (3) energy and water, and (4) biodiversity and conservation.

Within the context of component (1) agriculture, SPEED+ developed this economic study to provide the economic arguments for a fundamental shift in cashew policy to benefit small holder farmers, increase cashew production, improve cashew quality and ultimately benefit cashew processors. With an overarching focus on building competitiveness, the recommendations offered in this study are based on a detailed analysis of the global cashew industry, the continental cashew industry in Africa, and the value chain in Mozambique as it has evolved over the last two decades, the period in which the domestic Cashew Law 13/99 has been in force.

1.2 BACKGROUND

1.2.1 THE WORLD MARKETS[3]

At present the world production of cashew nuts stands at around 3.2 million MT and continues to grow steadily. Africa, and in particular the countries of West Africa, has significantly increased its production, making the continent the largest producer of cashew nuts in the world. Notwithstanding this significant growth in the production of RCN, Africa's domestic processing capacity continues to be very weak, in stark contrast to industry leaders India and Vietnam, which process more than 90% of the global supply of RCN.

The EU, US, and Canada together consume about 1/3 of the world's cashew nut production, while the remaining 2/3 are consumed by other countries, among them India, China, UAE, Japan, Australia, Brazil and Thailand are the primary consumers. It is estimated that western market demand will grow at an annual average rate of 6% and reach around 350 thousand MT in 2020, at which time global demand is expected to have reached about 1.1 million MT.

Increased consumption continues to put upward pressure on market prices to such an extent that global cashew prices are forecasted to average just over USD 5/lb. through 2018/19. Both Asia and West Africa are in the Northern Hemisphere and at times of supply shortages, the market resorts to Southern Hemisphere producers, such as Mozambique and Tanzania, who then benefit from a 15 to 20% price premium.

1.2.2 THE MARKET CONTEXT IN MOZAMBIQUE

Over the last two decades, the cashew market in Mozambique has been characterized by an aging tree stock (average age is 50 years), low RCN quality, and flat to declining RCN production. Law 13/99 went into force around the turn of the new century, with an objective of protecting domestic processors as they gained the technology and know-how needed to compete in the global cashew

[3] Outlook & Opportunity - World Cashew Market Jim Fitzpatrick, December 2017

processing marketplace. Below is a brief snapshot of the evolution of the cashew industry in Mozambique over the last 15 years.

1975-1994: Collapse of Cashew Industry
Mozambique Independence - New socio-political and economic context
• Plantations and processing units are nationalized, leading Portuguese owners, managers and technicians to abandon the industry (and flee the country). • Very little tree replanting takes place due to a lack of incentives for small holders. • A combination of rural exodus from the civil war and low tree productivity undermine the country's once strong cashew industry.

1995-1998: First Attempts to Revive Cashew Industry
New investments on capital intensive processing units
• Civil war ends, along with the centrally planned economy. • Public cashew processing units are privatized, followed by new investments in capital intensive technologies based on large scale mechanical processing (European technology). • Introduction of high export taxes to protect domestic processing; creation of INCAJU.

1999-2001: Benefits from Privatization Slow to Materialize
Processing Industry remains inefficient – Lack of non-price incentives to smallholders
• Temporary abandonment of export taxes on raw cashew nut recommended by the World Bank. • Continuous lack of investment in plantations approaches 30 years since independence. • Adoption of first Cashew Master Plan & Export tax law 13/99 approved.

2002-2012: The New Reality
New small processing units relocated to rural areas
• Many processing units inoperative, but with some signs of recovery. • Adoption of a new strategy based on labor-intensive technologies (Indian origin) for processing units located in rural cashew production areas. • Technical Assistance to provide appropriate technologies and better management practices. • From very few to about 29 factories (most of which are in rural areas) with a collective capacity to process only 1/3 of the available RCN production. • Reasonable investment in planting cashew trees; the production and distribution of seedlings and the spraying of cashew trees led to a slight increase in production (that is not sustained). • Adoption of Law 13/99 introduced the export tax on RCN and the ROFR measure, with the intention to support domestic processing and raise funds to develop the value chain.

2012-2016: Readjustment for New Challenges

Investment in medium/large capital-intensive units to improve competitiveness
• INCAJU continues to support smallholders in the integrated management of plantations through the distribution of seedlings and subsidized spraying services. • The industry begins to adopt a new capital-intensive (Vietnamese) technology to respond to market demands in terms of quality and quantity – 14 processing units in operation. • RCN production increase marginally, but below government expectations. • The processing industry increases its capacity to about 1/2 of the available production. • The application of the 18% export tax has become controversial, the benefits to the economy and to the producers remains unclear.

2016-Present: A New Institutional Paradigm
New INCAJU statues reinforce the export tax as an ongoing source of the institution's budget
• The government approves new INCAJU statutes. • New statutes broaden the mandate for INCAJU, allowing the institution to invest in the cashew sector. Formalization of the export tax as one of the sources of the INCAJU budget seems to legitimize and even perpetuate the application of the export tax for budgetary purposes. • New statute allowing INCAJU to set reference prices suggests the possibility of controlling the prices of cashew to the producer. • Government considers increasing the export tax to 30% and exploring price-setting measures to ensure floor prices to producers as a way of off-setting negative impacts on farmers. • The strategic policy decisions around Law 13/99 have the potential to impact the competitiveness of the Mozambican cashew sector – positively or negatively – depending on **the extent to which they strengthen all segments** of the cashew value chain.

1.2.3 THE EVOLUTION OF THE VALUE CHAIN IN MOZAMBIQUE

The cashew industry in Mozambique has experienced moments of glory as a profitable sector and a major foreign exchange earner for the Mozambican economy. However, after the country's independence in 1975, it lost its stature as a world leader in the production of RCN—at the same time it was surpassed by Asian countries who had invested in new sophisticated cashew processing technologies. Today, other countries are industry leaders: Vietnam has experienced stellar growth during the last decade and is the world's most efficient cashew processor, India continues its reputation as the world's largest cashew processor by volume, Brazil, Tanzania, and a group of West African countries (e.g. Ivory Coast and Guinea Bissau) have expanded their production and strengthened domestic processing in response to the exponential growth in demand worldwide.

From 1975 onwards, the cashew industry in Mozambique began to reduce its domestic processing capacity. In the last two decades, the structure of the cashew business in Mozambique has undergone significant changes, starting at the beginning of the new century with the transition to a distributed industry based on small units (500/2,000 MT per year) located in rural cashew production areas and based on labor-intensive technology.

After several decades of poor production following independence, annual marketing of RCN (for processing and export) ranged between 60 and 80,000 MT, with INCAJU considering that a

significant portion of the nuts produced were exported illegally, and consequently not officially registered. In the last decade, Mozambique has produced an average of 89,000 MT per year (an annual range between 65 – 135,000 MT)—production has been irregular based on prevailing weather conditions. Overall, RCN production levels are far from the peak achieved in the early 1970s (200 thousand MT of RCN).

Domestically processed cashews (kernels) have been flat the past decade, averaging just under 30,000 MT a year. A significant opportunity to increase domestic processing exists, but is only advisable if the costs of processing do not exceed the incremental added value. Any policy to support the development of the processing industry should be based on a detailed analysis of the costs of processing.

1.2.4 THE COMPETITIVE FRAMEWORK

The **quality of Mozambican nuts is among the lowest in the world** with regard to outturn index 1, which measures the quantity of good kernel contained in a bag of 80 kg of raw cashew measured in pounds (lb. of good kernel/kg of RCN). The low nut quality is due to a mix of old trees with lower productivity rates and the presence of cashew tree diseases. While the low RCN quality lowers market prices, this disadvantage is offset by the fact that Mozambique, just like Tanzania, has nuts available when the Northern Hemisphere has run out of stock, which can result in a 15 to 20% price premium.

Total **kernel processing costs[4] are average in Mozambique** due in part to the **artificially low cost of RCN** (see table 2 below), but the poor quality of nuts diminishes industrial yield, thus reducing Mozambique's ability to compete against others, particularly India and Vietnam.

This relative advantage of the Mozambican processor is a result of the protection provided by the Government through the application of the export tax, the privilege of the right of first refusal (ROFR), and the ban on exporting nuts when prices are more favorable in the international market (October to January). The competitiveness impact of these policies has not been favorable, as cited in a 2012 World Bank study [5]that issued a warning about the negative effects of the export tax on the Mozambican economy.

The pillar of Law 13/99 is the export tax, which may vary between 18 and 22% on the FOB price of exported raw nuts. The income from the application of the tax is used by INCAJU, the state agency that oversees the sector, to finance activities that support the development of the value chain—this includes extension services, the production and distribution of seedlings, and integrated cashew tree management (including subsidized chemical spraying of trees).

The Law was introduced with the **intention of being temporary and of being re-examined 5 years** after its entry into force. However, despite the expected flexibility of the tax rate, it has been maintained at 18% since the law's inception. It is one of the highest rates among cashew-producing countries in Africa. The impact of the tax on the competitiveness of the full cashew value chain in mixed, however there is clear evidence that **processors with access to raw material at below-market prices are the main beneficiaries of this measure**. And while the tax was meant to raise funds to finance cashew sector support activities (80% for supporting production activities and 20% for processing), the results obtained by INCAJU's intervention have not yielded the intended benefits of improving RCN quality and quantity.

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[4] Total kernel processing costs include: RCN purchase price + Industrial processing costs (***variable costs:*** deshelling, peeling selecting, packing + ***fixed costs:*** salaries, overheads, depreciation, etc.)

[5] WB policy research working paper 5939, Mozambique cashew reforms revisited Aksoy, Yagci 2012.

Within this context, there is a growing sentiment among many of the cashew value chain stakeholders that **current policies do not benefit cashew nut producers**. Since producers 'pay' the tax by receiving lower farm-gate prices, they are not sufficiently compensated and incentivized to invest in new plantations or in the routine maintenance of cashew trees that would increase their productivity. The **quality and quantities of RCN produced are a far cry** from what was achieved in the final phase of the colonial period in the early 1970s, which suggests that the tax protection policies have not contributed as planned to the overall development of the cashew value chain.

1.2.5 CURRENT PROPOSED AMENDMENTS TO LAW 13/99 AND ITS REGULATIONS

Current discussions are underway around how best to revise Law 13/99. Various interest groups, notably the processors, have exerted pressure to increase the export tax. This policy proposal was finalized and officially presented by AICAJU, who requested the **export tax to be increased to 30%.** There are unsubstantiated rumors that secondary processors would welcome the **introduction of a tax on exported kernels** to ensure that secondary processing is done domestically, thus adding value to their business. In addition, the idea was floated to impose the **export tax on all marketed cashew (domestic and export –** also paid by processors), with the provision that a lower tax rate might be suitable. Further, INCAJU is considering **using minimum reference prices—**a method of setting a floor farm-gate RCN price for farmers—as a counter measure to the prevailing policies in effort to improve producer prices. Each of these interventionist policy options have implications for value chain stakeholders, and should be carefully modeled to measure how much, if any, they contribute to cashew sector competitiveness.

1.2.6 THE SPECIFIC OBJECTIVE OF THE STUDY

Our objective in this study is to understand how the cashew export tax and its associated regulations impact various segments of the value chain and determine its overall impact on the competitiveness of the Mozambican cashew industry. Based on the findings and conclusions of this study, we offer a set of recommendations for revising Law 13/99, with a view to enhancing cashew sector **competitiveness across all segments of the value chain**.

1.2.7 METHODOLOGY

To prepare this study, we first analyzed relevant literature from the government (INCAJU) and private entities (AICAJU, ACIANA, USDA, USAID, TechnoServe etc.) currently involved in supporting the development of the value chain in Mozambique. The team also reviewed the extensive range of updated information (from the last 5 years) available from online sources.

In addition, two workshops were held in Nampula and one in Maputo to sound-out the main actors and help understand/articulate the dynamics of the cashew value chain. The workshops also served as a venue to invite joint analysis and validate alternative policy scenarios that could enhance the development of the cashew sector. Direct interviews with experienced stakeholders in the value chain were conducted, specifically with AICAJU members, input suppliers, development promoters, service providers, technicians and financiers. A list of people consulted is found in Annex YY.

The recommendations made are derived from the experience of the various stakeholders, the economic impact of existing policies, the analysis of the results obtained in official reports provided by INCAJU, and from feedback from relevant stakeholders such as producers' representatives, providers of technical assistance services and potential investors.

1.2.8 STRUCTURE OF THE REPORT

The report starts by offering a brief evolutionary background of the value chain in Africa and the world at large, emphasizing **current trends** in the global marketplace.

The next chapter develops a **comparative analysis** of the characteristics of the cashew value chain in Mozambique and of analogous value chains in the main producing and processing countries, with emphasis on the closest and strongest competitors of Mozambique's cashew industry.

Chapter 4 provides aa analysis of the position and role played by each operator involved in the **cashew value chain**, and goes on to show emerging trends in Mozambique.

Chapter 5 discusses the **impacts of the current policy environment** on farmers and processors, and lays out a **scenario analysis** based on various policy mix options. Chapter 6 analyzes the **results of the programs run by INCAJU to support production**, specifically: a) the production and distribution of seedlings, b) the spraying of cashew trees, and c) the progress of the collaborative research and development program with IIAM.

Chapter 7 reflects on the discussion around **price setting interventions** by INCAJU, pointing out the advantages and disadvantages of such measures.

Finally, Chapter 8 presents key findings, which serve as a basis for our **recommendations**—they focus on revising Law 13/99 in order to increase the overall competitiveness of the cashew industry in Mozambique.

