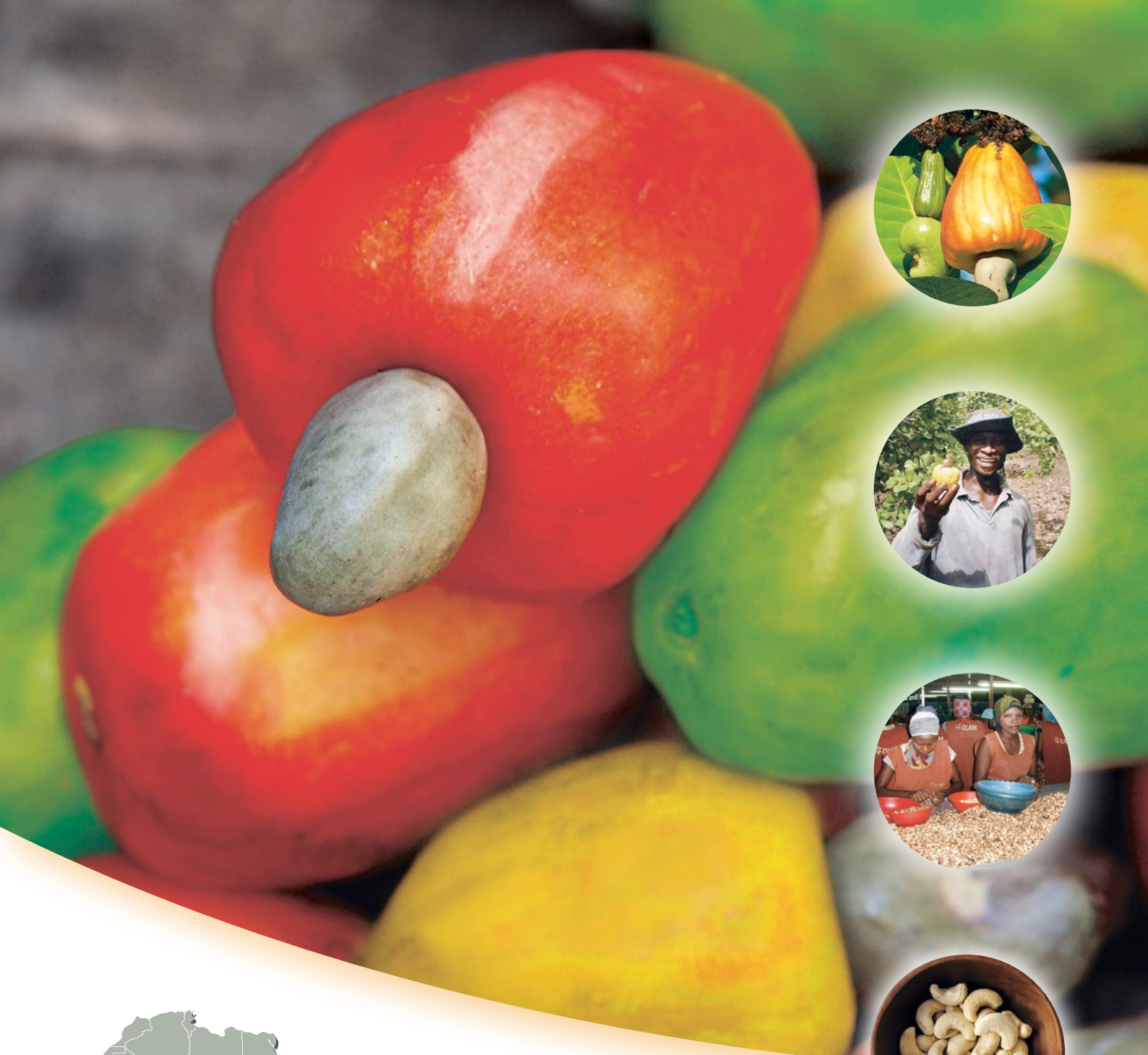




# Competitiveness of the African Cashew Sector

African Cashew initiative (ACi)



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# **Competitiveness of the African Cashew Sector**

February 2011

# Table of Contents

|                                                                                                                                                        |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| List of Tables .....                                                                                                                                   | 5         |
| List of Figures .....                                                                                                                                  | 5         |
| <b>1 Executive Summary .....</b>                                                                                                                       | <b>8</b>  |
| <b>2 Approach .....</b>                                                                                                                                | <b>8</b>  |
| 2.1 Sources and methodology .....                                                                                                                      | 8         |
| 2.2 The cashew nut supply chain in Africa –<br>a two-chain approach.....                                                                               | 9         |
| 2.2.1 The African in-shell cashew chain .....                                                                                                          | 9         |
| 2.2.2 The African cashew kernels chain.....                                                                                                            | 9         |
| <b>3 Cashew Nut Production and Processing .....</b>                                                                                                    | <b>11</b> |
| 3.1 Trends in cashew production and<br>processing from 2000 to 2010 .....                                                                              | 12        |
| 3.2 The in-shell cashew trade.....                                                                                                                     | 14        |
| 3.3 Global cashew processing .....                                                                                                                     | 15        |
| 3.3.1 Quality and size of cashew kernels .....                                                                                                         | 15        |
| 3.3.2 Drivers for change in processing.....                                                                                                            | 15        |
| <b>4 Global Cashew Consumption .....</b>                                                                                                               | <b>19</b> |
| 4.1 The use of cashew nuts .....                                                                                                                       | 19        |
| 4.2 Trends in cashew demand .....                                                                                                                      | 19        |
| 4.3 Outlook for cashew demand.....                                                                                                                     | 19        |
| 4.4 Threats to cashew demand.....                                                                                                                      | 19        |
| 4.5 Prices and price volatility in the cashew market...20                                                                                              |           |
| <b>5 Competitiveness of the Cashew Value Chain &amp;<br/>Evaluation of Competitiveness Factors<br/>for the African Cashew-producing Countries.....</b> | <b>25</b> |
| 5.1 The in-shell cashew commodity chain.....                                                                                                           | 25        |
| 5.1.1 Growing cashews: the right product<br>in the right place.....                                                                                    | 26        |
| 5.1.2 Product quality and condition .....                                                                                                              | 26        |
| 5.1.3 Seasonality: timing of crop and sale .....                                                                                                       | 28        |
| 5.1.4 Efficiency of supply chain, logistics and costs.....                                                                                             | 30        |
| 5.1.5 Finance .....                                                                                                                                    | 33        |
| 5.1.6 Risk and perception of risk.....                                                                                                                 | 34        |
| 5.1.7 Market access and market linkage.....                                                                                                            | 35        |
| 5.1.8 Government support and intervention.....                                                                                                         | 36        |
| 5.1.9 Ease of doing business .....                                                                                                                     | 38        |

|                                                                                                         |           |
|---------------------------------------------------------------------------------------------------------|-----------|
| 5.2 The cashew kernels chain.....                                                                       | 39        |
| 5.2.1 Supply of quality products.....                                                                   | 39        |
| 5.2.2 Risk and perception of risk.....                                                                  | 40        |
| 5.2.3 Finance .....                                                                                     | 40        |
| 5.2.4 Availability, productivity and cost of labour.....                                                | 41        |
| 5.2.5 Business environment .....                                                                        | 41        |
| 5.2.6 Logistics and costs .....                                                                         | 41        |
| 5.2.7 Domestic and international market access.....                                                     | 42        |
| 5.2.8 Technical support and services .....                                                              | 43        |
| 5.2.9 Government support.....                                                                           | 43        |
| 5.3 Summary of findings .....                                                                           | 44        |
| 5.3.1 The African in-shell cashew chain .....                                                           | 44        |
| 5.3.2 The African kernels chain.....                                                                    | 46        |
| <b>6 Competitiveness of African Cashews compared<br/>with the Main Cashew-processing Countries.....</b> | <b>49</b> |
| 6.1 Growing cashews.....                                                                                | 49        |
| 6.2 Government support.....                                                                             | 50        |
| 6.2.1 Indian government support .....                                                                   | 50        |
| 6.2.2 Viet Nameese government support.....                                                              | 50        |
| 6.2.3 Brazilian government support.....                                                                 | 50        |
| 6.3 Processing.....                                                                                     | 50        |
| 6.4 Traceability.....                                                                                   | 50        |
| 6.5 Financial services.....                                                                             | 50        |
| 6.6 Markets and market access .....                                                                     | 51        |
| 6.7 Logistics and costs .....                                                                           | 52        |
| 6.8 Summary .....                                                                                       | 52        |

|                            |    |
|----------------------------|----|
| List of Abbreviations..... | 54 |
|----------------------------|----|

|                             |    |
|-----------------------------|----|
| Relevant Cashew Terms ..... | 54 |
|-----------------------------|----|

## List of Tables

|                                                                                          |           |
|------------------------------------------------------------------------------------------|-----------|
| <b>Table 3.1: In-shell cashew production<br/>and export August 2010 (estimates).....</b> | <b>14</b> |
|------------------------------------------------------------------------------------------|-----------|

|                                                                              |           |
|------------------------------------------------------------------------------|-----------|
| <b>Table 4.1: Historical average prices<br/>of cashew kernel grades.....</b> | <b>20</b> |
|------------------------------------------------------------------------------|-----------|

|                                                                                            |           |
|--------------------------------------------------------------------------------------------|-----------|
| <b>Table 5.1: African cashew-producing countries<br/>ranked by yield per hectare .....</b> | <b>27</b> |
|--------------------------------------------------------------------------------------------|-----------|