2 MARKET TRENDS: EVOLUTION OF THE CASHEW INDUSTRY

2.1 RCN PRODUCTION IN AFRICA AND IN THE WORLD

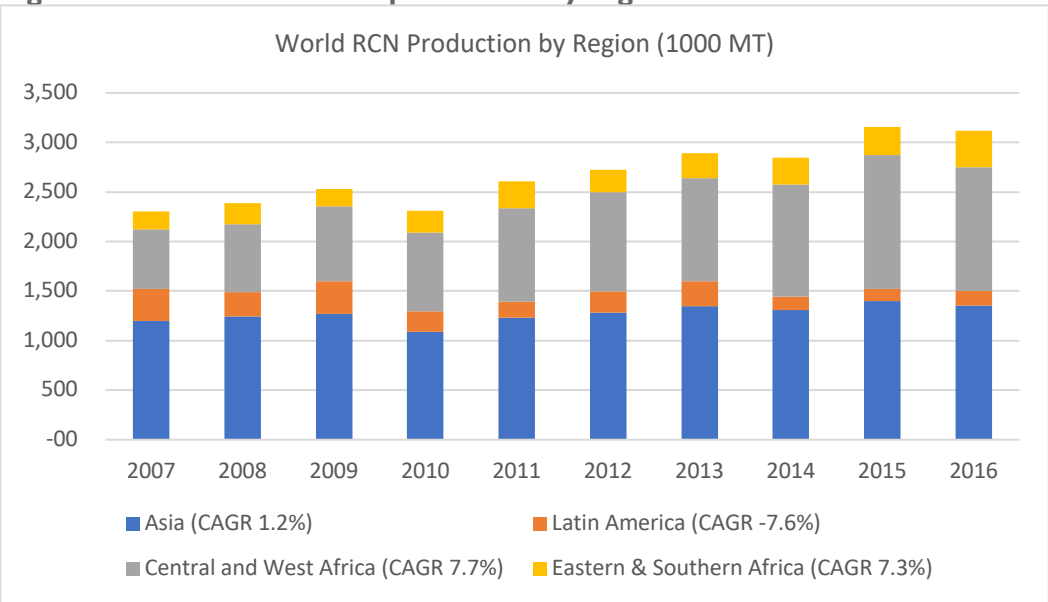
2.1.1 PRODUCTION OF RCN AND PROCESSED CASHEW KERNELS

The production of cashew nuts in the world has steadily grown. Supply has not kept pace with demand growth, which has made global market prices more attractive. Due to its rapid growth in cashew production and its potential to expand cropland and increase productivity per hectare, Africa is today seen as the future of the cashew industry. At present:

- The last decade witnessed a boom in the production of RCN (Africa played a major role).
- Many producer countries have launched policy reforms (fiscal incentives, protection measures, sectoral reforms) to attract new investment and increase value-added production.
- Major producers **India, Vietnam and Brazil** now face new competitiveness issues:
    - Labor costs have risen in India over the last 5 years due to the increase of the minimum wage and increased agricultural investment.
    - Vietnam faces a scarcity of suitable land to produce RCN, in part due to allocating more land to rubber production.
    - The cashew business in Brazil is in a downward trend, caused in part from declining production that is thought to be driven by climate change.
- Africa is now the world's largest RCN producer.
- **West Africa** has recently increased RCN production with Ivory Coast set to consolidate its position as world leader in RCN production, while Tanzania leads in East Africa.
- **Mozambique** has recently lost market share and currently has 3% of world production.
- **Mozambique** is characterized by old orchards with low productivity due to the presence of cashew tree diseases and to limited replanting of new trees.
- With mediocre RCN production levels, **Mozambique** yielded a 3.4% Compound Annual Growth Rate (CAGR) between 2007 and 2016.
- Other countries in fast-growing Africa have a higher CAGR—for example, **Ivory Coast** has an 8.8% CAGR while **Tanzania** has a 10.5% CAGR.

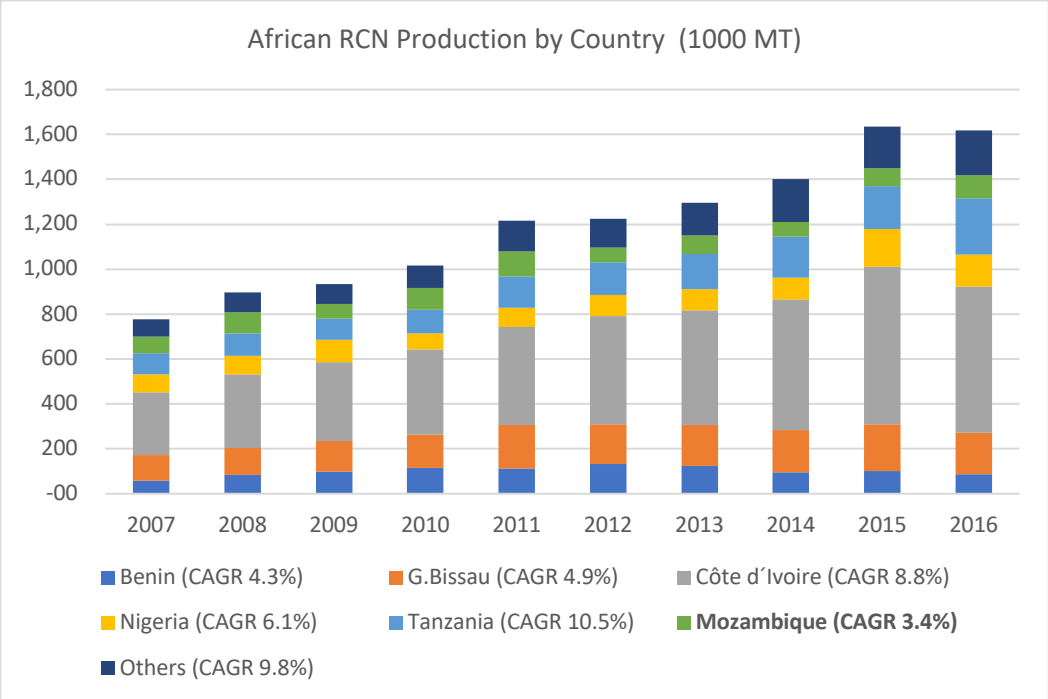
Figure 1 below illustrates **global RCN production**—which saw a 3.1% CAGR over the past decade—and the production levels by region. Figure 2 shows that **Africa has doubled its production** in the past decade, while Mozambique has experienced a relatively low CAGR.

Figure 1: World cashew nut production by region



Source: INCAJU; FAOSTAT; Literary Research; Author's analysis.

Figure 2: Cashew nut production in Africa by country

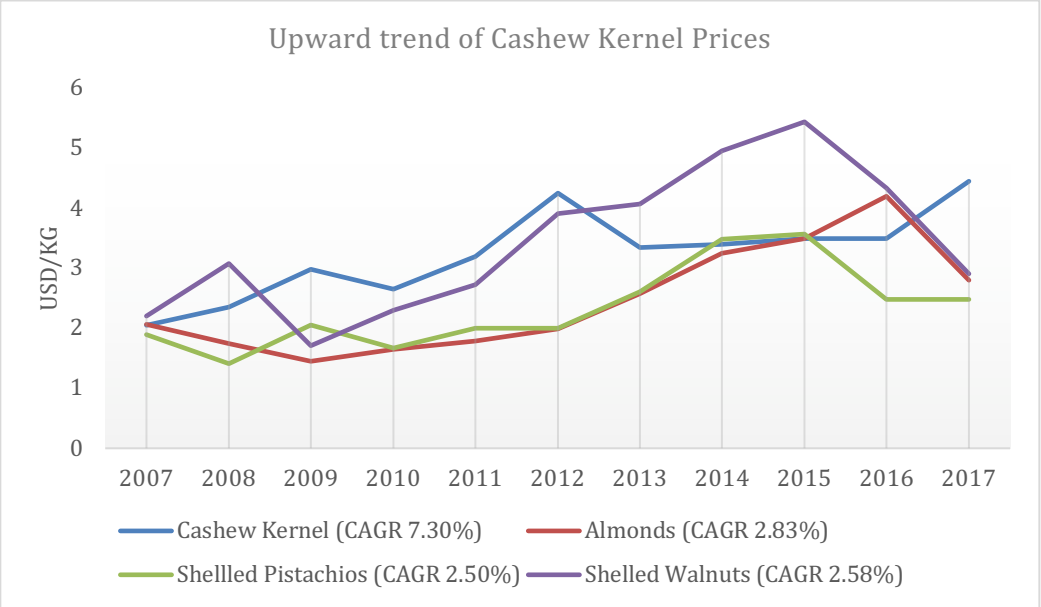


Source: INCAJU; FAOSTAT; Literary Research; Author's analysis.

2.1.2 GLOBAL MARKET TRENDS

The **global popularity of cashew** has grown faster than any other nut, including almond. Industrial statistics show that **demand has risen 53% since 2010** and exceeded production in at least 4 of the last 7 years[6]. Figure 3 illustrates the **strong 7.3% CAGR of cashew kernel prices** the past decade.

Figure 3: Processed cashew kernel prices compared to almond, pistachio and walnut.



Source: RONGEAD; Almond Board of California; Walnuts Growers Association; Rabobank AgFocus – April 2015; USDA; Literary Research; Technoserve Review. Note: Price of nuts based on reported producer prices, prices of almonds kept as reported.

In recent years, cashew has overtaken walnuts, pistachios, and almonds in a global market of ~ USD 30 billion. At present, cashew is the most expensive nut among the group. The average price is > $9000/MT FOB at origin; compared to almond (~$6100/MT FOB), walnuts (~$ 6400/MT FOB) & pistachios (~$5500/ MT FOB).

[6] Mai Ngoc Chau, published in Bloomberg Businessweek November 2016

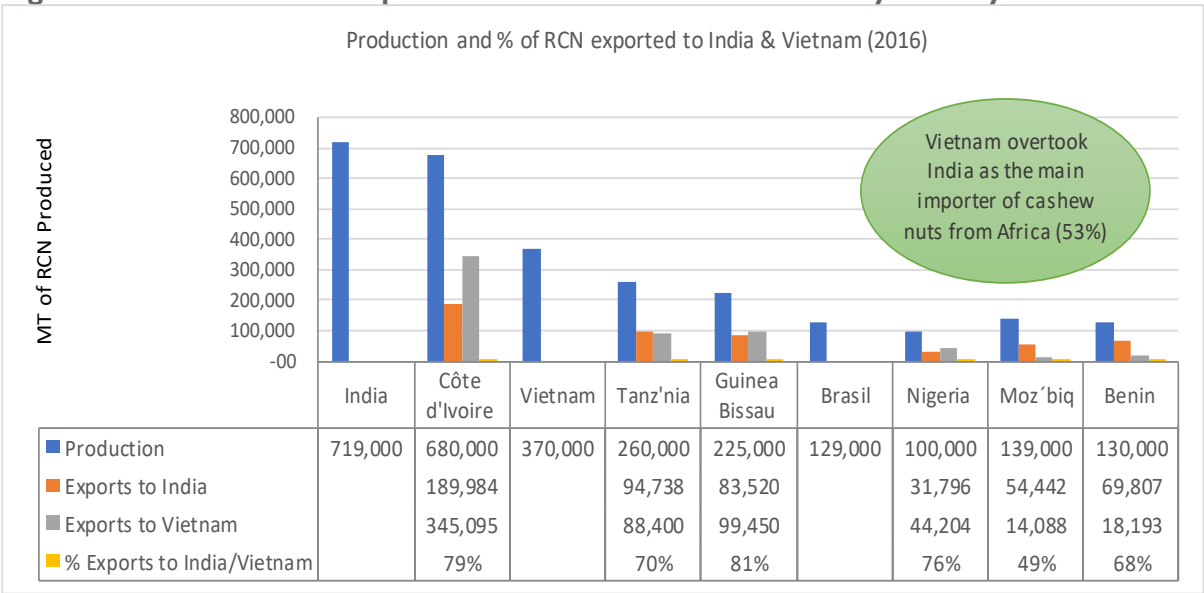
3 BENCHMARKING: PRODUCTION & PROCESSING COSTS

3.1 GLOBAL PRODUCTION LEVELS

Africa has become the world's largest producer of RCN, and thus countries across the continent are adding processing capacity in hopes of growing their market share while generating jobs in the domestic processing industry. **Mozambique** is now responsible for around 5% of African production. **Tanzania** is the main producer in the Eastern and Southern Africa region. Among its peers in Africa, Mozambique is the only country that processes a significant part of its production – most countries on the continent export RCN to India and Vietnam for processing.

From 2015 onwards, **Ivory Coast** has challenged India in cashew production volume—soon Ivory Coast is expected to establish itself as the largest individual producer of cashew nuts in the world. Figure 4 shows the increasing reliance of **India** and **Vietnam** on imports of African RCN – Mozambique sends 49% of total exports to these two countries.

Figure 4: Production and export of RCN to India and Vietnam by country in 2016



	India	Côte d'Ivoire	Vietnam	Tanz'nia	Guinea Bissau	Brasil	Nigeria	Moz´biq	Benin
Production	719,000	680,000	370,000	260,000	225,000	129,000	100,000	139,000	130,000
Exports to India		189,984		94,738	83,520		31,796	54,442	69,807
Exports to Vietnam		345,095		88,400	99,450		44,204	14,088	18,193
% Exports to India/Vietnam		79%		70%	81%		76%	49%	68%

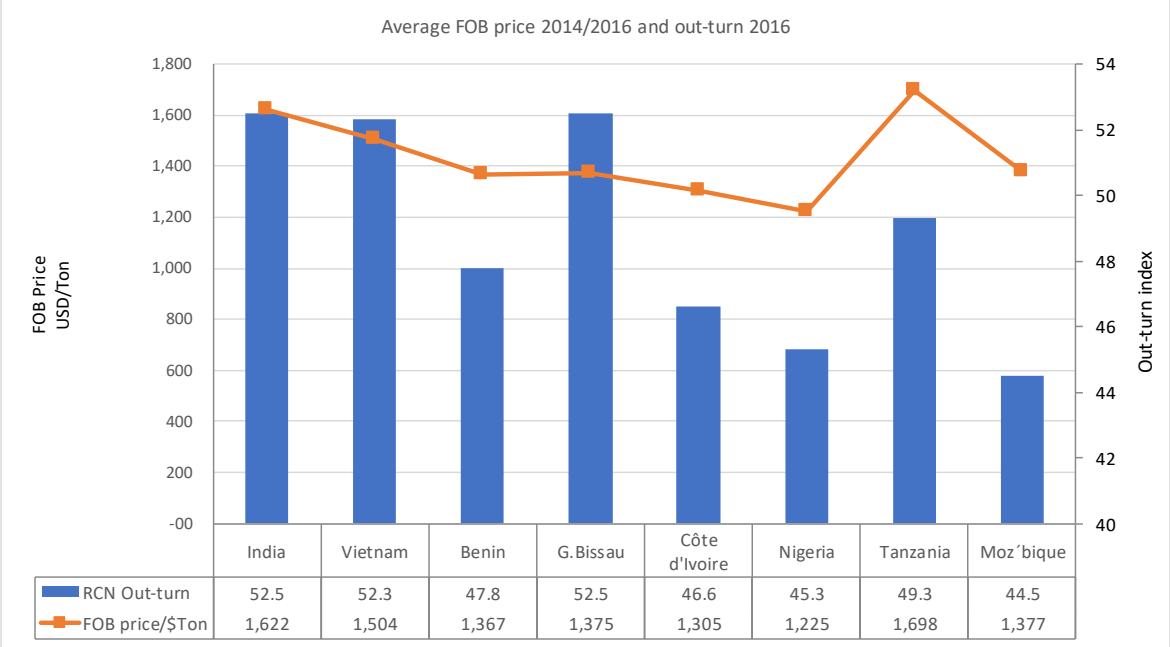
Source: INCAJU; ITC; FAOSTAT.

3.2 GLOBAL CASHEW QUALITY

Quality is one of the most important factors influencing processing yields and is therefore a key element in domestic competitiveness. The quality of the Mozambican cashew nut is still below that of most nuts produced in Africa – Figure 5 shows the **low out-turn rate [7]in Mozambique (44.5)**. It also shows how Mozambique offsets its low RCN quality by the fact that it receives 15-20% price premiums thanks to its location in the Southern Hemisphere. The power of this price premium is significant—**Tanzania produces a relatively average outturn of 49 while receiving the highest price FOB among the group**. Significant gains in price FOB are possible for Mozambique if the country focuses on improving its RCN quality. Based on Figure 5, **if Mozambique can raise its outturn score to around 50, the country could increase FOB prices by over 20%**—this is a big opportunity for Mozambique and an incentive to begin investing in producers and their trees.

[7] Out-turn rate defines the usable lbs. of kernel derived from an 80kg bag of RCN; Outturn is expressed as lb./kg.

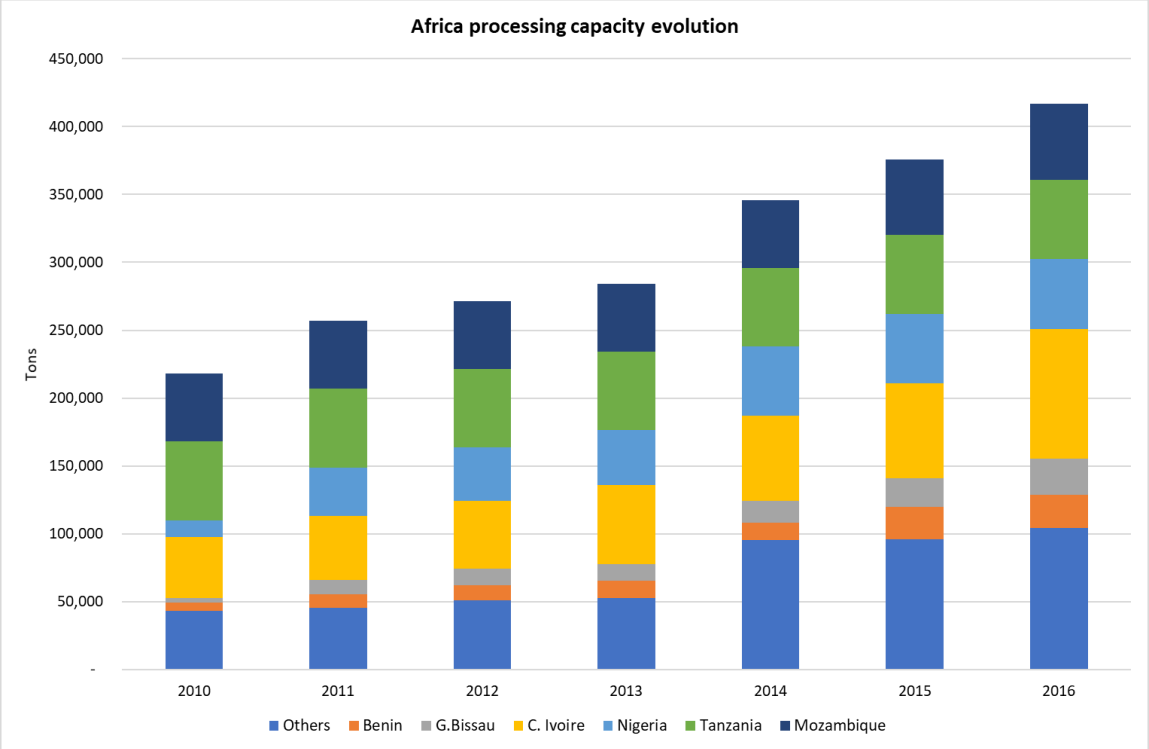
Figure 5: Out-turn Index Score and price FOB (USD/ton) per country



Source: INCAJU, ITC, Cashew market bulletin September 2015, Technoserve West Africa.
Note: a) Out turn is an internationally recognized quality index corresponding to the quantity of good kernel contained in a bag of 80 kg of raw cashew measured in pounds (£/Kg); b) Mozambique compared to the countries of West Africa has better prices due to the advantage of having cashew available in time of scarcity in that area of Africa.

As shown in Figure 6 below, in the last decade Africa has substantially increased its processing capacity (400,000 MT a year in 2016). However, installed capacity is still well below available production and a far cry from the levels achieved by **India** (1.55 million MT) and **Vietnam** (1.45 million MT), which process about 89% of total available RCN.8

Figure 6: Growth of African processing capacity since 2010



Source: INCAJU reports; TNS Analysis; Update by authors.

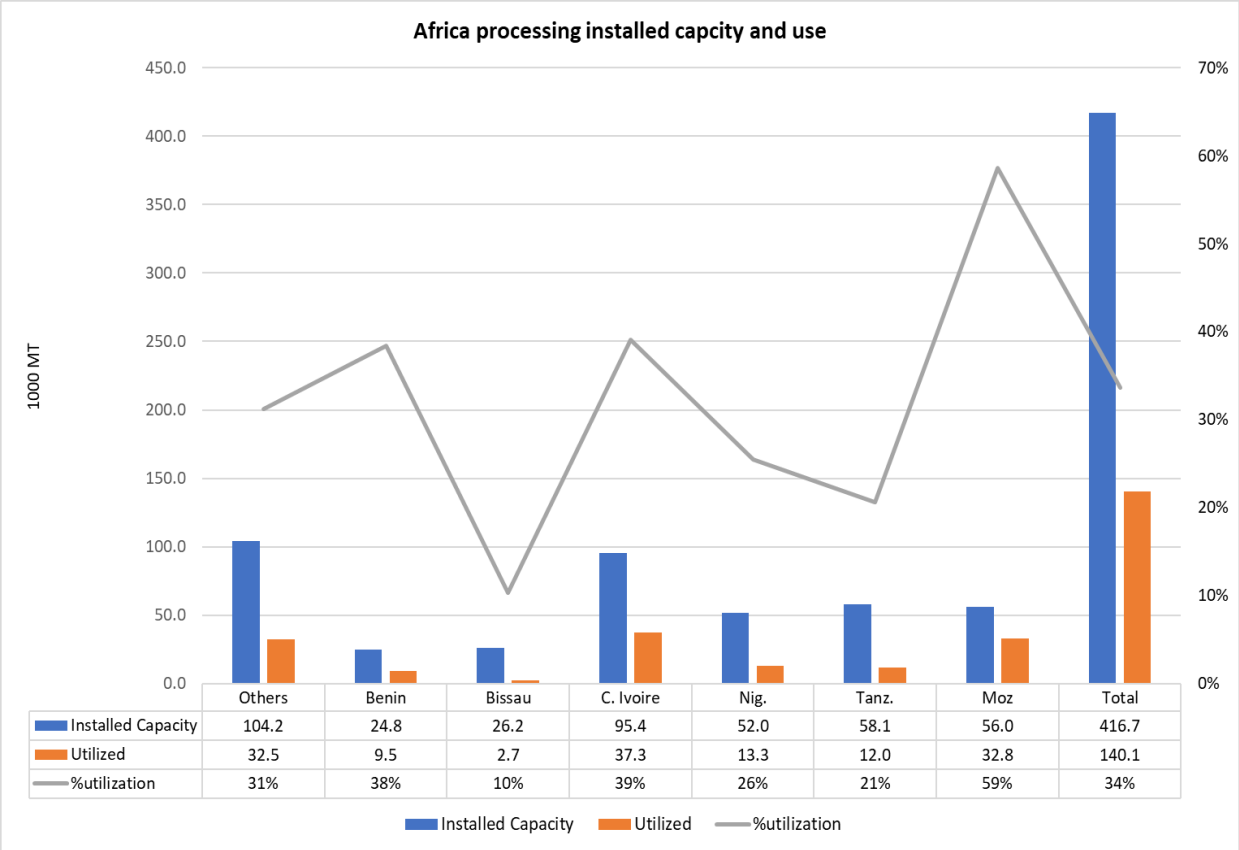
8 Fitzpatrick Outlook & Opportunity World Cashew Market

Despite efforts to increase its domestic processing capacity, Africa still only succeeds in utilizing about 30% of its installed capacity:

- Mozambique (59%) is by far the African country with the highest utilization rate.
- Ivory Coast has a higher processing capacity, but a lower utilization rate (37%).
- Benin is increasing its capacity quickly.

Figure 7 below illustrates cashew processing capacity utilization rates across key countries in Africa.

Figure 7: Processing Capacity Utilization Rates in Africa



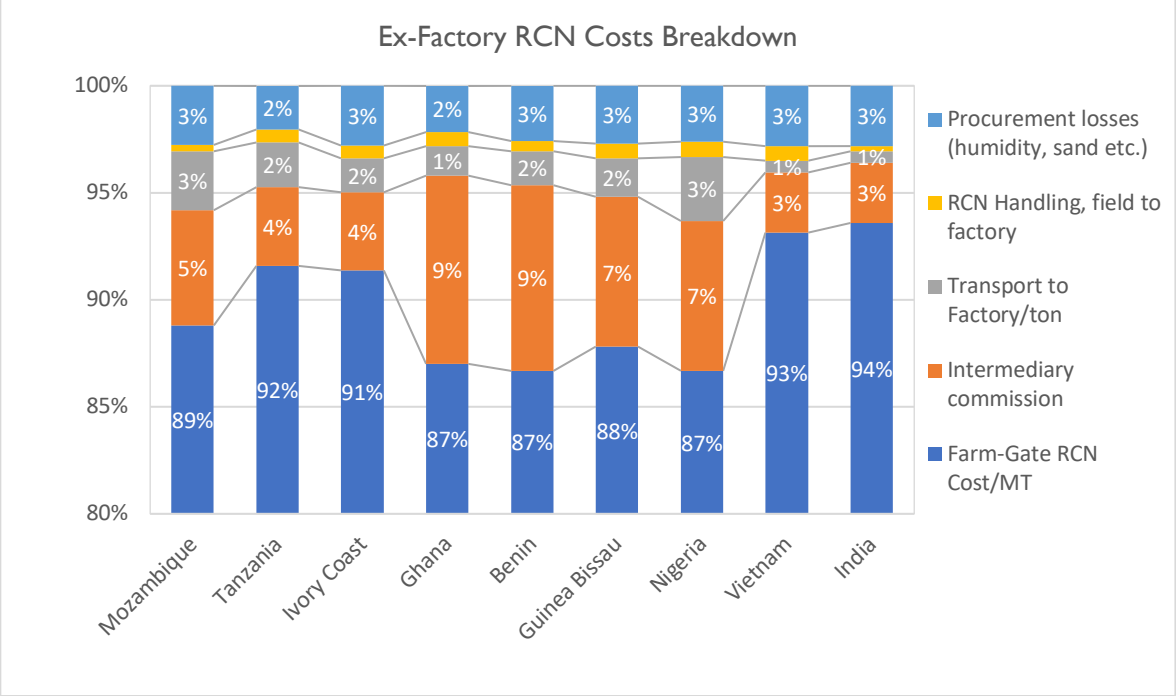
	Others	Benin	Bissau	C. Ivoire	Nig.	Tanz.	Moz	Total
Installed Capacity	104.2	24.8	26.2	95.4	52.0	58.1	56.0	416.7
Utilized	32.5	9.5	2.7	37.3	13.3	12.0	32.8	140.1
%utilization	31%	38%	10%	39%	26%	21%	59%	34%

Source: INCAJU reports; TNS Analysis; Update by authors.

3.3 THE COST TO EXPORT RAW CASHEW NUTS

Figure 8 below breaks out the weighted costs from the farm-gate to the factory-gate to prepare RCN for export. As illustrated below, the relative weight of the cost of RCN in **Mozambique is 89%,** below Tanzania (92%) and Ivory Coast (91%), the two African countries that exhibit the most efficient RCN handling for export. The **intermediary commission and transport costs in Mozambique equate to 8% of the total cost**, which lags behind Tanzania and Ivory Coast (both 6%) and industry leaders India and Vietnam (both 4%). Reducing these transaction costs should be part of the strategy to build cashew industry competitiveness in Mozambique. (Note that the procurement losses and field to factory handling costs are relatively similar across all countries)

Figure 8: Weighted Costs of Preparing RCN for Export



Source: INCAJU reports. TNS Analysis, Update by authors

Table 1 below offers a comparative picture of average RCN prices in each of the countries under review.

Table 1: Comparison of RCN prices & Intermediary fees

	Moz	Tanz	Iv. Coast	Ghana	Benin	G. Bissau	Nigeria	Vietnam	India	**Avg.**
RCN price $/MT	$1255	$1631	$1423	$1466	$1452	$1492	$1300	$1900	$1940	**$1540**
Intermediary fee $/MT	$109	$60	$123	$103	$77	$344	$37	$53	$134	**$116**

Source: Shakti Pal, TNS West Africa data base for Competitive Analysis

Based on the RCN price data in Table 1, we can see that:

- Processors in **Mozambique** get an **artificially low farm-gate price—close to 20% below the average**—due to the protection policies from Law 13/99.

- In **Tanzania**, RCN prices are higher due to both a better RCN quality and the ability of producers to sell RCN during the high season, allowing them to receive a 15/20% premium.

- West Africa, apart from Nigeria (who has a lower relative nut quality), has higher RCN prices than Mozambique, but these countries are considering adopting policies to protect processing that, in the short term, may make domestic prices more favorable to domestic processors.