## List of Figures

|                                                                                                                          |    |
|--------------------------------------------------------------------------------------------------------------------------|----|
| <b>Table 5.2:</b> Quality and condition of in-shell cashews ranked by kernel yield.....                                  | 27 |
| <b>Table 5.3:</b> African cashew-producing countries ranked by worldwide harvest volume during their harvest season..... | 29 |
| <b>Table 5.4:</b> In-shell cashew FOB export values vs. Indian CFR import values, latest available year by country ..... | 30 |
| <b>Table 5.5:</b> Comparison of cost and logistic factors in the in-shell chain .....                                    | 31 |
| <b>Table 5.6:</b> Market access characteristics of African cashew-producing countries.....                               | 35 |
| <b>Table 5.7:</b> Comparison of government support and interventions in African cashew-producing countries.....          | 37 |
| <b>Table 5.8:</b> African cashew-producing countries ranked by ease of doing business.....                               | 38 |
| <b>Table 5.9:</b> Major cashew-processing countries ranked by ease of doing business.....                                | 38 |
| <b>Table 5.10:</b> Average yields from African cashews in India 2008-2010 .....                                          | 39 |
| <b>Table 5.11:</b> Shelling yields by grades.....                                                                        | 40 |
| <b>Table 5.12:</b> Wholes cut, peeled and graded per day .....                                                           | 41 |
| <b>Table 5.13:</b> Assessing competitiveness II – the East African in-shell chain .....                                  | 46 |
| <b>Table 5.14:</b> Assessing competitiveness III – the West African in-shell chain .....                                 | 47 |
| <b>Table 5.15:</b> Assessing competitiveness IV – the East African kernels chain .....                                   | 47 |
| <b>Table 5.16:</b> Assessing competitiveness V – the West African kernels chain.....                                     | 47 |
| <b>Table 6.1:</b> Characteristics of the cashew sector in major cashew-producing countries and regions .....             | 49 |
| <b>Table 6.2:</b> Comparison of cashew-processing countries .....                                                        | 51 |

|                                                                                                                                  |    |
|----------------------------------------------------------------------------------------------------------------------------------|----|
| <b>Figure 3.1:</b> The cashew world.....                                                                                         | 11 |
| <b>Figure 3.2:</b> World in-shell cashew production in 2000, 2005, 2010.....                                                     | 12 |
| <b>Figure 3.3:</b> Imports of in-shell cashews 1996-2009 .....                                                                   | 13 |
| <b>Figure 3.4:</b> Exports of cashew kernels by in-shell trading regions 2009/2010 .....                                         | 13 |
| <b>Figure 4.1:</b> World cashew demand by regional share 2009.....                                                               | 19 |
| <b>Figure 4.2:</b> Quarterly average price for WW320 .....                                                                       | 20 |
| <b>Figure 4.3:</b> Price differentials – grades compared to WW320 .....                                                          | 21 |
| <b>Figure 5.1:</b> Indian imports 2009: average CFR price of in-shell cashews by origin .....                                    | 28 |
| <b>Figure 5.2:</b> Seasonality of annual cashew harvests .....                                                                   | 29 |
| <b>Figure 5.3:</b> African port costs per tonne (loading and export) .....                                                       | 32 |
| <b>Figure 5.4:</b> African ocean freight costs per 20ft dry container, in-shell cashews season 2010 to Cochin, India .....       | 32 |
| <b>Figure 5.5:</b> Quantifying the level of risk of non-repayment of export credits – OECD country credit risk (Jan. 2011) ..... | 34 |
| <b>Figure 5.6:</b> Quantifying the level of risk – ONDD (Standard & Poor's; Jan. 2011).....                                      | 34 |
| <b>Figure 5.7:</b> Exports of African cashew kernels to the EU and the USA .....                                                 | 42 |
| <b>Figure 5.8:</b> Assessing competitiveness I – African cashew producers .....                                                  | 45 |
| <b>Figure 6.1:</b> Indian domestic in-shell prices compared to the average price of West and East African imports.....           | 49 |





# 1 Executive Summary

The objective of this study is to analyse the competitiveness of African cashew nuts, both in-shell and as kernels, in the global market. The study was commissioned by the *African Cashew initiative (ACi)*, whose purpose it is to strengthen the global competitiveness of cashew production and processing in Africa and to assist small scale cashew farmers to increase their productivity and thus gain additional income. It concentrates on ten countries: *Benin, Burkina Faso, Ghana, Guinea Bissau, Ivory Coast, Kenya, Mozambique, Senegal, Tanzania, The Gambia.*

A more detailed version is available upon request.

## Summary of findings

- ▶ Current cashew market conditions and projected developments provide a positive environment for the development of the cashew sector in Africa.
- ▶ There are no major barriers – such as quality, seasonality, tariffs and product acceptability – to the development of the markets for African cashew kernels.
- ▶ The international in-shell supply chain and the international cashew kernels chain are linked; however, they are not integrated and can thus function independently.
- ▶ The West African and East African regions are at different stages of cashew market development and have different priorities.
- ▶ African in-shell cashew exports are competitive in the market and important for growers. They will remain a significant part of the African market for some years to come.
- ▶ The in-shell export chain has a narrow base and is controlled by traders with access to finance. These traders expect high margins in return for taking high risks.
- ▶ The balance of supply and demand for cashews is fragile; demand is currently rising rapidly while growth in supply is slowing down.
- ▶ Price volatility is a dominant feature of the global cashew market. Price levels are rising over time, but this is interspersed by sharp falls and rallies.
- ▶ Better practices in terms of husbandry, post harvest practices, education and market information could significantly improve competitiveness and growers' incomes. Moreover, they could improve the general environment, making it more conducive to the development of processing.
- ▶ The major obstacles to the development of the African cashew market are not cashew sector specific. Rather, they lie in the structure of the producing countries' economies and business environments.
- ▶ Given the context of African countries, entry to the cashew processing sector is difficult. Large investors are deterred by country-specific risks and smaller entrepreneurs shy away from the technical challenges and the difficulty of doing business in Africa.





## 2 Approach

### 2.1 Sources and methodology

The study draws on the author's experiences and contacts in the cashew sector as an importer, analyst and consultant for over 27 years. A database of prices and market reports since 1990 was used and compared to information available from a range of other sources. The available literature on cashew nuts and the studies already compiled by national organisations, NGOs and trade associations were reviewed, and a number of importers, processors, in-shell traders, development organisations and consumer companies were interviewed to obtain hard information and informed opinions on the competitiveness of the African cashew sector.

The cashew nut industry suffers from a lack of good quality information. Export figures are often incorrectly recorded and rigorously accurate estimates of crops do not exist. Moreover, in many countries, informal trade takes place which is difficult to account for. As a result, discrepancies arise between the figures provided by different sources. Therefore, the sources of this study have been compared and all the statistics checked.

### 2.2 The cashew nut supply chain in Africa – a two-chain approach

In reality, the African cashew sector consists of two value chains – in-shell cashews and cashew kernels – which do not always operate in a cohesive manner. Therefore, the factors of competitiveness will be ranked separately for each of these commodity chains.

#### 2.2.1 The African in-shell cashew chain

The African in-shell cashew chain is a *trader-driven* chain, an oligopoly dominated by a few traders and buyers supplying or representing the processors in India, and more recently also those in Viet Nam. These traders and buyers set the rules of the chain that others have to follow – a situation which has been called '*governance*' (Humphrey & Schmitz 2002).

The following features characterise this chain:

- ▶ The price of in-shell cashews is set from the outside.
- ▶ West Africa is a huge grower of the crop but there is little local processing. East Africa, on the other hand, is a resurgent region with established processing.
- ▶ There are serious difficulties in the chain, many of which are inherent to the economies of Africa, particularly West Africa, at this time.

- ▶ There is some evidence of unusually high margins and high risks among traders.
- ▶ Buyers of in-shell cashews complain that the post-harvest handling of the product is poor.

The following factors determine the competitiveness of this chain:

- ▶ Growing cashews: the right product in the right place
- ▶ Product quality and condition
- ▶ Seasonality: timing of crop and sale
- ▶ Efficiency of supply chain, logistics and costs
- ▶ Finance
- ▶ Risk and perception of risk
- ▶ Market access and market linkage
- ▶ Government support and intervention
- ▶ Ease of doing business.

#### 2.2.2 The African cashew kernels chain

The African cashew kernels chain is a *buyer-driven* chain, driven by roasters, packers, and distributors, whose concerns are reliability, food safety and quality.

The following features characterise this chain:

- ▶ The nature of processing and the labour requirements it involves make operating in the kernels market much more challenging than the in-shell trade.
- ▶ In countries where the government and technical services have intervened to balance the market in favour of the processors, processing has successfully commenced again.
- ▶ East African countries have easier market access than West African countries.
- ▶ There are no fundamental difficulties preventing African cashew kernels from penetrating the market.
- ▶ Formal trade barriers are minimal.
- ▶ Overall, African processors have a potentially good product in a market where conditions are good, but they are limited by the structure of the economies in which they function.

The following factors determine the competitiveness of this chain:

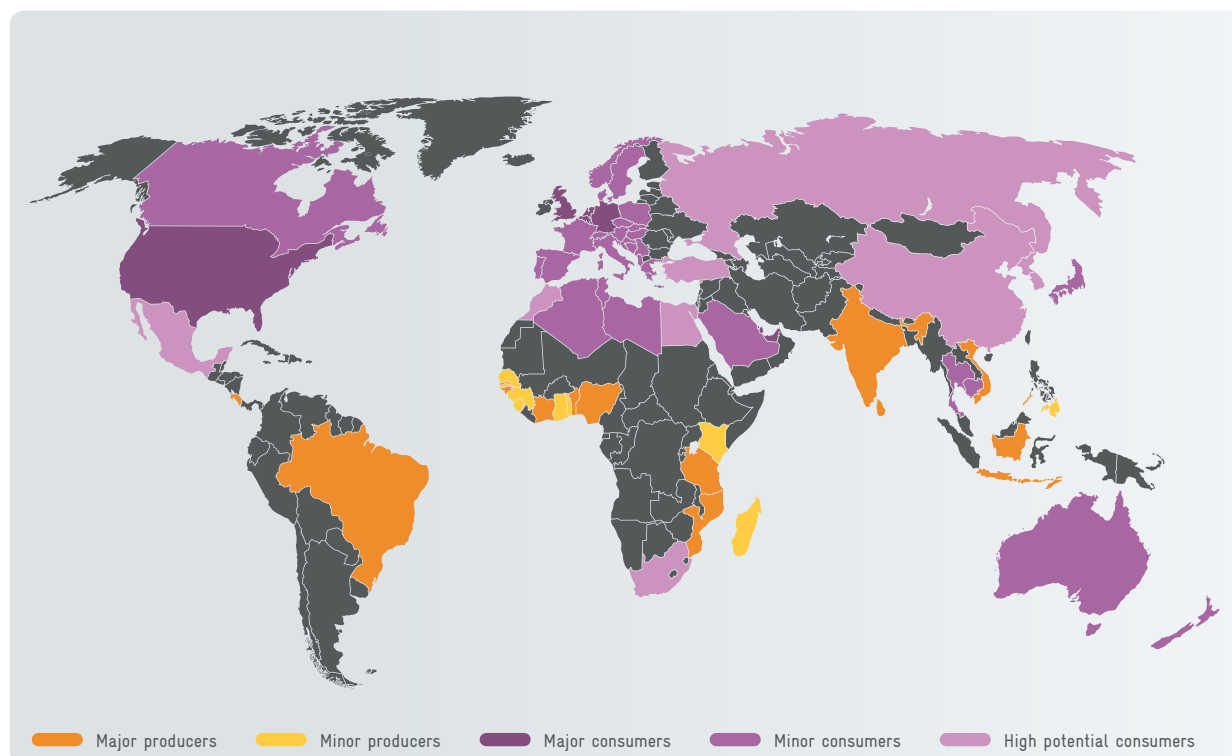
- ▶ Supply of quality products
- ▶ Risk and perception of risk
- ▶ Finance
- ▶ Availability, productivity and cost of labour
- ▶ Business environment
- ▶ Logistics and costs
- ▶ Domestic and international market access
- ▶ Technical support and services
- ▶ Government support.