- The largest importers of African nuts, **Vietnam** and **India**, face far higher RCN costs for domestic cashews, and thus must **offset these costs with greater processing efficiency.**

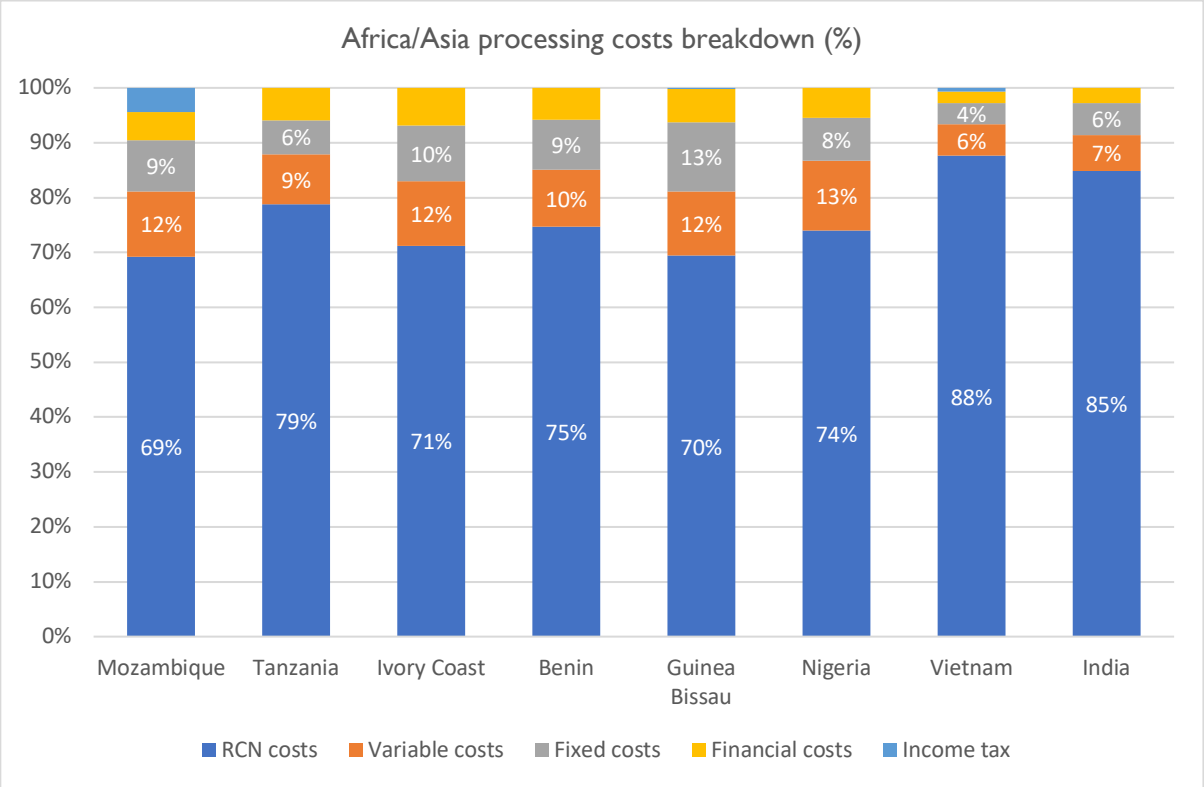
Regarding the **intermediary fee**s, Mozambique faces fees of $109/MT, which is considerably higher than the industry leaders Tanzania $60/MT, Vietnam $53/MT, and Nigeria $37/MT.

3.4 THE COST TO PROCESS CASHEW KERNEL

In agro-processing, the cost and quality of raw material determine whether good yields are obtained. The low cost of domestic RCN helps **Mozambican** processors compete with African countries, but the country is still far from achieving the efficiency of **India** and **Vietnam**. Figure 9 below shows

the advantage that Mozambique enjoys when it comes to the cost of raw material. Raw nut costs are artificially lower due to protective tax measures. Note that the **fixed and variable costs in Mozambique equal 21%**, while in **Tanzania** they equal **15%** and in **India** and **Vietnam** they equal **13%** and **10%** respectively.

Figure 9: Cashew processing cost comparison between Asia and Africa.



Source: Projected values compiled by Shakti Pal Technoserve West Africa.

When analyzing the processing cost details – as laid out in Table 2 below – we can see that while **Mozambican** processors pay a substantially lower price for raw cashews (20% below the average), they continue to **lag behind** in key metrics such as **processing costs** and **kernel output rank**. For example, kernel processing in Mozambique costs USD 385/MT, while cost of processing in India/Vietnam averages USD 245/MT—this reveals that **it costs 57% more to process one MT of cashew kernel in Mozambique** than in the industry leading countries.

Table 2: Processing Costs and Kernel Outputs

ITEMS	Mozambique	Tanzania	Ivory Coast	Benin	Guinea Bissau	Nigeria	Vietnam	India
RCN procurement ($/MT)	$1,255.507	$1,632.697	$1,424.583	$1,454.816	$1,493.736	$1,300.211	$1,900.906	$1,940.508
Processing cost* (Per MT RCN)	$385.5	$317.4	$437.7	$379.6	$521.0	$359.3	$208.1	$281.4
Average RCN quality	46.3	49.3	46.6	47.8	52.5	45.3	47.3	47.3
Yield (%)	21.4%	22.7%	22.0%	22.2%	24.5%	20.5%	22.3%	22.3%
Processing Cost differential versus Vietnam	($177)	($109)	($230)	($171)	($313)	($151)	BASE	($73)
Financial costs differential	($47)	($75)	($90)	($67)	($66)	($83)	BASE	$0
Kernel price	9.54	9.70	9.16	9.54	9.30	9.49	9.74	10.94
Kernel output rank	8	2	6	5	1	9	3	3
Kernel price rank	4	3	9	5	8	6	2	1

Source: Projected values compiled by Shakti Pal Technoserve West Africa. Analysis of authors responsibility. Note: In all cases the basis of analysis is semi-mechanized processing with a capacity between 3000-5000 tons of raw nuts.

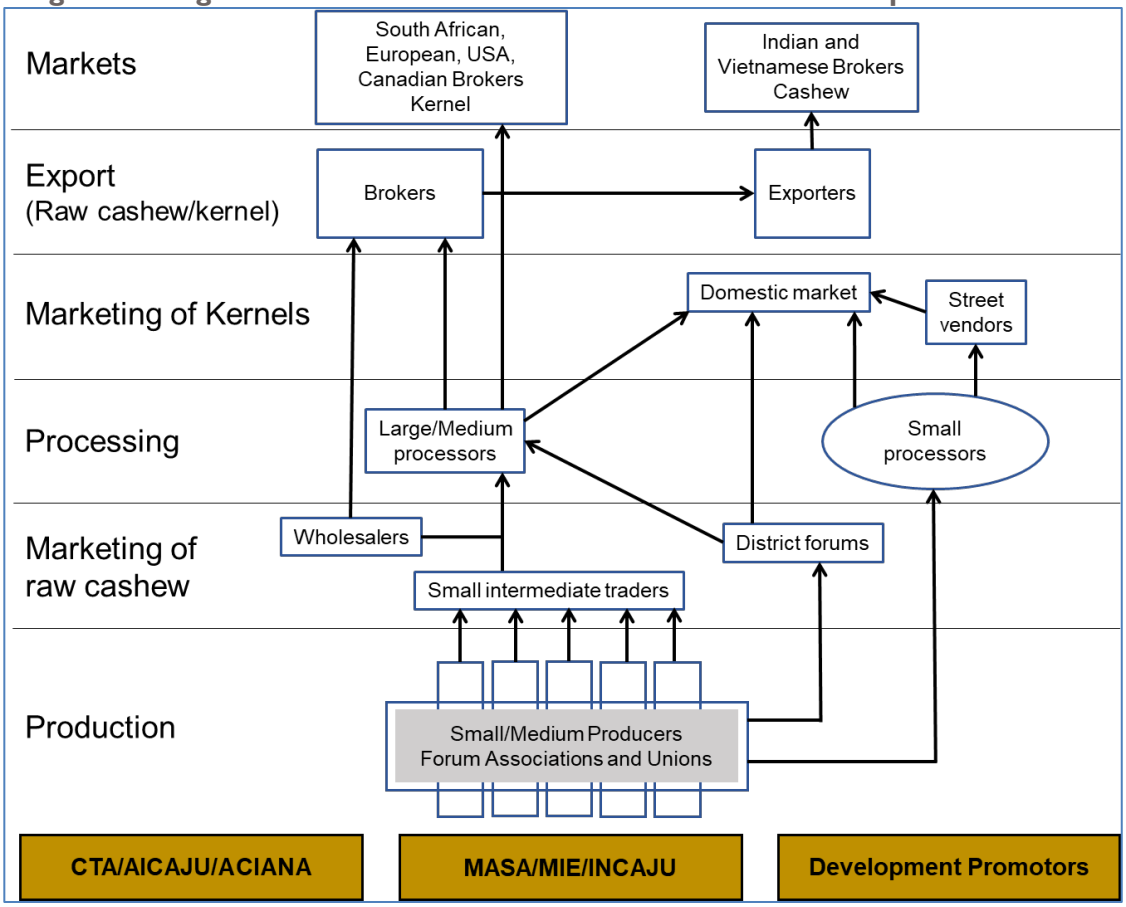
The key takeaway is that the savings realized by Mozambican processors, due to artificially low RCN prices, have not been translated into increased levels of efficiency and competitiveness.

4 THE CASHEW VALUE CHAIN IN MOZAMBIQUE

4.1 THE MOZAMBICAN CASHEW VALUE CHAIN, FROM PRODUCTION TO MARKET

Diagram 1 shows the current structure of the cashew value chain. In the section that follows, we describe the primary stakeholders across each segment of the value chain.

Diagram 1: Segmentation of the cashew value chain in Mozambique



Source: Prepared by authors from INCAJU report of 2017.

4.2 THE PRIMARY CASHEW VALUE CHAIN STAKEHOLDERS

Producer Organizations - In Mozambique, rural families are responsible for virtually all cashew production. Industrial plantations are small and their weight in total production is negligible. Individual producers are sometimes organized in Associations, which in turn are integrated into a Forum (Group of Associations), and from there into Unions (Group of Forums). However, given the Law 13/99 regulations, these organizations do not improve the aggregate pricing power of farmers.

Small intermediate traders - This group plays an important role in the marketing of cashew. They are self-employed and due to a limited access to finance, they mostly work on behalf of others (e.g. large exporters and processors). They can be considered the backbone of the process as they bridge the gap between large buyers and smaller producers/harvesters, accessing remote regions of the country that are difficult to reach.

Wholesalers - These are mostly traders involved in exporting raw cashew nuts, but they can also act as intermediaries in supplying other exporters or processors. They usually have a marketing network established in rural areas and depend on small intermediaries to purchase RCN on their behalf. They are critical financiers of the purchasing process.

Primary processors - There is an established processing industry represented by AICAJU that processes kernels (stoning, peeling and grading) and exports raw (unprocessed) nuts to the international market, where they are processed for final consumer markets. They are legally constituted and form part of the formal sector, unlike the small traders who sometimes carry out their activity in a clandestine fashion. At present, there are about 30 primary processing units operating in Mozambique. There are also small, processing units that operate to supply the domestic market, but most small artisanal processors work and operate in the informal market using a network of street vendors spread throughout the production areas and major urban centers.

Secondary processors - Mozambique has little tradition in secondary nut processing (frying and adding flavors) for final markets. The domestic market is not strong, and the international market is very demanding. There are already processing units (e.g. one called Sunshine) operating in the international market, but the remaining (very few) go unnoticed and some even operate in the informal market.

Brokers - This is an unusual group in the marketing process, which acts as an intermediary for the exporter. They are sometimes paid on commission. Brokers are intermediary traders who benefit from financing by exporters or even by international importers to carry out their activity with the specific aim of supplying the financing agent.

Exporters - About half a dozen domestic and foreign operators buy nuts in the national market through a purchasing network they have established in the production areas. They usually operate with their own funds or loans from credit institutions—they also act on behalf of the importer who finances the operation.

International Market Buyers - The market is divided into two vectors: 1) RCN are normally exported to India and Vietnam, 2) while unprocessed (primary processing) and processed (secondary processing) kernels are mainly directed to European (Netherlands, France, Portugal, etc.), and American (US, Canada) markets.

CTA - Confederation of the private sector associations, among which are AICAJU and ACIANA. Its main role is to dialogue with the Government and lobby in favor of the various value chain actors who seek improvements in the business environment.

ACIANA - Commercial, Industrial and Agricultural Association of Nampula brings together the private companies in the province of Nampula.

AICAJU - Cashew Industry Association created to promote the interests of processors in government bodies; they are promoters of development for all institutions involved in the cashew value chain.

INCAJU - Cashew Development Institute - State Agency with oversight of the cashew sector in Mozambique.

DEVELOPMENT PROMOTERS - NGOs and international cooperation organizations financed by the governments of partner countries of Mozambique, who, directly or through third parties, support value chain development programs (USAID, USDA, EU, IFAD, World Bank, etc.).

4.3 THE DOMESTIC VALUE CHAIN CHARACTERISTICS

Production
Raw Material issues are holding back the Mozambican cashew industry.
• Orchards are still quite old (trees average 50 years in age), have a low productivity per tree (3/4kgs) and a low RCN quality (average outturn of 44/45).
• There is a high incidence of typical cashew tree diseases due to poor treatment levels and management practices, which contributes greatly to low quality and poor production.

• Nearly nonexistent technical assistance services. Poor network of rural service providers.

• Poor integrated cashew management capacity. The nursery network managed by INCAJU registers large losses. The location of some nurseries outside the production zones complicates the distribution of seedlings.

• Seasonality of workforce and lack of training reduce the ability to treat cashew trees properly.

• Considerable losses in the production and distribution of seedlings.

Marketing

Improve the regulatory framework to control illicit activities.

• Formal and informal intermediaries form the backbone of the marketing system, have links with producers/collectors and wholesalers, and establish purchase points along the main access roads to cashew production areas and villages in rural areas.

• The sector has a great potential for job creation and for generating revenue on a seasonal basis.

• Too many licensed and unlicensed actors (over 500) create an aggressive climate that harms other stakeholders and lowers cashew prices to the producer (who rarely benefits from this aggression); it also creates a climate conducive to illicit activities, such as the use of capital of dubious origin, the manipulation of the cashew quality and of the weighing of the bags etc.

Processing

The link between processors and producers is quite weak.

• Mozambique has created a robust processing industry.

• Processors in Mozambique are now seeking to adopt a mix of manual and mechanical technologies to achieve a better balance between the need to create employment, increase capacity and reduce costs based on a more stable workforce.

• However, processors do not participate in supporting producers (extension services). Nor do they have an effective network of complementary services (maintenance, inputs, etc.).

• They continue to have difficulties in accessing finance, due to the need to accumulate the raw material of a year in a time span of 3 months.

Export

Low RCN quality and the high season export ban push down prices for exporters.

• Global demand is expected to reach 1.1 million MT by 2020.

• Fiscal policies in Mozambique prevent exporters from obtaining the advantages of high prices in the high season (Oct-Jan), when the Southern Hemisphere countries can fetch a 15-20% premium.

• The low domestic cashew quality prevents exporters from obtaining better prices.

• High transaction costs in ports also reduces export margins; the World Bank Logistic Performance Index (LPI) ranks Mozambique at 84, behind South Africa 20, Kenya 42 and Tanzania 61[9].

[9] https://lpi.worldbank.org/international/global

Governance (INCAJU)
INCAJU has a broad mandate and could benefit from focusing less on one value chain segment—production—and more on regulatory enforcement in areas such as licensing.
• At the institutional level, the Mozambican Government has established mechanisms (INCAJU) and policies (Cashew Master Plan) to support the development of the cashew value chain. • Institutional coordination has been weak, which has impacted RCN production/quality as well as led to relatively high intermediary transactions costs in the cashew value chain. • Existing policies (export tax) are poorly monitored, and thus introduce more distortion factors than actual mechanisms for controlling and monitoring the activities in the sector. • Available statistics are not consistent, and the information collection system is not reliable.

Private Sector (AICAJU-ACIANA)
Private sector lacks engagement with producers, who are a vital player in the viability of their businesses.
• Weak institutional coordination and intervention strategy. • Complete apathy of the private sector when it comes to getting involved in activities to support the sector, such as extension services, the production of seedlings, support for the treatment of cashew trees, etc. • Poor contribution to regulating the sector; it does not have a structure dedicated to collect relevant information about the sector that allows for an effective partnership with INCAJU in finding solutions to the problems of the cashew value chain.

4.4 CASHEW SECTOR PRODUCTION SUPPORT

The objectives established in the Mozambique Cashew Sector Master Plan have not been fully realized. The seedling production and distribution program did not produce acceptable results—INCAJU **reports very high losses of more than 50% in the production and distribution of seedlings** and has no records of the trees that have been planted and are actually producing.

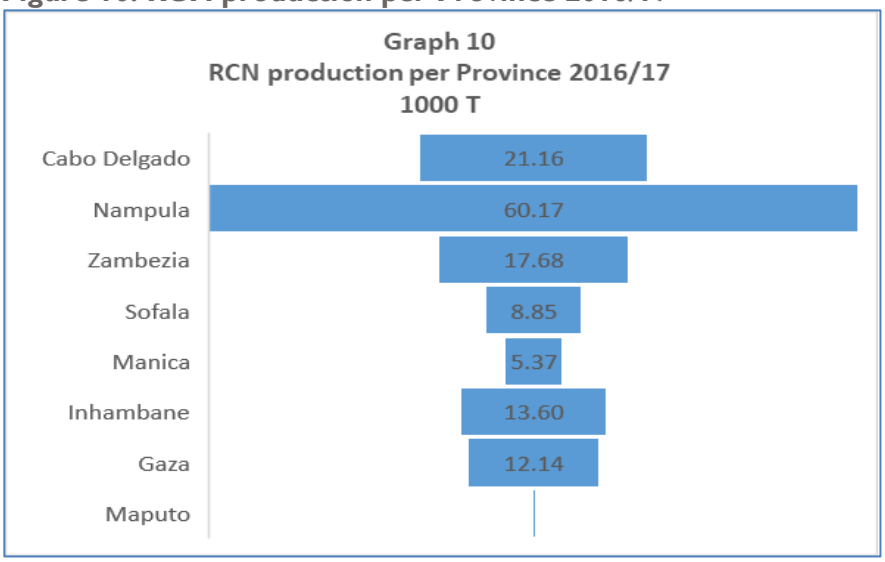
The impact of the **cashew tree spraying** initiative included in the integrated cashew management program has fallen short of expectations. According to INCAJU, an average of 5 million trees/year are being sprayed (an unconfirmed number), **representing only 16% of the total stock** of over 30 million cashew trees.

The Research and Development (R&D) programs have also not been sufficiently developed. Law 13/99 divided responsibility between IIAM and INCAJU with leadership being centered on IIAM. The lack of funds specifically allocated to this activity and the duality of the proposed intervention diluted the responsibility of both institutions, which resulted in poor results of cashew sector research.

4.5 TRENDS IN DOMESTIC RCN PRODUCTION & FARM-GATE PRICES

The production of cashew nuts is distributed throughout the coastal zone of the country, and dominated by Nampula province, which yielded 43% of the production in the 2016/17 campaign (see Figure 10). Nampula province also has the largest processing capacity in the country.

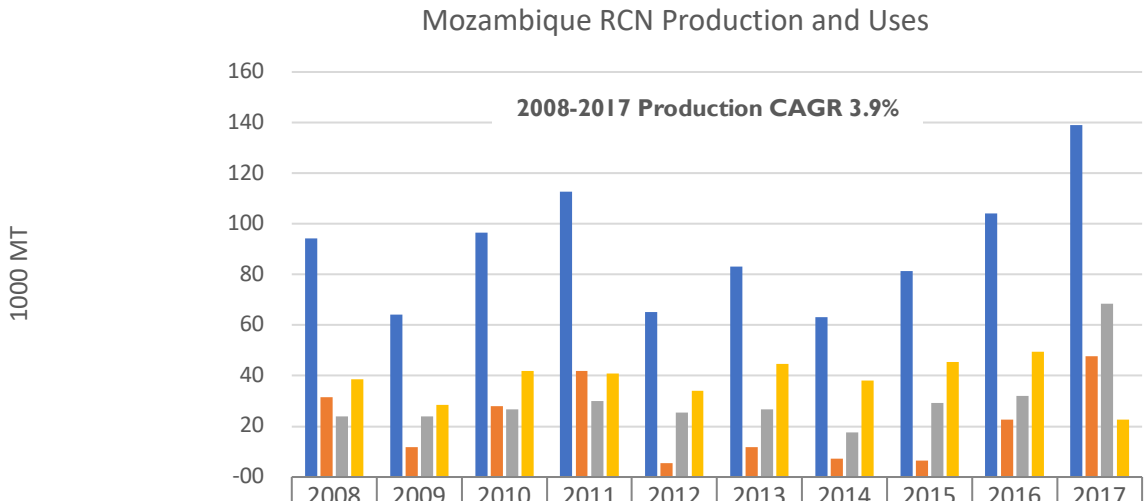
Figure 10: RCN production per Province 2016/17



Source: INCAJU report of 2017.

Raw nut production in Mozambique follows an uneven pattern of growth, with sudden peaks and dips recorded since independence until 2013, but never achieving the production recorded in the early 1970s (200 thousand MT). **In the last decade, production in Mozambique** has stabilized and registers relatively continuous growth, with a **CAGR of 3.9%** (see Figure 11)—recent production spikes are largely a function of recent increases in global prices.

Figure 11: RCN production and use in Mozambique

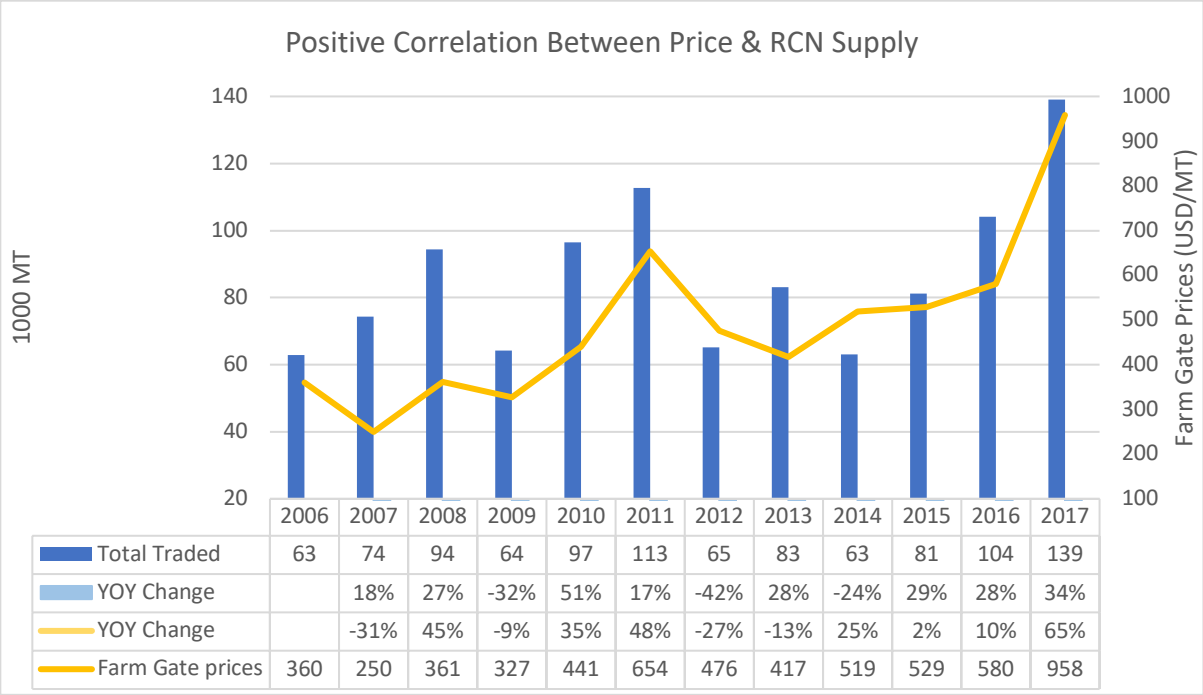


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
RCN Production	94	64	97	113	65	83	63	81	104	139
RCN Exported	32	12	28	42	6	12	7	6	23	48
RCN Processed	24	24	27	30	25	27	18	29	32	69
Informal consumption	39	28	42	41	34	45	38	45	50	23

Source: INCAJU reports for 2017. Authors' analysis.

One important trend to note is the **positive correlation between farm-gate prices and the available supply of RCN** to process in Mozambique. As Figure 12 shows, year-over-year (YOY) increases in price generally lead to an increase in total RCN traded; the opposite is also the case, with RCN traded generally declining when farm-gate prices are down. This is known as a **'supply response'**. Given producers are often smallholder farmers who typically produce multiple food and cash crops, it is likely that with lower prices they choose to shift their labor to their other products. It could also be the case that lower farm-gate prices encourage cashew farmers to sell their RCN into the informal market, lowering the total official RCN traded figures.

Figure 12: Correlation Between Price & RCN Supply in Mozambique



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Traded	63	74	94	64	97	113	65	83	63	81	104	139
YOY Change		18%	27%	-32%	51%	17%	-42%	28%	-24%	29%	28%	34%
YOY Change		-31%	45%	-9%	35%	48%	-27%	-13%	25%	2%	10%	65%
Farm Gate prices	360	250	361	327	441	654	476	417	519	529	580	958

Source: INCAJU reports & Authors' analysis.

5 INCAJU AND THE NEW INTERVENTION STRATEGY

After nearly two decades of applying the export tax and peak season export ban, INCAJU is now considering revising Law 13/99 and its regulations. The focus of the new intervention strategy is increasing the income of cashew farmers, which in the medium-to-long run should contribute to increased quantity and quality of RCN (when accompanied by value chain strengthening support). To raise producer incomes, Mozambique has **two broad policy options** to consider:

- **Gradual Elimination of the Export Tax and Peak Season Export Ban**.
- Introducing New Market-Shaping Regulations, such as **Setting a Floor Price for RCN**.

In Chapter 7, we discuss the implications of setting RCN floor prices**. In this chapter, we look at the how the export tax impacts producers and processors.** We then provide a scenario analysis of the impacts of various policy mix options, which is meant to generate conversation and debate as decision-makers discuss how to improve competitiveness in the cashew sector through policy reform.

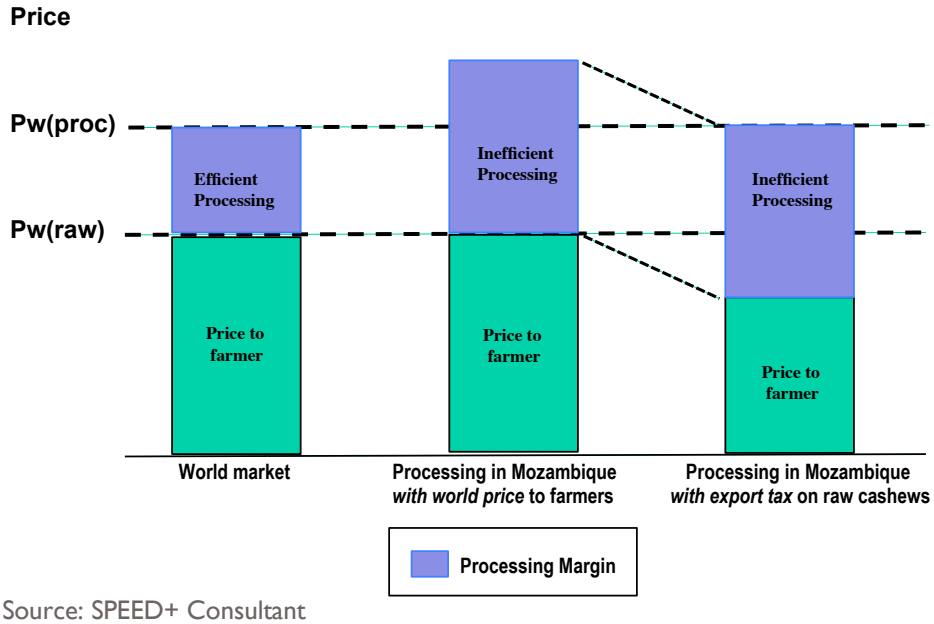
5.1 HOW THE APPLICATION OF THE EXPORT TAX IMPACTS THE VALUE CHAIN

Cashew processors in Mozambique face prices that are externally determined in the world market. For any given nut quality, they have no control over the price at which their product is sold for export. The export tax on raw cashews, however, allows domestic processors to procure raw cashews at a below-market price.