### 3 Cashew Nut Production and Processing

Figure 3.1: The cashew world



Source: developed by the author

The cashew nut industry is young by the standards of other food commodities. Worldwide production grew to 500,000 tonnes of in-shell cashew by 1975. In the early 1970s, the countries of East Africa were the dominant producers of both in-shell and cashew kernels. However, from 1975 onwards, production in Mozambique and Tanzania declined due to political upheavals, war and, more recently, tree diseases. East Africa faded and India gained in prominence as growing and processing expanded there. In the last decade, cashew production saw a dramatic rise, almost doubling due to growth in Viet Nam and West Africa, where trees planted in the 1990s matured into full production. The annual supply of in-shell

cashews is now in excess of two million tonnes. New plantings and the renewal of old trees continue in India and Africa. This trend is likely to persist as demand expands.

Processing (shelling, peeling and grading) of the cashew nut, aimed at extracting the kernels, remains largely confined to three major countries: India, Viet Nam and Brazil. Although East Africa has been increasing its processing capacities again in recent years, 85% of the region's cashew nuts are still exported for processing to India or Viet Nam. In West Africa the figure is even higher, at over 90%. India and Viet Nam dominate cashew processing with 42% and 52% of production respectively.

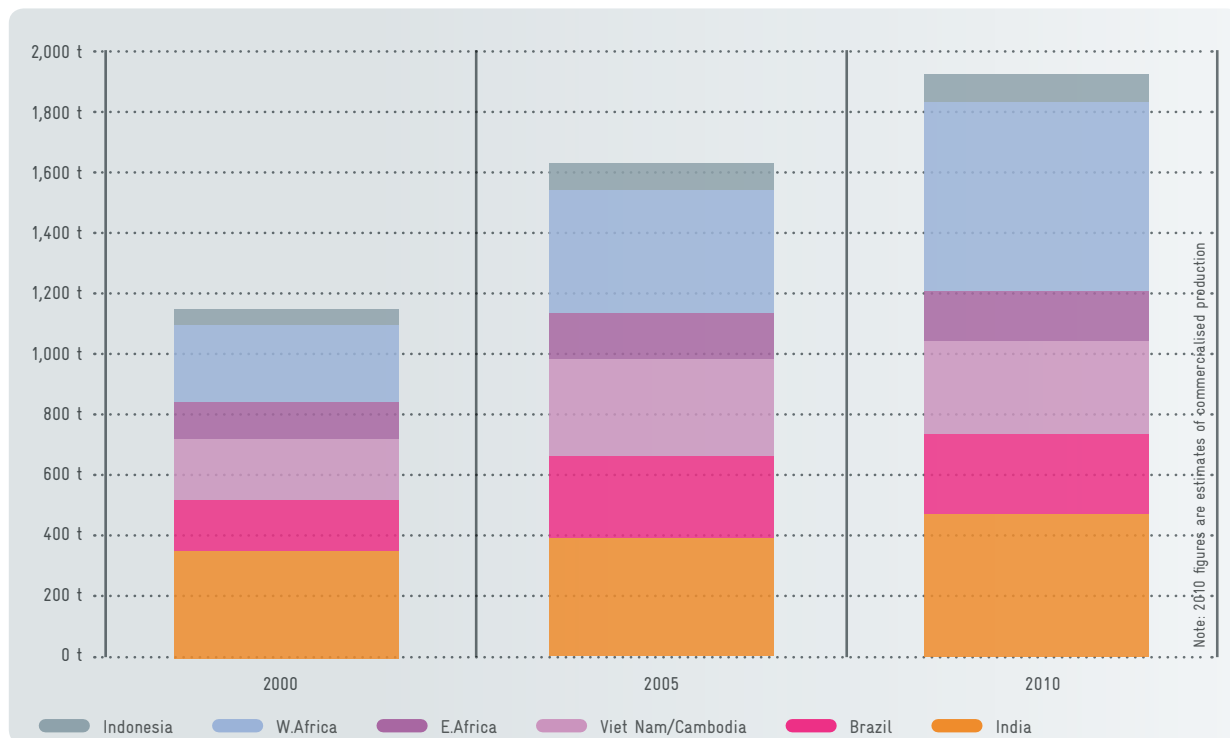


### 3.1 Trends in cashew production and processing

Between 2000 and 2005, **Viet Nam** became a force in the cashew market, both as a producer and a processor. Since 2007, it has been a large importer of in-shell cashews. In 2009, it was also the leading exporter of cashew kernels. Its own in-shell production, however, appears to have stabilised between 2008 and 2010. **India** records very similar trends. Its domestic production appears to have stabilised between 2006

and 2010, and in size it is a close second to Viet Nam as an exporter of cashew kernels. In **East Africa**, on the other hand, in-shell cashew production recovered slowly from 2000 to 2010. Its processing industry grew slowly but continuously from 2001 onwards. Finally, in 2002, rising production of in-shell cashew nuts was also recorded in **West Africa**.

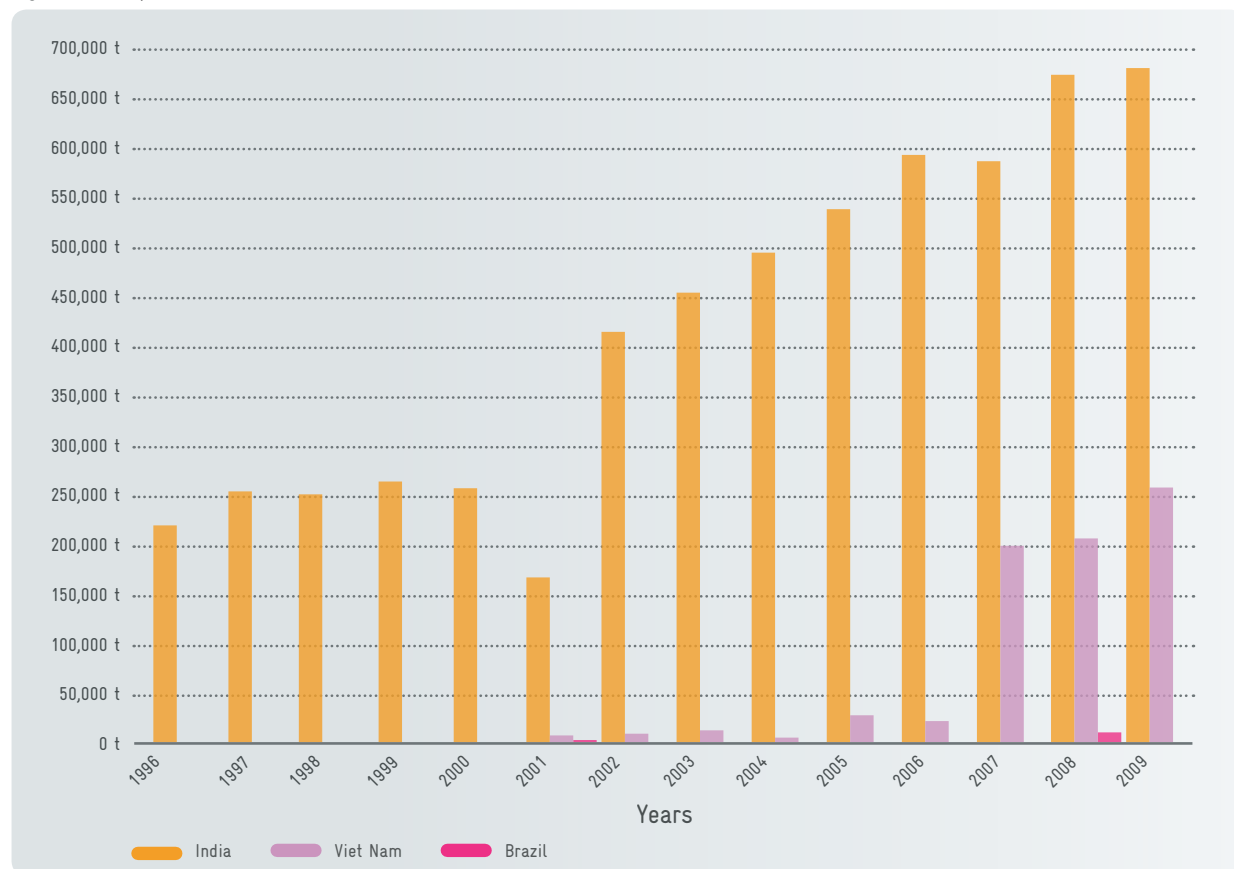
Figure 3.2: World in-shell cashew production in 2000, 2005, 2010