Raw cashews are a major cost component for the processing industry. By reducing the procurement price for raw cashews, **the export tax either pads the profit margin for efficient processors** or **protects processing operations that otherwise would not be viable due to high operating costs** compared to efficiency standards in the world market (as in Vietnam). The essence of this story is illustrated in Diagram 2:

- The bar on the left in shows the world market price (Pw) for raw cashews and for processed cashews. Ignoring intermediary costs, for simplicity, the world market price for raw cashews determines the revenue earned by a farmer who exports raw cashews. The world market price for processed cashews determines the revenue earned by the processor who exports cashew kernels. The difference between these two prices is the value added by an efficient processing operation, competing in the world market without any special protection.
- The middle bar shows the problem faced by an inefficient processor who has operating costs higher than the global efficiency standard; in this case the processing stage is not viable because the cost for supplying processed cashews to the world market exceeds the world market price for the nuts. Another way of saying this is that the processing cost exceeds the added value, at world market prices. Without some form of protection, this producer would continually lose money.
- The bar on the right shows that a processor with the same degree of inefficiency can be financially viable if the business can procure raw cashews from the farmer at an artificially depressed price; this is what happens with the export tax in Mozambique.

Diagram 2: How the export tax reduces prices to farmers



Source: SPEED+ Consultant

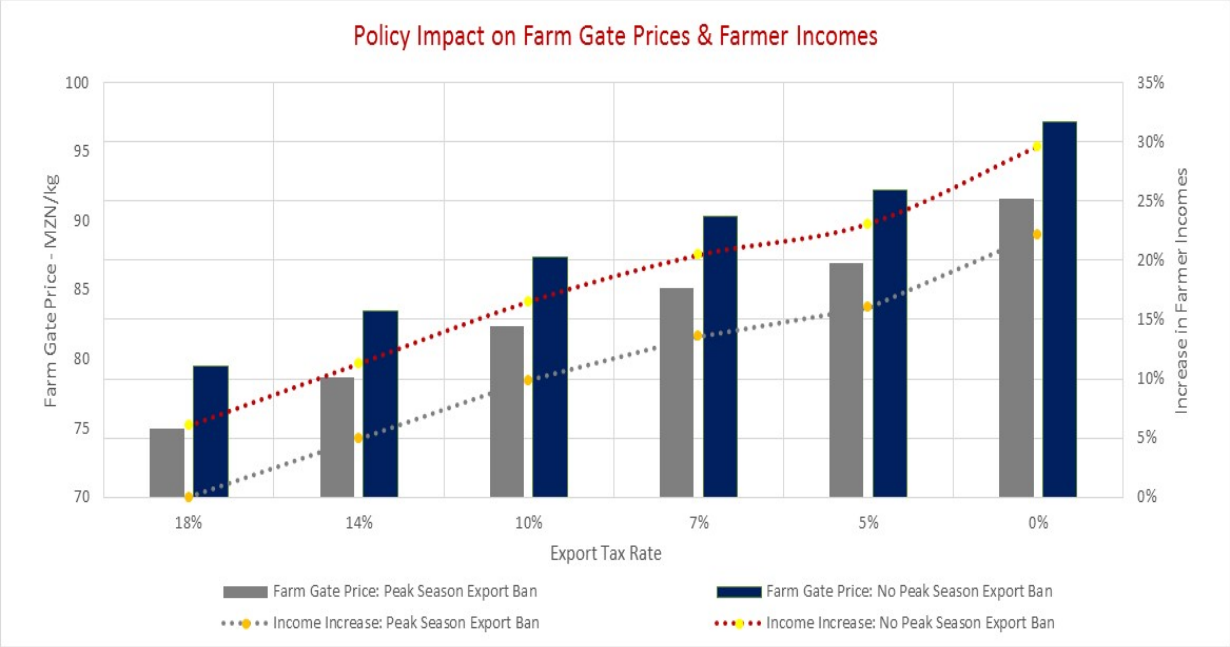
5.2 SCENARIO ANALYSIS: IMPACT OF POLICY CHANGE ON FARMERS/PROCESSORS

As a complement to this report, SPEED+ developed an economic model to help stakeholders analyze the potential impacts to farmers and processors under different policy regimes. The model offers illustrative estimates of the impacts of various policy mix scenarios, based on plausible assumptions about relevant parameter values. The figures presented here are meant to illustrate the degree of impact that can be expected on producers/processors; the interactive model is available for stakeholders to use as a decision-support tool.

5.2.1 PROJECTED IMPACT ON FARMERS

Based on the illustrative parameter values, the model shows that **farmers' incomes could increase by as much as 30%** if the export tax and peak season export ban were eliminated. Figure 13 displays a mix of policy scenarios, with the smallest impact—5% increase in farmer incomes—resulting from only the elimination of the peak season ban.

Figure 13: Projected Impact on Farmers Under Various Policy Scenarios



Source: SPEED+ cashew economic model

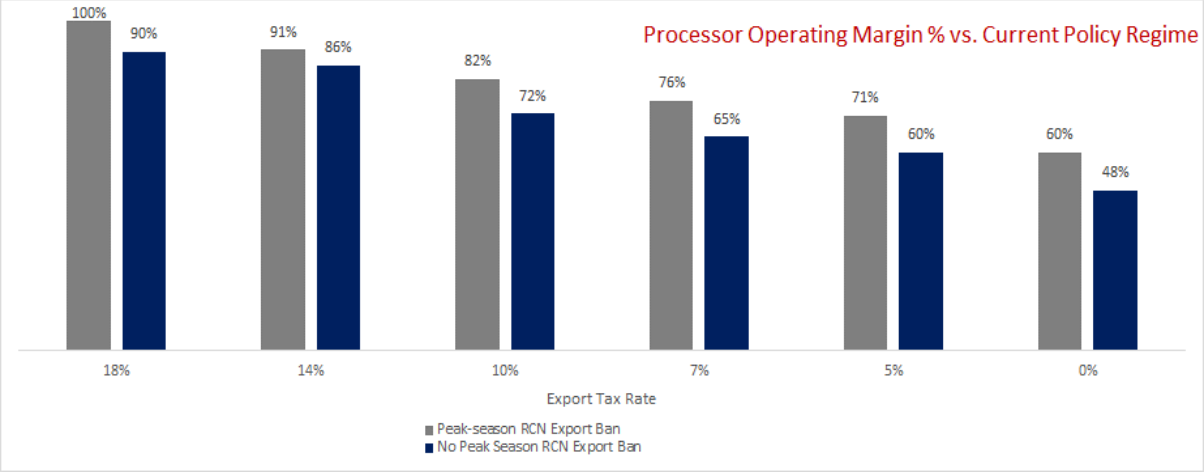
5.2.2 PROJECTED IMPACT ON PROCESSORS

Calculating the impact on processors is a bit more complex. The model analyzes the impact on processors' ***operating margin***, calculated as the ex-factory sales value of processed kernels minus the cost of raw cashew inputs to the processing operation. The operating margin therefore includes the actual processing cost as well as finance charges, taxes, and profits accruing to factory owners.

This operating margin is determined on the input side by conditions in the domestic market for raw cashews, and on the output side by the world price of processed kernels. Both of these market conditions are outside of the direct control of the processers.

Based on the illustrative parameter values in the model, the **'operating margin' for producers could be reduced between 10% and 52% (**based solely on increased RCN costs**), depending on the chosen policy regime**, as illustrated in Figure 14 Below.

Figure 14: Projected Impact on Processors Under Various Policy Scenarios



Source: SPEED+ cashew economic model

It is important to note that the SPEED+ cashew economic model **only** measures the change in operating margins based on higher farm-gate prices for RCN. **Operating margins are made up of a number of variables that could very well offset the impacts from higher farm-gate RCN prices.** Four important variables are:

Quantity of RCN – Domestic processors have excess capacity (see Figure 7), and an increase in the available RCN to process would lead to lower per-unit processing costs due to economies of scale. As illustrated in Figure 12, a positive correlation exists in Mozambique between farm-gate prices and the available supply of RCN to process. With a lower export tax, **it is anticipated that the quantity of RCN will increase when farmers obtain a higher farm-gate price.**

Quality of RCN – As previously discussed, RCN quality (measured by out-turn rates) in Mozambique is one of the lowest in the world. When farmers obtain higher farm-gate prices and invest more in their tree stock, **it is anticipated that over the medium-to-long run, RCN quality will improve, directly benefitting the prices processors can fetch on the global market**. Investment in extension services support (like what INCAJU is responsible for now) will also be important. Recall that in Figure 5, we illustrate that if Mozambique can raise its out-turn rate from a score of 45 to 50 (level with Tanzania), processors would see a 20% increase in FOB prices.

Processing Efficiency – While efficiency varies by processor, we found that many processors are investing in new technology. For example, a popular new investment in the industry is the shelling and peeling technology used by Vietnamese processors, which frees up workers from this 'dirty job' to participate in other elements of the processing activity. **Such improved technologies directly contribute to reducing processing costs**, which can offset increased farm-gate RCN prices.

Business Enabling Environment – Improving business environment conditions, such as reducing transaction costs, payment systems tied to productivity, access to lower cost financing, etc. also contribute to lowering the cost of processing. These changes are outside of the control of individual processors, but should be part of an overall industry competitiveness strategy package.

5.2.3 SCENARIO ANALYSIS: CONCLUSIONS

A reduction in the export tax and elimination of the peak season export ban will have immediate **positive short-term impacts on farmers**, who would receive higher farm-gate RCN prices. Since **processors** will pay higher farm-gate prices, they will face **smaller operational margins in the short-term**. However, in the **medium-to-long run, the anticipated increase in quantity and quality of RCN will directly benefit processors**.

The dilemma facing policy makers is choosing between **I)** maintaining the status-quo, where RCN quality and quantity will likely decline and negatively impact industry sustainability, and **II)** proceeding with a few challenging short-term adjustments that will improve processing returns and competitiveness in the medium-to-long run.

Industry stakeholders should keep in mind that **short-term adjustments can be made less challenging** by taking steps such as phasing out the export tax over five years and addressing key business enabling environment issues. Similarly, employment in the processing segment should not be viewed as a zero-sum game—in the case of the Vietnamese shelling/peeling technology mentioned above, laborers have simply been transferred to work downstream in the process in response to the higher volume of product throughput. Ultimately, a more competitive domestic cashew industry is more sustainable, and profitable, in the long run, and can generate even more employment that today.

6 INCAJU'S ROLE IN CASHEW PRODUCTION AND PROCESSING

Per Law 13/99 regulating the marketing of cashew nuts, part of the proceeds from the export tax should be used to a) promote agricultural production and b) support the development of the cashew processing industry at a ratio of 80/20% respectively.

To achieve this objective, INCAJU has been carrying out support programs, most notably the production, distribution and planting of seedlings, and the integrated management of cashew trees (including chemical treatment programs for disease control, research, extension and development).

6.1 SUPPORT PROVIDED TO CASHEW PRODUCERS

As stated, 80% of the income attributed to INCAJU and resulting from the export tax must be allocated to support raw cashew nut production by means of:

6.1.1 INTEGRATED MANAGEMENT OF CASHEW TREES (SPRAYING AND PRUNING)

Table 3: INCAJU Spraying Program Statistics

Spraying program	2012	2013	2014	2015	2016	Average
Sprayed cashew trees (number of trees)	4,768,731	4,993,140	4,955,318	5,006,036	5,154,702	4,975,585
Incremental RCN production (kgs)	28,612,386	29,958,840	29,731,908	30,036,216	30,928,212	29,853,512

Source: INCAJU

As shown in Table 3, INCAJU states in its reports that in the last 5 years it has supported the spraying of about 5 million cashew trees year, benefiting around 121,000 rural families (an average of 40 cashew trees per family/year). INCAJU claims that tree spraying increases productivity per cashew tree from 4 to 12 kg, allowing an incremental production of around 40,000 tons per year. However, the production and marketing statistics do not show this increase.

Initially the program was fully subsidized (atomizers and pesticides), but in 2012 atomizers became the responsibility of private operators who provide spraying services to producers. **INCAJU plans to gradually reduce the tree spraying subsidy and phase it out total by 2020.** At that point, all cashew tree management will be the responsibility of the private operators.

6.1.2 PRODUCTION OF SEEDLINGS (NURSERY CREATION PROGRAM)

As shown in Table 4, INCAJU reports the distribution of about 8 million seedlings over the last 5 years (1.5 million/year on average) to around 160,000 beneficiaries, which it claims successfully established about 6.2 million trees (a very high rate of 80%, if compared with distribution losses). This would mean that each beneficiary on average received 39 trees and an increased revenue potential of about USD 400/year (also a high expectation).

Table 4: INCAJU seedling program statistics

Seedlings production projections	2012	2013	2014	2015	2016	Average
Seedlings produced	2 399 385.0	2 826 259.0	2 717 152.0	3 138 308.0	3 509 987.0	2 918 218.2
Seedlings distributed	1 415 118.0	1 298 457.0	1 226 435.0	1 665 645.0	2 256 000.0	1 572 331.0
Seedlings established	1 132 094.0	1 038 846.0	981 148.0	1 332 516.0	1 804 800.0	1 257 880.8
Distribution losses	59%	46%	45%	53%	64%	53%
Survival rate	80%	80%	80%	80%	80%	80%

Source: INCAJU

INCAJU's seedling program numbers are not supported by the evidence. Production grew at a relatively low rate (3.9% CAGR from 2008-2017) and the **main operators of the chain are of**

the opinion that the survival rate is at most between 20 and 25%[10], quite far from the 80% claimed by INCAJU.

The costs of INCAJU's seedling production are 20 Mts per unit. A 50% loss in distribution immediately increases costs (these double). The seedlings are distributed below cost (thanks to a subsidy), for prices ranging from 5 to 15 Mts, in accordance with the profile of the buyer (small producer, commercial farmers or associations).

Producers pay the price of seedlings twice, first by receiving a reduced farm-gate price due the export tax (which funds INCAJU's seedling program), and the second time through purchasing the seedlings directly from INCAJU.

6.1.3 DEVELOPMENT RESEARCH

Research and development programs in the cashew sector are led by IIAM and coordinated with INCAJU. In practice, INCAJU directly took over some of the programs, like the production of genetic material. The annual budget was expected to be around Mt 3.5 million (~USD 60,000). The program **did not have the results expected**, partly due to the lack of funds, but also due to the lack of coordination between IIAM and INCAJU. The most notable research work according to INCAJU, was in testing new more resilient tree varieties and Brazilian dwarf varieties, carried out at the Nassuruma research station in Nampula.

6.2 SUPPORT PROVIDED TO THE CASHEW PROCESSING INDUSTRY

Per the regulations, 20% of the export tax revenue should be channeled to support for the development of cashew processing, however, it is noted that:

- There is **no clear record of the use of these tax revenues for the support of any initiative around processing.**
- The financing for processing sector was in part realized by using credit guarantees issued by INCAJU, but most came from external support (e.g. USAID support began in 2006).

The difficulties encountered by INCAJU in efficiently delivering this support to the processing sector reveal that **this additional support was not actually needed**, specifically due to the fact that the tax itself provided a significant subsidy to processors by lowering their cost of inputs.

[10] Participants from private business attending the seminars held in Nampula and Maputo were skeptical about the figures presented by INCAJU and affirmed that in their opinion the rate of seedlings established is not over 30%.

7 THE PROS AND CONS OF SETTING REFERENCE PRICES

7.1 GOVERNMENT INTERVENTION IN THE FORMATION OF PRICES

While the supply/demand relationship sets prices in a free market economy, some governments have attempted to use direct or indirect intervention policies for price formation in the agricultural sector. One example is the Minimum Price Guarantee Policy (PGPM) – the strategy cited by INCAJU – which seeks to fundamentally reduce the uncertainty faced by the producer when it comes to the prices for his harvest at the time of planting and transfer it to society at large (Maria Carvalho et al, 93).

The practice of price formation can take a number of forms (Henk A. Meilink, 1985), including:

a) It can be done by **establishing taxes on exported products** (e.g. the of the cashew tax).

b) One may **subsidize agricultural inputs** or **place a tax on imported commodities** (e.g. subsidized pesticides for cashew trees, fees on imported sugar).

However, **the most direct way** of intervening in price formation is to establish:

c) A **fixed price** for a given product, or

d) A **minimum price limit**, below which transactions are not allowed.

The latter are known as **reference prices**, and ensure a minimum return for agricultural producers.

These interventionist policies in price formation stem from the need for governments to achieve various economic development objectives:

a) The application of an export tax may be intended to **protect an infant industry,** such as the emerging cashew processing industry in Mozambique around the year 2000.

b) It may also aim to **ensure a fair return to the producer** to improve his level of prosperity, and thereby encourage an increase in production and productivity.

c) These measures are often adopted to ensure a better redistribution of wealth, either by setting a minimum price limit for agricultural products or by keeping prices, in particular food prices, down with a view to **improving the purchasing power of low-income groups**.

These are some of the objectives of governments who adopt such measures, but irrespective of the objectives pursued by decision-makers, these measures **always have consequences because**:

a) Anticipated prices, subsidies, and the imposition of duties always have economic implications (positive or negative) for a range of socio-economic groups, such as producers, traders, industrialists, exporters, consumers and even for the governments that adopt them.

b) The very structure and growth rate of the protected sector—like cashew processing—is impacted and often comes at the expense of other actors in the value chain.

7.2 THE CASE OF MOZAMBIQUE

Mozambique already has in place measures to protect the development of the cashew value chain, namely an indirect way of conditioning prices through the export tax and ROFR. As discussed, these measures strongly benefit the domestic processing industry by creating artificially low input prices at the expense of rural families involved in the production and harvesting of cashew nuts (about 1.4 million small producer families). However, these policies have not brought about the expected results, particularly with regard to the development of cashew nut production.

In view of this fact, **INCAJU is considering establishing minimum reference prices** at the beginning of each agricultural season to allow the small producer to generate a better income.

It is presumed that with this decision, INCAJU intends above all to create incentives for producers to increase production/productivity, by ensuring that they obtain a higher income from their activity.

At the same time, this measure may contribute to stabilizing the income of rural families by limiting their exposure to seasonal fluctuations in the price of raw nuts.

7.2.1 PRICE FIXING

In the case of Mozambique, the application of **a minimum reference price would be an effort to offset the negative impact created by another policy mechanism**: the cashew export tax. INCAJU should keep two important notes in mind:

1) One should also consider that the same result – increased farm-gate prices for raw cashews – could also be achieved by eliminating the tax and allowing farmers to receive higher prices for their raw goods, and

2) No single country can control the international market price of a commodity. Attempting to correct the negative impacts of the export tax—a price formation mechanism—with another price formation mechanism (minimum reference prices) is a complicated and inexact science few countries have achieved.

Despite having previous experience with intervention in price formation under the centrally planned economy, Mozambique shed this practice with the introduction of the SAP (the Structural Adjustment Plans proposed by the World Bank) in 1996 and rarely again intervened directly in price formation in the agricultural sector (remember the export tax is an indirect form of price setting). Thus, all mechanisms for intervening in the formation of existing prices—such as the National Commission of Prices and Salaries—have been deactivated.

Mozambique's national data and statistics on agricultural products are quite incomplete, which makes identifying credible and efficient minimum reference prices a significant challenge. INCAJU and key decision-makers should also consider that an alternative to investing in price setting systems would be to invest in improved market information for producers. For example, eliminating the export tax and enabling producers to have real-time access to market price information—via mobile phone, for example—would shift market pricing power to the farmer, without having to rely on a somewhat arbitrary reference price.

7.2.2 SETTING REFERENCE PRICES: BEST PRACTICES

When setting minimum prices, the influence of the domestic or external markets must be considered. Price setting strategies generally use one or a combination of the two following methods: **Production costs** (in the case of products for the domestic market) and **International parity** of import and export prices (in the case of products for the foreign market or imported from abroad).

a) Based on production costs

In the specific case of Mozambique, setting prices based on sufficiently realistic information about production costs is not an easy task given the characteristics of domestic cashew production, in particular because of: the geographical spread of production, the large number of producers involved; the adoption of different production systems from region to region (with varied use of inputs, production processes, partnerships, etc.); the efficiency of production costs varying from region to region, making the calculation of averages between producers with higher or lower efficiency ratios irrelevant.

Based on these conditions, **it will be very difficult for INCAJU to maintain a system for the regular calculation of average production costs in the country**, given that there should be one single reference price for the whole campaign, regardless of the region.

b) Based on the parity of international prices

Given that it is an export crop, parity with international prices is a crucial efficiency measure that can gauge the opportunity cost of the exportable product—this means answering the question of to what

extent it will be more profitable to put the product on the market or sell it internally for domestic processing. The international parity method is **the most realistic method** for reference price setting in Mozambique.

7.2.3 INSTITUTIONAL CONCERNS AND REFERENCE PRICE SETTING

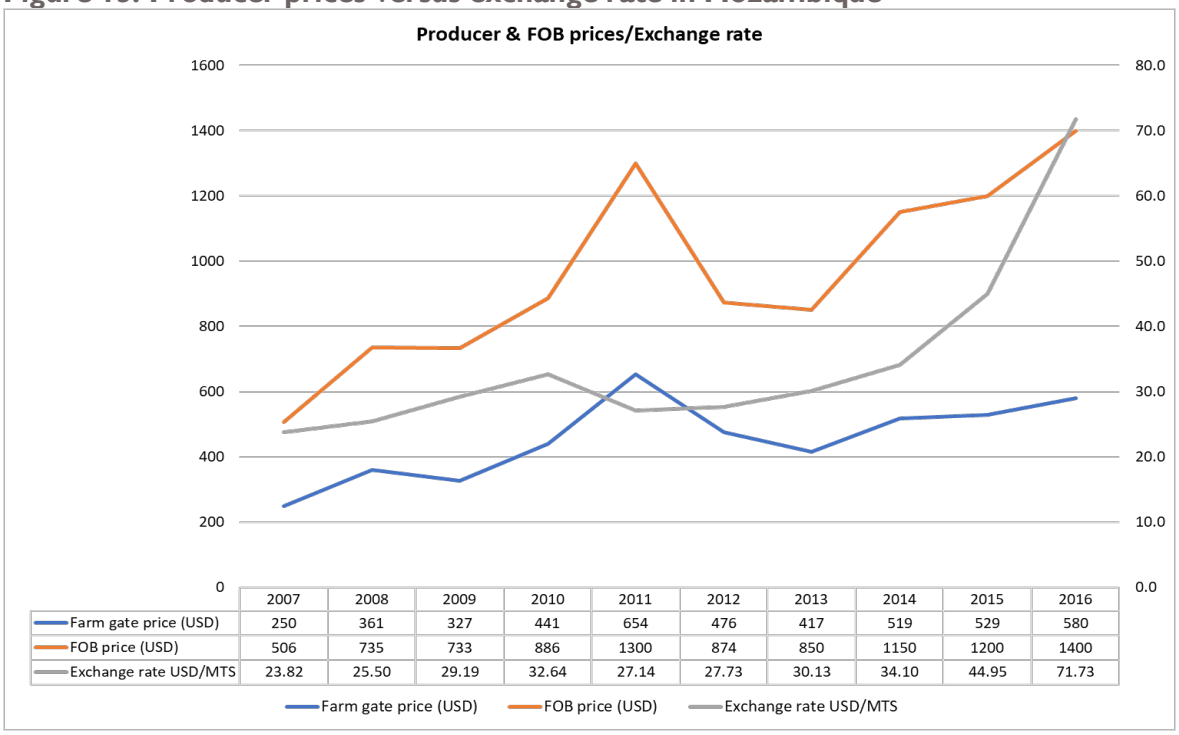
Mozambique, as mentioned above, does not have an institutional framework with oversight of the cashew business that has the capacity to produce the relevant information for establishing reference prices based on actual production conditions. Further, **in cases where market prices are below the minimum reference prices**, the domestic institution must intervene given that the policy then **negatively impacts the competitiveness of Mozambican processors** who are forced to pay an artificially high price for RCN – **the exact opposite situation as exists now with the export tax!**

If INCAJU proceeds with a minimum reference price strategy, it should consider:

- Setting a reference price within a bandwidth of 55/60% of the price FOB, depending on the specific circumstances of each campaign (scarcity, availability).
- Calculations for a minimum price should be based on the average price over the last 12 months and be adjusted with forecast projections based on price FOB levels over the last 3 years prior to the start of the campaign.
- The proposed bandwidth should allow a safeguard against the effects of exchange rate fluctuations that put pressure on products placed on the international market.

Figure 15 below gives an idea of the correlation between the three relevant variables (**price FOB**, **producer price** and **exchange rate**) in the calculation of the minimum reference price. It shows the close correlation between producer price and price FOB can serve a reliable reference for the 55/60% bandwidth measure.

Figure 15: Producer prices versus exchange rate in Mozambique



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Farm gate price (USD)	250	361	327	441	654	476	417	519	529	580
FOB price (USD)	506	735	733	886	1300	874	850	1150	1200	1400
Exchange rate USD/MTS	23.82	25.50	29.19	32.64	27.14	27.73	30.13	34.10	44.95	71.73

Source: For prices INCAJU 2017, Exchange rate average, Mozambique Bank report 2017

7.2.4 RECONSIDERING THE PRICE FORMATION STRATEGY

Setting prices is one policy strategy available to governments. If INCAJU's objective in pursuing this strategy is to improve incomes of rural cashew farmers, it should carefully consider whether a fiscal policy to protect producers is more advantageous than the **alternative measure of reducing/eliminating the export tax**, which will also improve the incomes of producers. At the same time, it must realize that a **fiscal protection for one segment** of the value chain can have a **negative impact on others**, as in the above example where processors could be forced to pay an artificially high above-market farm-gate price for RCN. As many formerly planned economies have learned, attempting to control the growth of an industry through price formation is expensive to enforce and never as efficient as supporting an industry to be competitive within the free market global economy.

8 CONCLUSIONS & RECOMMENDATIONS

8.1 CONCLUSIONS

8.1.1 CURRENT POLICY IS A DRAG ON THE MOZAMBICAN CASHEW SECTOR

After nearly 20 years in force, current policy has not improved the competitiveness of the Mozambican cashew sector.

A **significant lack of investment in the domestic cashew tree stock**—an unintended consequence of Law 13/99—may in fact be reinforcing the slow decline of the sector. Mozambican cashew nut quality continues to be one of the worst in Africa, and production levels in Mozambique are not increasing measurably, averaging 89 thousand MT of RCN over the past decade, far from the peak achieved almost half a century ago (200 thousand MT of RCN).

Cashew tree underinvestment and **low RCN quality is in large part due to farmers being forced to sell their RCN to processors/exporters at below market prices.** This lack of incentive for farmers to invest in the planting and maintenance of cashew trees—the raw material that underpins the industry—is a negative side-effect of current cashew policy.

Processors capture nearly all the economic benefit of the export tax and peak season export ban, and this subsidy is the primary cause of the declining domestic tree stock (average tree age is over 50 years). Despite 20 years of protection, Mozambican processor efficiency still lags significantly behind industry leaders Vietnam and India.

The 1.4 million small holder farming families bear the cost burden of Mozambique's export tax, and this contributes to low RCN quality. By being forced to sell their RCN to processors/exporters at below market prices, rural farmers directly subsidize the domestic processing industry.

In sum, Law 13/99 has outlived its original purpose and is slowly undermining the sustainability and competitiveness of the Mozambican cashew industry.

8.1.2 HOWEVER, AN OPPORTUNITY EXISTS TO REVERSE COURSE

If Mozambique commits to **improving RCN quality**, the country has a big opportunity to gain significant returns. Based on its favorable geography and access premium off-season pricing, if Mozambique improves its outturn rating from 45 to 50 (like in Tanzania), the country is poised to see at least a 20% increase in FOB prices.

This pricing power, in combination with producers receiving higher farm-gate prices, will lead to an **increased quantity of domestic RCN** available to process (due to the positive correlation between price and supply—the 'supply response').

By creating conditions that incentivize investment in domestic cashew tree stock, **actors across the value chain will benefit** as the industry strengthens and grows more competitive. Improvements in the business environment and complementary investments in efficiency are also needed to enable the country to take advantage of this opportunity.

8.1.3 OPTIONS FOR A MODERN CASHEW POLICY

A **consensus is building around the need to improve the incomes of cashew farmers**, and in turn incentivize investments in the domestic tree stock. Current options being discussed to raise producer incomes fall into one of two categories: i) Protection & Price Intervention, and ii) Free Market with Regulatory Support.