Source: trade sources

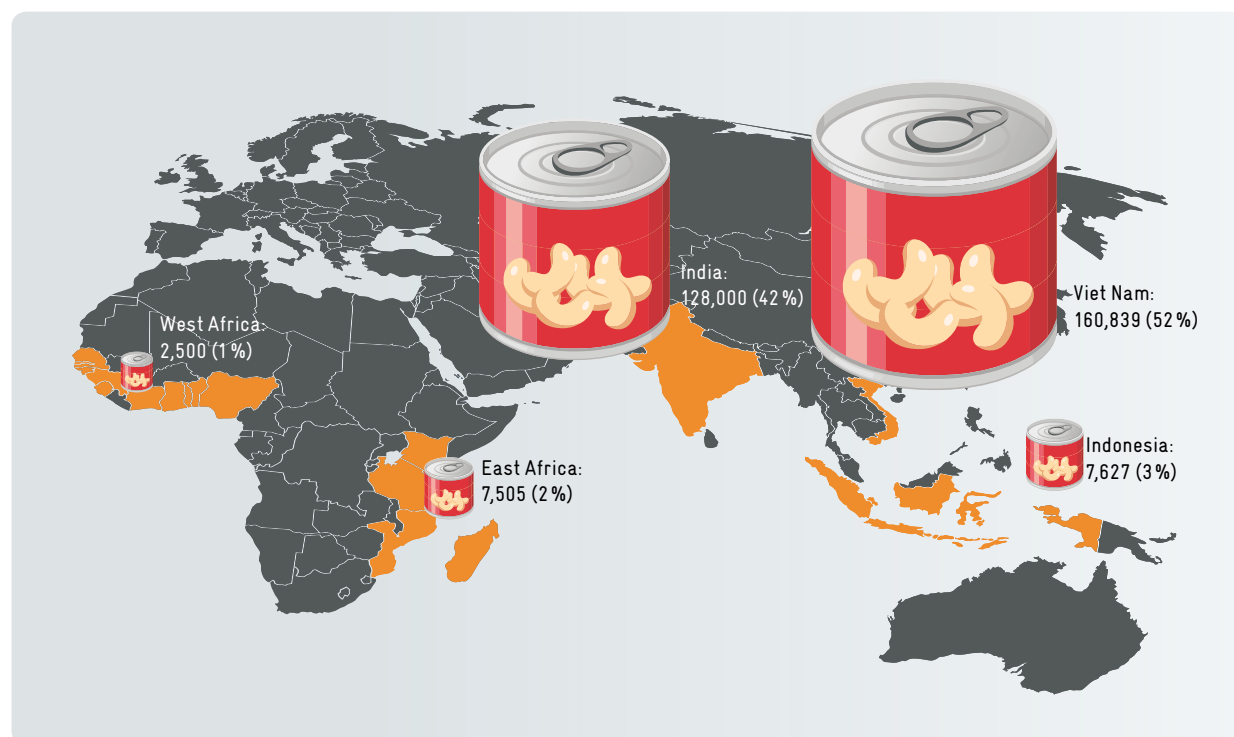


Figure 3.3: Imports of in-shell cashews 1996–2009



Source: UN Comtrade, Vinacas

Figure 3.4: Exports of cashew kernels by in-shell trading regions 2009/2010



Source: Cashew Bulletin

### 3.2 The in-shell cashew trade

The in-shell cashew trade is more than fifty years old. It began to grow in large volume terms in the 1980s when the East African cashew processing industry collapsed and Indian cashew processors and traders needed to buy in-shell cashews to meet their needs. During the 1990s, major plantings took place as governments and growers realised that the cashew tree was a low maintenance crop of high value. In West Africa,

this development led to a major growth in production; however, a significant processing industry did not evolve. In East Africa, in the early years of this century, a combination of entrepreneurial activity, technical support and government awareness revitalised the failed cashew processing industry. Today, over 40% of the world cashew production is traded in the form of in-shell cashews every year. This trade is dominated by companies based in Singapore, Hong Kong and some in the Middle East.

Table 3.1: In-shell cashew production and export August 2010 (estimates)

| Origin        | Tonnes produced | Share of Africa | Share of total | Tonnes exported | % exported |
|---------------|-----------------|-----------------|----------------|-----------------|------------|
| India         | 465,000         |                 | 22.38 %        | 0               | 0 %        |
| Ivory Coast   | 335,000         | 39.50 %         | 16.13 %        | 325,000         | 97 %       |
| Brazil        | 300,000         |                 | 14.44 %        | 0               | 0 %        |
| Viet Nam      | 300,000         |                 | 14.44 %        | 0               | 0 %        |
| Guinea Bissau | 135,000         | 15.92 %         | 6.50 %         | 125,000         | 93 %       |
| Tanzania      | 90,000          | 10.61 %         | 4.33 %         | 70,000          | 78 %       |
| Indonesia     | 90,000          |                 | 4.33 %         | 75,000          | 83 %       |
| Benin         | 85,000          | 10.02 %         | 4.09 %         | 80,000          | 94 %       |
| Nigeria       | 70,000          | 8.25 %          | 3.37 %         | 45,000          | 64 %       |
| Mozambique    | 65,000          | 7.67 %          | 3.13 %         | 40,000          | 62 %       |
| Cambodia      | 60,000          |                 | 2.89 %         | 60,000          | 100 %      |
| Senegal       | 20,000          | 2.36 %          | 0.96 %         | 20,000          | 100 %      |
| Burkina Faso  | 16,000          | 1.89 %          | 0.77 %         | 8,500           | 53 %       |
| Ghana         | 15,000          | 1.77 %          | 0.72 %         | 13,000          | 87 %       |
| Kenya         | 10,000          | 1.18 %          | 0.48 %         | 0               | 0 %        |
| The Gambia    | 7,000           | 0.83 %          | 0.34 %         | 7,000           | 100 %      |
| Sri Lanka     | 5,500           |                 | 0.26 %         | 0               | 0 %        |
| Philippines   | 5,000           |                 | 0.24 %         | 600             | 12 %       |
| Thailand      | 4,000           |                 | 0.19 %         | 0               | 0 %        |
| Totals Africa | 848,000         | 100 %           |                | 743,500         | 88 %       |
| Totals        | 2,077,500       |                 | 100 %          | 869,100         | 42 %       |

Source: INC, CEPCI, VINACAS



### 3.3 Global cashew processing

Although the tree is easy to grow, the removal of the hard outer shell is a difficult process. Nevertheless, shelling the nuts can be rewarding as it brings significant value addition. The economics of cashew processing depend to a large extent on the proportion of kernels extracted without being broken or damaged. Consequently, with the notable exception of Brazil, cashew processing has developed into a labour-intensive operation, requiring plentiful skilled, low-cost – usually female – labour. Generally, therefore, cashew processing operations have been characterised by low levels of investment and a minimal use of technology, in places where they can take advantage of low-cost labour. This is partly due to the character of the industry in the main shelling countries, but also due to the failure of inexpensive mechanised shelling and grading processes.

#### 3.3.1 Quality and size of cashew kernels

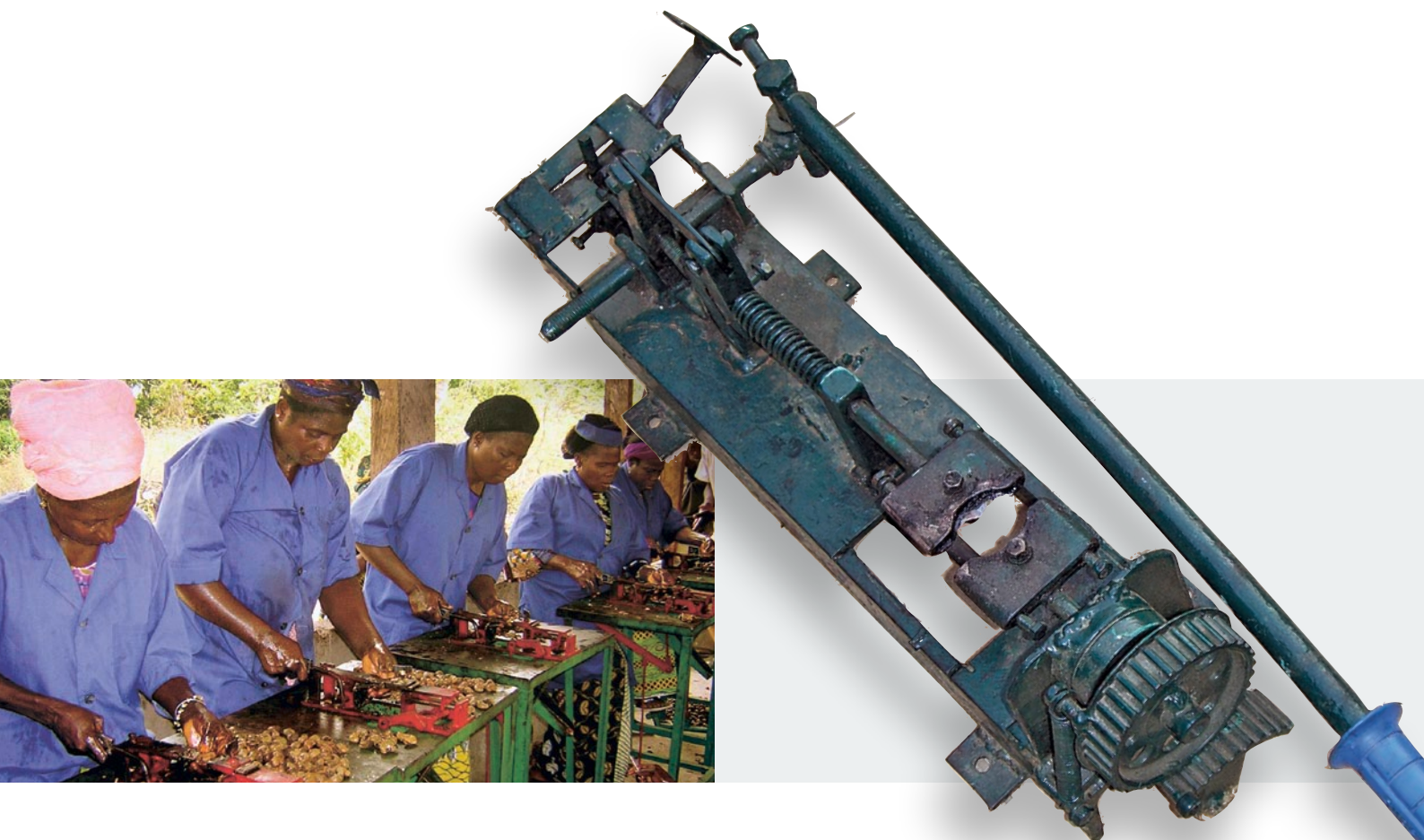
The quality of an in-shell nut is measured by the outturn (yield of kernels by weight of in-shell nut), by the size of the nut, and by the damage to the nut. In the international market, outturn is expressed as imperial pounds per 80 kilo bag – an unusual system which evolved due to the African-Indian nature of the trade. A high outturn would be expressed as 56 lbs per bag, meaning that 56 lbs of kernels could be produced from an 80 kg bag of in-shell nuts, which is about 32%. Whole cashew kernels are often divided into five different sizes and qualities: **whole whites (WW)** 450, 320, 240, 210 and 180.

WW180 are the biggest kernels. The most common sizes are WW320 and WW240. The WW320 is the benchmark grade; it produces the highest yield in processing and is the most suitable for use in snack foods. **Broken kernels** are divided into a larger range of grades, among which are **butts, splits, chips, large white pieces (LWP)** and **small white pieces (SWP)**.

#### 3.3.2 Drivers for change in processing

In recent years, a series of factors have caused processors to revise their methods and to reassess their attitude toward capital investment. On the one hand, **cost factors** have played an important role in this process. Southern India and Viet Nam now record high labour costs and a low availability of workers. Packaging, energy and shipping incur further costs. Moreover, in the first years of the decade, the prices for cashew kernels were low, with the prices for broken kernels lower than for whole kernels. Cheaper processing machinery also became available.

On the other hand, there are **customer driven factors** for change. The consumers operating in the cashew market have become fewer and larger. Along with the governments, they now call for security, safety and quality of supply, and they have special demands regarding labelling and packaging. Particularly in the EU, these demands relate to traceability legislation imposed upon the cashew processors. Finally, the processing sector is influenced by the expansion of international markets and the emergence of the Indian domestic cashew market.





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## 4 Global Cashew Consumption

### 4.3 Outlook for cashew demand

#### 4.1 The use of cashew nuts

It is estimated that 80% of the global supply of cashew kernels is consumed as snack food. This is not only because cashews are an excellent snack or because they command a high price; it is also due to the characteristics of the nut in terms of its taste and reaction with other ingredients. In India, South East Asia and Brazil, however, cashews are also commonly used as the main ingredient in sweets.

#### 4.2 Trends in cashew demand

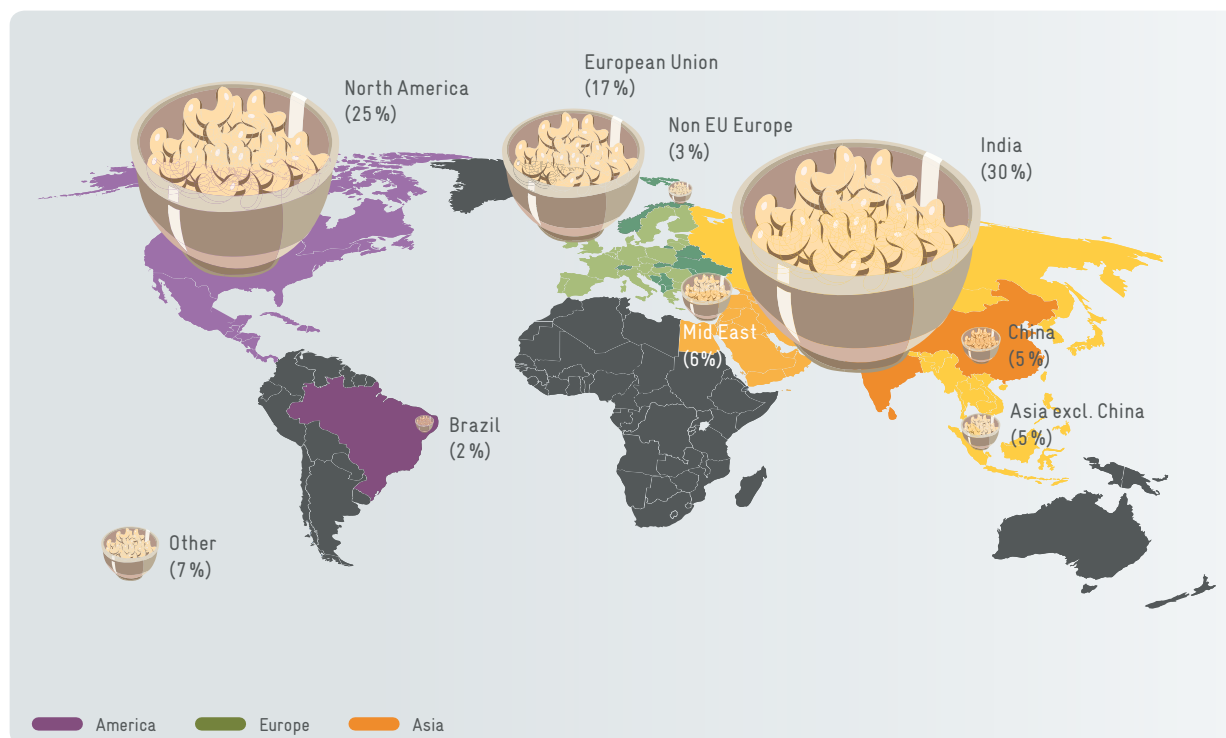
Over the past decade, the world demand for cashew kernels increased at a rate of approximately 7% per year. The expansion rate is slowing and becoming more price-sensitive in Western countries but continues to grow quickly in Asia and the Middle East. The Chinese demand, although low per capita, follows the latter trend, as does the demand in Eastern European countries, in particular Russia, and in the producing countries such as India and Brazil. The reaction of the market to the crisis in 2008 has shown that the general demand for cashews is resilient.

The sourcing of cashews will become more and more difficult in the next five years. At the same time, however, Indian demand is showing rapid growth, and in Western countries, demand is expected to rise in 2010. These patterns reflect the current trend of rising demand for snacks and informal meals. This trend, in turn, is part of a general growth in demand for food, and particularly for *healthy* food.

#### 4.4 Threats to cashew demand

Price volatility is a major factor in the cashew market, which makes planning difficult. It threatens demand as some suppliers, especially in India and Viet Nam, are unwilling to honour their contracts in times of volatility. A lack of food safety is another threat to cashew demand. Safe handling, preparation and storage of food plays a major role in consumers' buying decisions. However, many cashew processing plants around the world still do not comply with the required standards. On the other hand, however, some unreasonably stringent traceability or analysis standards set by the importing countries also impede demand. Finally, cashew nuts also compete with a wide range of other supposedly healthy snack foods including different nuts, extruded snacks and, increasingly, dried fruits.

Figure 4.1: World cashew demand by regional share 2009



Source: UN Comtrade, Cashew Bulletin

## 4.5 Prices and price volatility in the cashew market

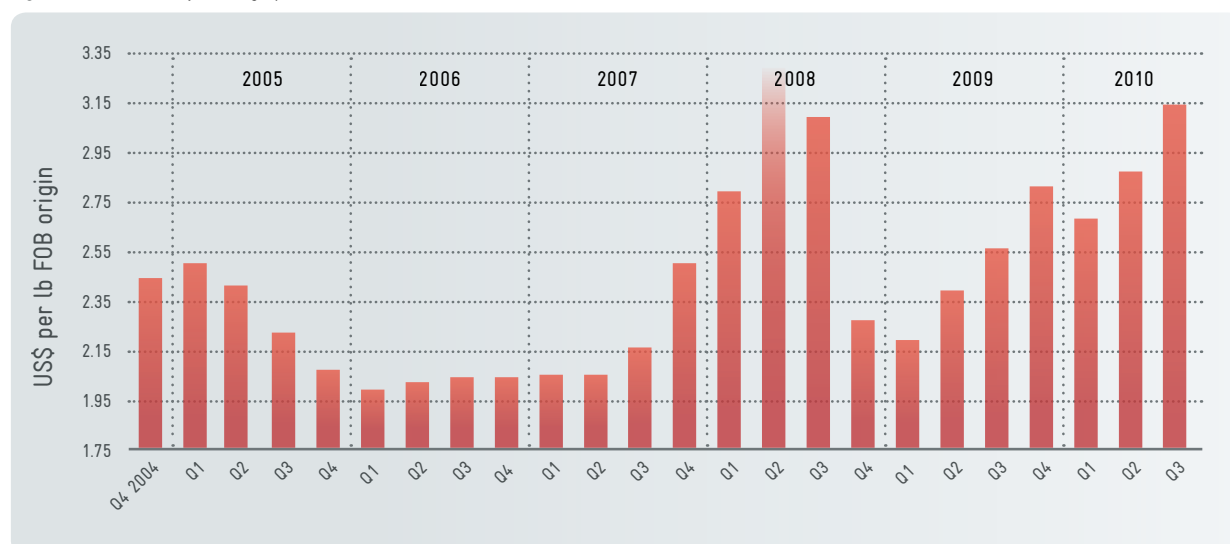
The prices for African cashews are determined by external factors. This is because the crops in India and Viet Nam, which in a normal year comprise 50% of the global crop, are harvested just earlier than the crops in West Africa. Therefore, how the buyers open negotiations in West Africa depends on the crop in India and Viet Nam. Following a poor crop in Asia, prices are likely to be high and demand will be strong as processors compete for product. The opposite might also occur.

For the past 25 years, the markets seemed capable of absorbing massive increases in production in a relatively short period of time. The huge increases in production in West Africa and Viet Nam, which came to the market between 2001 and 2004, caused prices to fall, but by 2005 demand had begun

to expand rapidly again. In 2008, prices reached an all-time high due to a perceived shortage following a poor Brazilian crop and reductions in the crop in Viet Nam. Today, with production as high as it has ever been, prices are still close to that all-time high. However, experience has shown that prices can sink to base levels just as quickly as they have risen. This price volatility has been a feature of the market for many years but has become more pronounced in recent years. The tight balance of supply and demand has led to volatility and will continue to do so. Volatility has an impact on demand, and on the growth of demand. This implies that volatile prices today cause problems in the future.

The following three figures and tables illustrate the issue of price volatility as well as the corresponding price developments in the cashew market, from different perspectives.