Any policy change will create short-run disruptions in the status quo—no one policy mix comes without trade-offs. For any policy in the Protection & Price Intervention category, INCAJU should consider the complexities of engineering economic market conditions and realize that **protecting one segment of the value chain indefinitely will negatively impact another segment of the value chain, indefinitely**.

Alternatively, policy strategy that falls into the Free Market with Regulatory Support category will cause **disruption during a short-term timeframe**, however, over the medium-to-long run will benefit all segments of the value chain. Regardless of the choice, transitioning to a modern cashew policy will require adjustments by producers and processors, with the trade-off being a more sustainable and competitive domestic cashew industry.

8.2 RECOMMENDATIONS

In our recommendations, **we first address some of the proposed amendments under the Protection & Price Intervention category**. Then, we provide our high-level policy recommendations to strengthen Mozambique's cashew sector competitiveness.

8.2.1 PROPOSED PROTECTION & PRICE INTERVENTION STRATEGIES

a. Increasing the Export Tax to 30%

- **Not advisable.** The current rate level (18%) has proved to be more than sufficient to protect processors, but it has yet to push processors to a level of efficiency to be competitive in the global market.
- Any increase in the export tax will directly affect the interests of the producers, who will see their revenue reduced even further to the benefit of the processors.
- The current producer support mechanisms do not compensate the losses those producers incur from the application of the export tax.
- Further price pressure on producers will only reduce the quality of domestic RCN.

b. Adding a New Tax on Exported Kernels

- **Not advisable.** The measure would simply recuperate some of the export tax gains from the domestic processors.
- This tax would not strengthen the competitiveness of the value chain, but rather serves the purpose of generating revenue for the Mozambican national budget.

c. Adding a New Tax on All Marketed Cashew (domestic sales and exports)

- **Not advisable.** This measure would not serve the purpose of increasing the competitiveness of the processing sector or improving incomes for encouraging investment by local farmers.

d. Setting Minimum Reference Prices for RCN

- **Not advisable.** This measure would be an attempt to correct the negative impacts of the export tax—a price formation mechanism—with another price formation mechanism.
- A fiscal protection for one segment of the value chain can have a negative impact on other segments—in this case processors may have to pay above-market prices for RCN, which would impact their competitiveness.

- The same policy outcome, improving farmer incomes, could be accomplished by reducing/eliminating the export tax and related regulations.

8.2.2 SPEED+ RECOMMENDED CHANGES TO THE PREVAILING CASHEW POLICY

Based on the findings of this study, **our high-level recommendations** fall into the Free Market with Regulatory Support category. We recommend to:

- **Implement a gradual phase out of the export tax**, starting with an immediate reduction from 18% to 14%, then steadily decreasing over five years to 0%;

- **Allow raw cashew nut exports during the October to January** period when international prices are highest;

- **Improve processors' competitiveness** through related competitiveness studies, which can lead to improvements in efficiency, as well as overall improvements to the business environment, which will lead to reductions in transaction costs (transport, logistics, corruption, etc.); and

- **Transition INCAJU to serve a regulatory and policy-oriented role,** while the private sector fills the demand for input supply and extension services.

Under this strategy, the immediate economic impact to **producers**, based on the SPEED+ model, would be an increase in farm-gate prices cashew producers receive of 10% (with the export tax reduced to 14%), increasing to around 30% as the tax is completely phased out and the peak-season ban eliminated.

This would in-turn **increase the quantity of domestic RCN** available to process, based on the 'supply response' to farm-gate prices present in Mozambique. It will also **improve the quality of RCN** as producers begin to invest in their tree stock, with the support of extension services provided through the private sector.

The phasing out of fiscal protective measures to **processors** will create short-term pressure on their operating margins of at least -10% based solely on increased RCN costs[11]. However, **operating margins pressure will be offset over time** based on the increased quantity and quality of domestic RCN to process. Further, processor operating margins will be strengthened by measures that improve the business enabling environment (i.e. lowering transaction costs) and support investments in more efficiency technology.

8.2.3 INCAJU AND THE GRADUAL EXPORT TAX REDUCTION

INCAJU is currently 100% funded by the cashew export tax, but as the agency transitions into a more regulatory role, their funding requirements will change as well. Based on our recommendation of a 5-year timeframe for the export tax phase-out, INCAJU will continue to have funding from this revenue source—an average of USD 6 million per year—as it slowly winds down in the 2022/23 fiscal year, as shown in Table 5. The slow phase out of the export tax should allow INCAJU to adjust its budget requirements to align with its new role.

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[11] This is an illustrative figure based on plausible parameters in the SPEED+ economic model meant to demonstrate the depth of impact on operating margins—the figure only considers the impact of higher RCN prices.

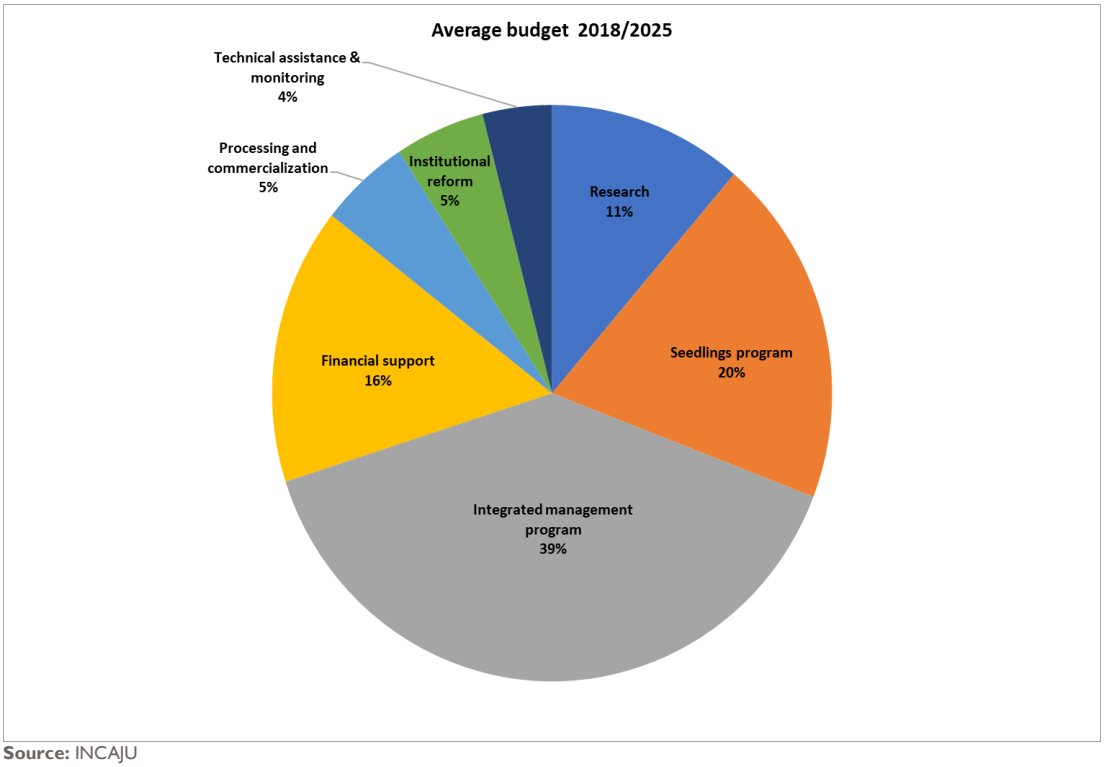
Table 5: INCAJU projected budget from export tax until 2022/23

Projections (1000MT)	2017/18 (*)	2018/19	2019/20	2020/21	2021/22	2022/23
RCN Production	139	145	152	159	167	176
Export	48	50	52	54	57	60
Processing	69	72	75	78	82	87
Informal consumption	23	24	25	26	27	29
Revenues ($ 1000)						
RCN exports revenues ($1.000.000)		78	81	85	89	94
Kernel exports revenues ($1.000.000)		114	120	125	132	139
% Castanha exportada	34%	34%	34%	34%	34%	34%
% Castanha processada	49%	49%	49%	49%	49%	49%
% informal consumption	16%	16%	16%	16%	16%	16%
Potential fiscal revenue (ET=14%)		10.86				
Potential fiscal revenue (ET = 10%)			8.13			
Potential fiscal revenue (ET = 7%)				5.95		
Potential fiscal revenue (ET = 5%)					4.47	
Export tax eliminated						0
Total fiscal revenues collected during ET phasing out						29.41
RCN FOB price/USD/MT	**1,561**	1,561	1,561	1,561	1,561	1,561
Kernel export price/USD/MT	**7,490**	7,490	7,490	7,490	7,490	7,490
Projections premises						
(*) Year base 2017/18 historical data Source: INCAJU						
Rate of year growth average 5% (CAGR = 3.28%)	Year base	104%	105%	105%	105%	105%
Based on 2017 RCN and kernel constant prices						

Source: INCAJU data and SPEED+ calculations

Regarding INCAJU's funding requirements for the agency's new role, a good benchmark to start with is a breakout of its current budget. As Figure 16 below shows, **over 75% of INCAJU's budget through 2025 is allocated to three major activities**: integrated management, seedling production, and financing—these three roles are **set to be transitioned to the private sector**. While the agency will need to fund staff salaries for its regulatory and research roles, it is anticipated that it will not need funding at levels it has maintained over recent years.

Figure16: INCAJU projected budget allocation until 2025



Source: INCAJU

Going forward, since INCAJU's **regulatory role** is a government function, it must be funded through the general budget revenue for agricultural development (rather than being subsidized by rural producers). We recommend that INCAJU continue its **research role**. This function should be funded by a mix of public fiscal support and partnerships with donors, private sector, and universities.

8.2.4 CONCLUDING REMARKS

The author commends industry stakeholders for revisiting Law 13/99 and debating the way forward to improve cashew sector competitiveness. With the growing consensus that farmers should receive higher compensation, and that the private sector should play a larger role in extension services, we believe the strategy is headed in the right direction. While policy change requires some discomfort and adjustments by value chain actors, we are confident that this sacrifice will be worthwhile as the long-term sustainability and competitiveness of the Mozambican cashew industry advances.

BIBLIOGRAPHY

Jan Low, Higino de Marrule, Duncan Boughton, e *Raúl Pitoro* - A Regulamentação de Comercialização da Castanha de Caju: Como Torná-la um Instrumento Revitalizador do Sub-Sector Cajueiro em Moçambique? - Flash 2001

Siddant T. Mishra and Whitney I. Martin – Mozambique cashew Industry Analysis, 2016

John Fynm Consultant Abt Associates Inc. & DAI Pesa – Policy and Taxes in the Tanzanian Cashew Industry

Lucia Antonio and Garry Griffith - The Cashew Value Chain in Mozambique: Analysis of Performance and Suggestions for Improvement – International Journal on Food System Dynamics, 2017

ACA (2017). African Cashew Alliance Annual Report 2016, from www.africancashewalliance.com [Dezembro 2017].

FAOSTAT (2015). Statistics on production, yields and area harvested for cashew nuts in Mozambique. Retrieved from www.faostat.org [Dezembro 2017].

Fitzpatrick J. - Outlook & Opportunity World Cashew Market, 2017

Grobe-Ruschkamp, A., Seelige, K. (2010). Analysis of the cashew value chain in Mozambique. Report prepared for African Cashew Initiative (ACi). Maputo, Mozambique.

INCAJU, Annual report 2009, 2010, 2011, 2012, 2013, 2014, 2015, Maputo, Mozambique.

INCAJU (2011). Master Plan II: 2011-2020, elaborated by Ernst and Young Private Consultant, March, Maputo.

INCAJU – Lei do caju 13/99

INCAJU - Perspectivas e desafios do plano director do caju (2011 –2020), 2017

INCAJU - Proposta de programa de desenvolvimento do subsector do caju (2016-2021)

INCAJU – Regulamento da Comercialização do Caju, 2013

The Global Economy (2016). Mozambique: Cashews production, in tons (1972-2014), from http://www.theglobaleconomy.com/Mozambique/ [4 April 2016].

Zavale, H., Monroy, L. (2014). Analysis of price incentives and disincentives for cashew nuts in the Republic of Mozambique, 2005–2013, FAO, Technical notes series, MAFAP, Rome. Retirado do site http://www.fao.org/in-action/mafap>[Agosto 2017].

Nkonya, N. & Barreiro Hurle, J. 2013 Analysis of price incentives and disincentives for cashew nuts in the Republic of Tanzania - FAO, Technical notes series, MAFAP, Rome. Retirado do site http://www.fao.org/in-action/mafap>[Agosto 2017].

Centro de Estudos em economia e gestão – Faculdade de Economia da Universidade Eduardo Mondlane - Estudo sócio económico do mercado informal em Moçambique , 2013

Dr. Miaman Kone - Analysis of the Cashew Sector Value Chain in Côte d'Ivoire - African Cashew initiative (ACi), 2010

M. Ataman Aksoy and Fahrettin Yagci - Mozambique Cashew Reforms Revisited, Banco Mundial, 2012-

Dai & Nathan Associates - Impacto das flutuações da taxa na economia de Moçambique, SPEED – 2011

Masawe et al - Tanzania Value Chain Diagnostics UNIDO, 2011

Margaret McMillan, Dani Rodrik, and Karen Horn Welch - When Economic Reform Goes Wrong: Cashews in Mozambique, July 2002

Carin Vijfhuizen, Carla Braga, Luis Artur and Nazneen Kanji - Liberalisation, gender and livelihoods: the cashew nut case, Eduardo Mondlane University /Faculty of Agronomy & Forestry, Faculty of Arts, 2013

Fernando Bessa Ribeiro- Entre Martelos e Lâminas: Dinâmicas Globais e Políticas de Produção na Indústria do Caju em Moçambique, 2005

Adama Coulibaly - Réforme de la filière cajou en Cote d'Ivoire Motivations, contenu et résultats, 2017

Henk A. Meilink - Agricultural pricing policy in Kenya: Scope and Impact, 1985

Bruce Bolnik - Briefing Note - The Economics of Cashew Policy in Mozambique, 2017

SPEED+ & MOZACAJU - Memorandum: Mozambique Cashew Policy Reform, 2017

Lameiro da Costa - A política de Garantia de Preços Mínimos, 2015

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