Figure 4.2: Quarterly average price for WW320



Source: ISS database

Table 4.1: Historical average prices (US\$) of cashew kernel grades

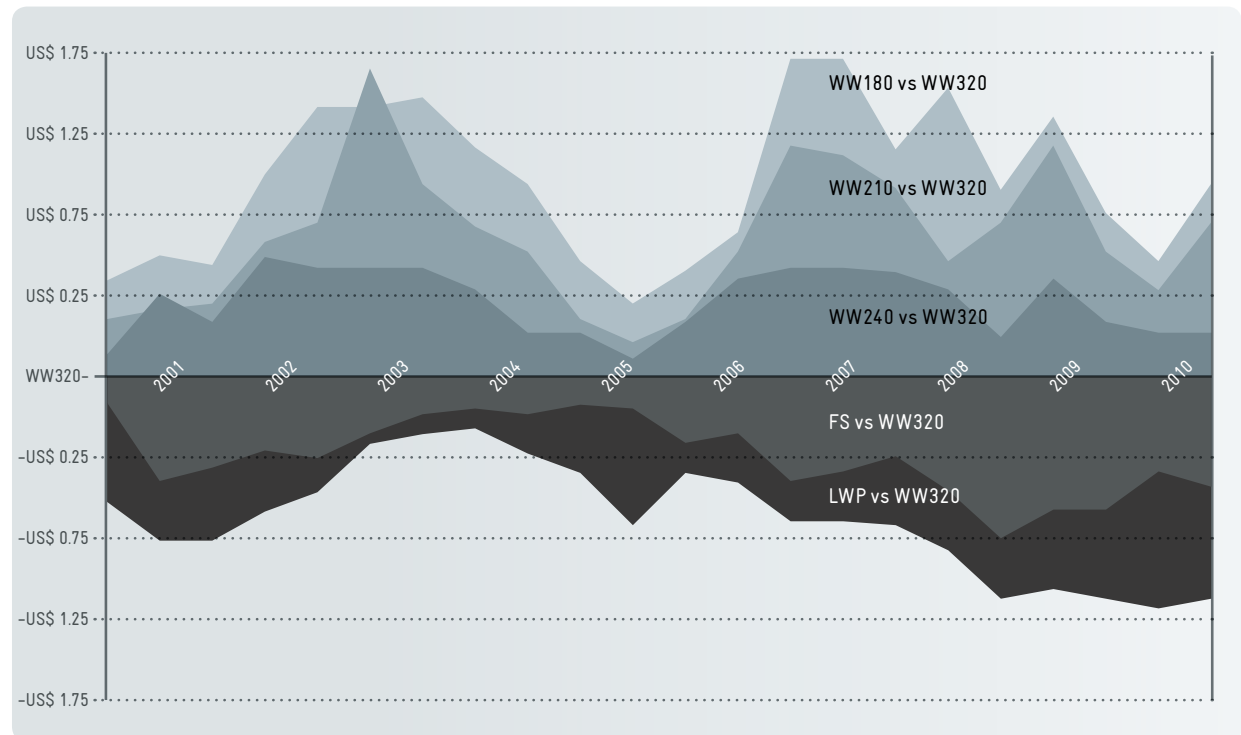
| Period         | Grade |       |       |       |       |      |      |      |
|----------------|-------|-------|-------|-------|-------|------|------|------|
|                | WW180 | WW210 | WW240 | WW320 | WW450 | FS   | FB   | LWP  |
| 10 yr average  | 3.47  | 3.18  | 2.71  | 2.35  | 2.15  | 1.86 | 1.83 | 1.51 |
| 10 yr high     | 4.80  | 4.50  | 3.78  | 3.60  | 3.35  | 2.70 | 2.70 | 1.04 |
| 10 yr low      | 2.68  | 2.45  | 2.05  | 1.70  | 1.40  | 1.37 | 1.35 | 2.35 |
| 5 year average | 3.62  | 3.35  | 2.84  | 2.47  | 2.27  | 1.91 | 1.89 | 1.54 |
| 5 year high    | 4.80  | 4.50  | 3.78  | 3.60  | 3.35  | 2.70 | 2.70 | 2.35 |
| 5 year low     | 2.80  | 2.55  | 2.45  | 1.95  | 1.70  | 1.40 | 1.50 | 1.20 |
| 2 year average | 3.52  | 3.30  | 2.91  | 2.64  | 2.42  | 2.02 | 2.01 | 1.50 |
| 2 year high    | 4.17  | 4.00  | 3.40  | 3.25  | 3.08  | 2.62 | 2.62 | 2.05 |
| 2 year low     | 3.00  | 2.80  | 2.55  | 2.15  | 1.97  | 1.50 | 1.50 | 1.20 |
| +/- high       | -5%   | -4%   | -4%   | 0%    | -3%   | 0%   | 0%   | -2%  |
| +/- low        | 32%   | 38%   | 29%   | 51%   | 52%   | 75%  | 75%  | 67%  |
| Aug 10 (US\$)  | 3.95  | 3.85  | 3.28  | 3.25  | 3.00  | 2.62 | 2.62 | 2.00 |

Source: Cashew Bulletin

Table 3.1 compares average price changes of a range of cashew grades over the last 10 years. It shows that, overall, price levels are rising. Today's prices are at or within 5% of the two-year highs but are still some way off the highs of 2008; in other words, the market could rise further. The large cashew nuts WW180 and WW210 seem to be gradually increasing in value relative to WW320. Mid-range brokenes have increased in price at a lower rate than WW320, whereas *large white pieces* (LWP) have not increased as quickly or by as much as the other grades.

Figure 3.3 compares five different grades to WW320 on a FOB lowest price origin over ten years. The differently-coloured, shaded areas represent the premium or discount of each grade as compared to the benchmark WW320. The chart shows that both LWPs and FSs have fallen in relative price compared to WW320 in the international market. Furthermore, large cashew kernels (WW180, WW210) seem to have lost some of their premium in recent years, whereas WW240 have been relatively stable.

Figure 4.3: Price differentials – grades compared to WW320



Source: Cashew Bulletin











## 5 Competitiveness of the Cashew Value Chain & Evaluation of Competitiveness Factors for the African Cashew-producing Countries

**What factors determine the international competitiveness of cashew nuts?** In 2010, almost 90% of the cashew nuts grown in Africa were transported thousands of miles to be shelled, peeled and graded, at a cost of millions of dollars and generating hundreds of thousands of tonnes of carbon emissions. This hardly seems efficient. Nevertheless, cashew prices for the processors and growers are near their all time highs, and consumption continues to expand. How is it that a country such as Ivory Coast has emerged as one of the world's top three producers of in-shell cashew nuts, but has virtually no share of the kernels market? Would it be better, as some have argued, for such countries to concentrate on horizontal development, by growing and exporting ever greater quantities of in-shell nuts?

The cashew sector is dominated by a global commodity chain. It involves a network, or group of networks, that connects the growers, labour, service providers, traders, processors, packers, importers, roasters, bakers and consumers – all the stakeholders in the process of producing the finished cashew nuts or the related product range. Against this backdrop, competitiveness in a sector has been defined as *'the ability of an industry to maintain market share, and to compete with foreign counterparts in foreign and domestic markets under free trade conditions'* (Kim & Marion, 1997).

The international cashew value chain however is not functionally integrated, but is essentially a series of related chains. It is important to consider these constituent networks or chains individually, as structures sometimes evolve where the link between each component seems tenuous. When one divides the overall cashew chain into its constituent chains, each one can be seen to perform a different series of processes.

The global cashew chain will be considered as four networks grouped into two chains:

### **The in-shell, or raw cashew nut (RCN) chain:**

1. Growing and supply of in-shell cashew nuts within producing countries
2. The international trade of in-shell cashew nuts.

### **The kernels chain:**

1. The processing and delivery of cashew nut kernels
2. The consumer markets (procurement, import, packing/roasting and consumption).

For each chain, the first task is to identify the factors which influence competitiveness. Once identified, these factors will then be ranked in order of importance and used to create tables showing the relative competitiveness of the African cashew-producing countries. The range of factors will be set out below, including an explanation for the ranking used. It is difficult to rank them in any absolute sense as the markets are dynamic and their relative importance will depend on the market conditions.

When dealing with a subject that is so poorly documented and so highly mythologised, it is important to take into account opinions and reports from within the trade. The ranking of the factors that influence competitiveness, which are mentioned and evaluated in the following chapters, are open to debate and will differ from country to country. However, it seems clear that although the factors influencing the two chains are broadly similar, their relative importance differs from one to the other.

### **5.1 The in-shell cashew commodity chain**

At the beginning of each harvest season, international traders send their staff to the producer countries with the means to advance funds to the local agents. They, in turn, approach the growers through a chain of intermediaries. The traders have the financing, expertise, market access and knowledge that allows them to manage the sourcing, consolidation and sale of the goods. However, under their influence the in-shell chain tends to be less organised; it encourages price inconsistencies and volatility and, therefore, also speculation.

#### **Factors that determine the international competitiveness of the in-shell commodity chain:**

- ▶ Growing cashews: the right product in the right place
- ▶ Product quality and condition
- ▶ Seasonality: timing of the crop and timing of the sale
- ▶ Efficiency of supply chain, logistics and costs
- ▶ Finance
- ▶ Risk and perception of risk
- ▶ Market access and market linkage
- ▶ Government support and intervention
- ▶ Ease of doing business.

If a crop is grown in an area to which it is not suited, it will not remain competitive in the long run. Growers may incur additional costs due to the need for disease control or pest control, or because the yields from the trees is poor. They may not be able to afford the necessary inputs and, in time, yields will fall, quality will suffer and incomes will drop. It might be possible to address problems like poor yields and tree diseases by using certain inputs, such as farmer training, disease treatments and pesticides, but these are only meaningful if the inputs are affordable and still allow a profit.

If the cashews are to be grown in an appropriate place, the next aspect is entry both in terms of viability and cost. Is it in fact possible for the grower to access inputs (seed, seedlings, expert advice) and thus begin growing, or improve or replace cashew trees?

Finally, another important aspect is the land tenure system in a country or region. If growers have a sound title to the land, which encourages them to work and improve their land and trees, they are more likely to do so in the long run.

To compare the different countries in terms of this factor, the study assesses the productive aspects of growing the crop: the yields per hectare, quality problems, threats from diseases, and proximity to the processing facilities or to points of export for in-shell cashew. First the growing success is measured, which is expressed quite simply as the yield per hectare. This yield is taken as a basic figure, which is then adjusted, using a points system reflecting other factors, including the age of the trees, the importance to the economy, and the location vis-à-vis processing plants or export points.

*Table 5.1* shows the yield per hectare, which is also the primary factor in determining the growers' income from cashew nuts, and adds information about the age and condition of the trees. The importance of the cashew crop to the economy has a positive implication. Ranging from 1 to 10, a score of 1 means the crop is of national importance, 5 means it has regional importance, and 10 means the crop is of relatively limited importance to the country in question.

Further elements in assessing the competitiveness of cashew production are the quality and condition of the product. The first and most basic requirement of product quality is for that product to be fit for the purpose intended. This means having raw cashew nuts that are suitable for processing: the nuts have fallen naturally from the tree, they are properly dried and mature, and the yield is sufficient to make processing the product feasible and profitable.

Two major factors determine the quality and therefore also the value and marketability of in-shell cashews:

**Shelling yield:** the weight of kernels per unit of in-shell nuts. This is assessed using a cutting test in which a sample of nuts are cut cross section and the kernels weighed. It is important to note that the result of a cutting test is only a crude measure as it includes the weight of the testa and does not allow for shelling waste. As a guide, one pound of shelling yield per 80 kg bag is worth about US\$ 25 per tonne added to the price to the processor.

**Count:** the size of the nuts, expressed as the number of nuts per kg. This ranges from 150 to 230 nuts per kg. Every increase of 10 nuts per kg equates to US\$ 10 per tonne on the value. There is no international standard for in-shell cashew nuts.

*Table 5.2* ranks the main African producing countries in terms of yield, count and post-harvest handling. It shows the relative qualities of the different origins in terms of in-shell nuts, and gives an indication as to the quality of the kernels that will be produced. It also gives an indication of the ease and cost of shelling.

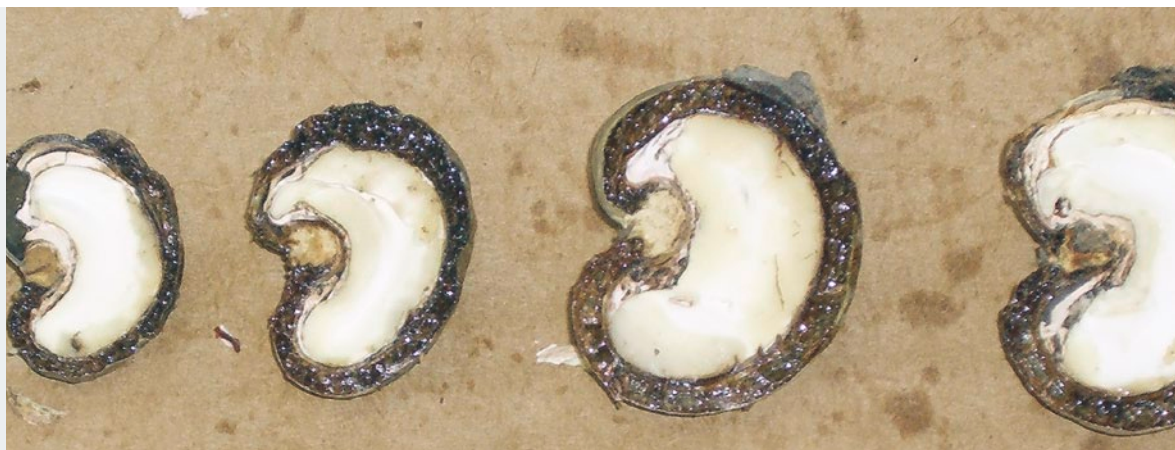


Table 5.1: African cashew-producing countries ranked by yield per hectare

| Origin        | Yield per hectare (kg) | Pests, diseases            | Tree age | No of growers   | Importance to the economy* |
|---------------|------------------------|----------------------------|----------|-----------------|----------------------------|
| Guinea Bissau | 550                    | –                          | 10       | 1,000,000       | 1                          |
| The Gambia    | 500                    | Insects                    | < 8      | 10,000          | 10                         |
| Benin         | 300–500                | Insects                    | < 10     | 120,000–180,000 | 3                          |
| Ghana         | 400                    | Anthraxnose, insects       | < 8      | 35,000          | 10                         |
| Burkina Faso  | 400                    | Insects, drought           | < 15     | 25,000          | 5                          |
| Tanzania      | 250–450                | Powdery mildew, helopeltis | > 15     | 250,000         | 5                          |
| Senegal       | 350                    | Insects                    | > 13     | 50,000–60,000   | 8                          |
| Ivory Coast   | 250–600                | Insects, fire              | < 10     | 300,000         | 5                          |
| Kenya         | 300                    | Powdery mildew, insects    | > 15     | 60,000          | 10                         |
| Mozambique    | 200                    | Powdery mildew, insects    | > 30     | 100,000         | 5                          |

Source: compiled by the author

\* 1 = high / 10 = low

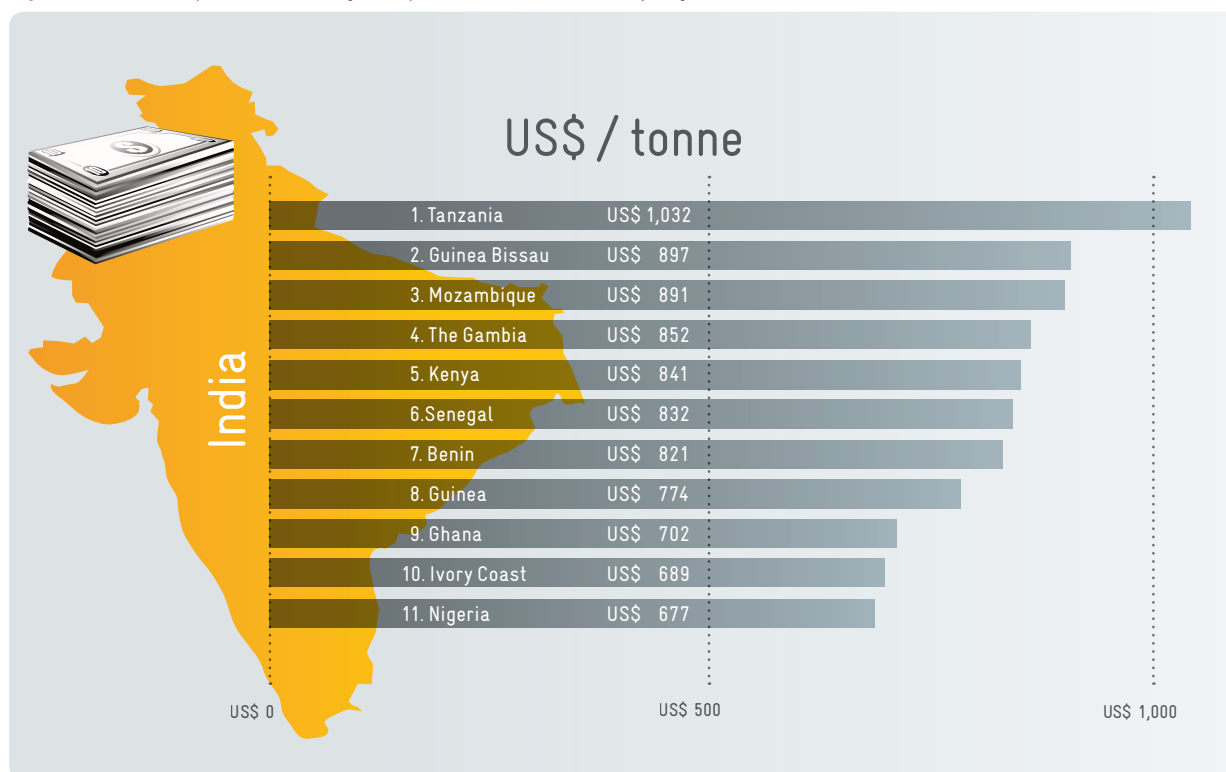
Table 5.2: Quality and condition of in-shell cashews ranked by kernel yield

| Origin        | Kernel yield lbs per bag / % | Count nuts per kg | Post harvest handling                             |
|---------------|------------------------------|-------------------|---------------------------------------------------|
| Guinea Bissau | 54 / 31 %                    | 215               | Poor drying, sometimes nuts picked                |
| Senegal       | 53–54 / 30 %                 | 220–230           | Poor drying, use of polypropylene bags            |
| Tanzania      | 51–53 / 29–30 %              | 200               | Product is properly dried and stored              |
| The Gambia    | 51–52 / 29 %                 | 195–210           | Poor drying                                       |
| Kenya         | 48–50 / 27–28.5 %            | 190–200           | Poor handling, poor storage                       |
| Benin         | 48 / 27 %                    | 195               | Mixing of crops and origins especially            |
| Ivory Coast   | 48 / 27 %                    | 205               | Poor drying, oil staining, immature kernels       |
| Ghana         | 46 / 26 %                    | 190               | Oil staining, misshapen, shriveled, moldy kernels |
| Mozambique    | 42–48 / 24–27 %              | 205               | Poor handling, drying and bags                    |
| Nigeria       | 40–45 / 25.5 %               | 200               | Many damaged and lost, poorly stored kernels      |
| Burkina Faso  | 44–45 / 25.5 %               | 210               | Oil staining, poor storage, shriveled kernels     |

Source: compiled by the author



Figure 5.1: Indian imports 2009: average CFR price of in-shell cashews by origin



Source: UN Comtrade

Figure 5.1 shows that the quality of the in-shell cashew nuts has an effect on the price paid by importing countries: in 2009, the countries which provided better quality earned higher prices on a *CFR* basis in India.

### 5.1.3 Seasonality: timing of crop and sale

The world cashew crop can be split into two geographical classifications – the northern crop and the southern crop. The northern cashew harvest starts in Viet Nam in February and continues westward until it finishes in Guinea Bissau and Senegal in July. It accounts for 70–75% of global production. The southern crop starts in Brazil and Indonesia in September, and is followed by Tanzania and Mozambique where it

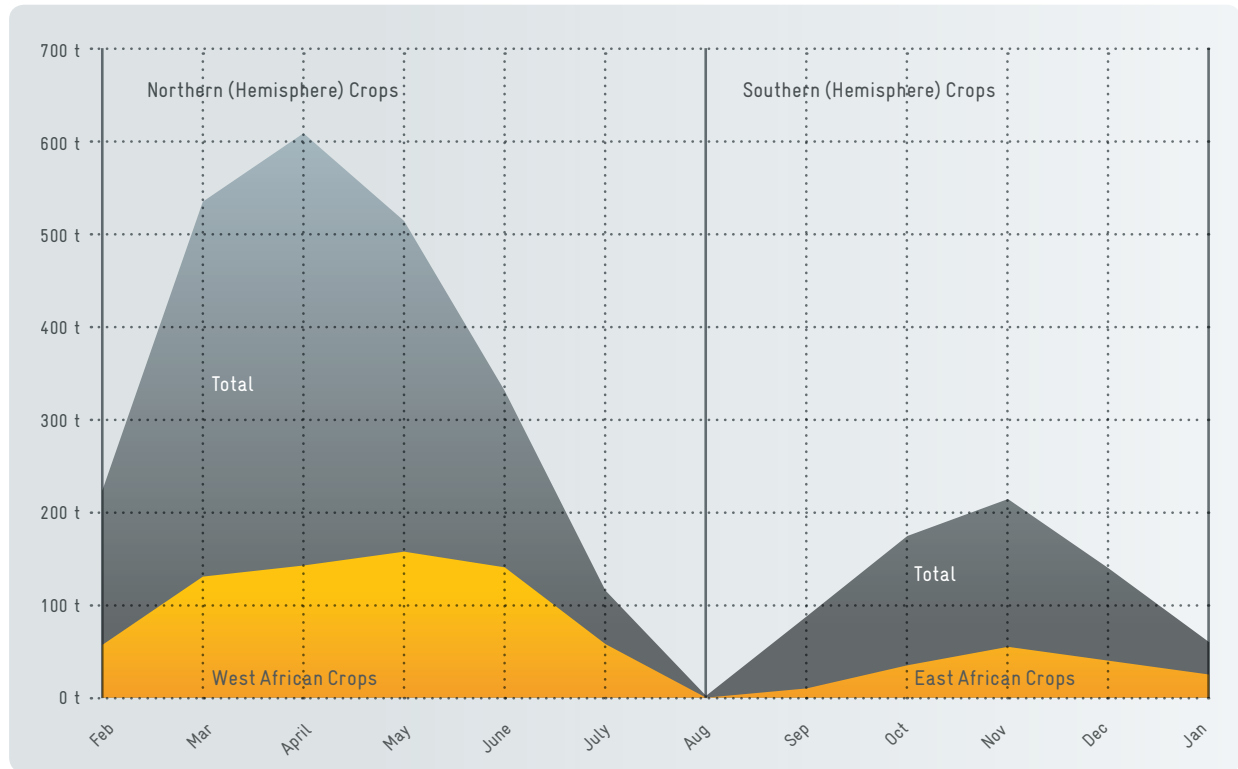
ends in February. In the in-shell cashew chain, exporting countries, such as Indonesia and Tanzania, are at an advantage, as their crop is available for sale at a time when the northern crops have usually been exhausted and the demand for kernels is peaking. At the other end of the cashew year, countries like Guinea Bissau and Senegal may have an advantage as the price tends to escalate in the course of the season.

Figure 5.2 shows the tonnage harvested each month in an average year, in total and in the African countries. It can be seen that the East African countries, which harvest toward the end of the year, have an advantage in that they do not have to compete with the large volumes that arrive during the first two quarters of the year.





Figure 5.2: Seasonality of annual cashew harvests (estimates)



Source: developed by the author

Table 5.3 ranks the African cashew countries according to the volume of harvest worldwide during their own harvest season.

other end of the spectrum, harvests its crop at the highest points of arrival for the year.

Thus East Africa has a distinct advantage as far fewer cashews are harvested worldwide during its season. Ivory Coast, at the

The figures are based on a normal crop harvested at normal times and spread over a period of months.

Table 5.3: African cashew-producing countries ranked by worldwide harvest volume during their harvest season

| Country       | Harvest worldwide (estimates, '000 tonnes) | Domestic harvest (2010, '000 tonnes) | % of worldwide harvest |
|---------------|--------------------------------------------|--------------------------------------|------------------------|
| Kenya         | 300                                        | 10                                   | 3%                     |
| Mozambique    | 435                                        | 65                                   | 15%                    |
| Tanzania      | 513                                        | 90                                   | 18%                    |
| Nigeria       | 573                                        | 70                                   | 12%                    |
| Guinea Bissau | 607                                        | 135                                  | 22%                    |
| Senegal       | 607                                        | 20                                   | 3%                     |
| The Gambia    | 607                                        | 7                                    | 1%                     |
| Burkina Faso  | 826                                        | 16                                   | 2%                     |
| Benin         | 1,041                                      | 85                                   | 8%                     |
| Ghana         | 1,399                                      | 15                                   | 1%                     |
| Ivory Coast   | 1,423                                      | 335                                  | 24%                    |

Source: compiled by the author

### 5.1.4 Efficiency of supply chain, logistics and costs

The cashew commodity chain consists of a network of intermediaries who all play a part in bringing the product from the grower to the point of export, and then to the final destination for processing. The percentage of a product's *FOB* export price is often compared to the farm-gate price in order to measure the efficiency of the chain. However, with cashews the farm-gate figures should sometimes be compared to the *CFR* destination price, adjusted for the cost of freight. This is because the true value of the commodity is often not reflected in the declared *FOB* values. Similarly, if the cost of moving the product, storing it, loading it and preparing the necessary documentation is high, it will be less competitive.

Competition to buy cashew nuts within the in-shell market was limited for many years to one importing country, India. In recent years, Viet Nam has become a significant buyer, with imports growing to 250,000 tonnes in 2009. The presence of more than one buying destination strengthens the in-shell export market of any given country.

The cost of doing business and the efficiency of the supply chain will affect the competitiveness of any given sub-network in the chain by increasing or reducing its ability to retain market share.

#### Efficiency of supply chain, logistics and costs in Africa.

It is very difficult to rate the African cashew-producing countries in terms of their supply chain costs. In almost all of them, there are major problems related to infrastructure, the cost of doing business and the number of intermediaries. Thus, in almost all the countries the supply chain is long and costly.

From reading the wide range of studies on the supply chains, there is little indication that any profiteering takes place at the higher levels. The range of small traders exists not because of the attractiveness of the margins that they make but because of the difficult infrastructure and the lack of local financial services.

The export trade is characterised by high levels of risk; speculation, unreliable partners, unenforceable contracts, and inconsistent quality standards are all commonplace. The market suffers from a distinct lack of transparency. Defaults of contract are common. In this environment, profit margins can be high, although this often results more from simple price volatility. This study included a comparison of the *FOB* price at origin with the *CFR* price recorded at destination, in order to assess the efficiency of the chain from the point of export. The results are shown in *Table 5.4*. The comparison is not intended to be an accurate calculation of margins. However, it is a good indicator.

Even though *Table 5.4* is gross margin and fairly crude, the price levels it shows indicate that the transformation from *FOB* to *CFR* gives a very high gross margin. Given that the voyage time may be six weeks, there is plenty of time for prices to rise.

Although the margin seems reasonable earlier in the chain, from grower to *FOB*, the high margins sometimes taken by traders and processors who source directly may make the chain less efficient than it should be. However, this differs from year to year and in the course of the season, which suggests an element of speculation exists.

*Table 5.5* attempts to summarise the range of challenges facing the various African exporting countries, categorised into four main areas.

Table 5.4: In-shell cashew FOB export values vs. Indian CFR import values, latest available year by country

| US\$ per tonne    | FOB export price | CFR India | Less estimated freight | Net FOB vs. CFR difference | Net diff % of FOB |
|-------------------|------------------|-----------|------------------------|----------------------------|-------------------|
| G. Bissau, 2005   | 658              | 854       | 95                     | 101                        | 15 %              |
| Ghana, 2006       | 338              | 658       | 52                     | 268                        | 80 %              |
| Benin, 2006       | 448              | 727       | 52                     | 227                        | 51 %              |
| Ivory Coast, 2009 | 495              | 689       | 52                     | 142                        | 29 %              |
| Tanzania, 2009    | 551              | 831       | 60                     | 220                        | 40 %              |

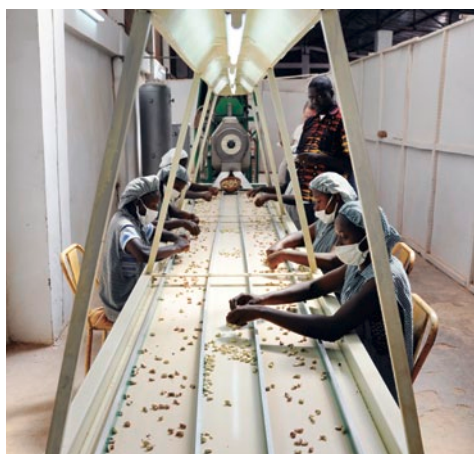
Source: UN Comtrade

**FOB export price** = the price declared to customs on export  
**CFR Price India** = the price declared to Indian customs on the invoice  
**Freight** = ocean freight/FCL per tonne  
**Net diff** = the difference between the *FOB* price and the *CFR* price less the freight cost, which is an estimate of the global gross margin on the trade

Table 5.5: Comparison of cost and logistic factors in the in-shell chain

| Origin        | Country storage                                                                     | Trucking                                                          | Port                                                                                                                                      | Freight costs                                                            |
|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Benin         | Poor in quality and volume                                                          | Movement is difficult and expensive, US\$ 35–45 per tonne to port | Good facilities at Cotonou including storage, country to port FOB US\$55 estimated                                                        | US\$850–900 per container to Cochin                                      |
| Burkina Faso  | no data                                                                             | High cost by virtue of location                                   | Export by truck                                                                                                                           | Freight via Ghana or Ivory Coast                                         |
| Ghana         | no data                                                                             | no data                                                           | Good facilities at competitive prices                                                                                                     | US\$850–900 per container to Cochin                                      |
| Guinea Bissau | Country storage of sufficient quality not available                                 | US\$35 per tonne ex exterior to port                              | Charges US\$40 higher than Banjul, country to port FOB US\$ 150 per tonne estimated                                                       | US\$ 1,950 per container to Cochin, US\$62 per tonne higher than Abidjan |
| Ivory Coast   | Poor quality with cashew nuts becoming damaged and not properly dried               | Korhogo–Abidjan US\$ 112 per tonne depending on roadblocks        | Estimated costs: US\$58 per tonne at the port including certificates excluding profit margins, very high costs both for trucking and port | US\$850–900 per container                                                |
| Kenya         | All post harvest services are poor including storage, port facilities are adequate. | Product located close to the shelling plants or points of export  | Export of in-shell is banned                                                                                                              | No export season                                                         |
| Mozambique    | Poor quality                                                                        | US\$30 per tonne estimated                                        | Export costs US\$40 per tonne                                                                                                             | US\$ 1,100 per container                                                 |
| Senegal       | Low quality storage in Casamance                                                    | no data                                                           | Goods primarily exported via Banjul in The Gambia port is efficient and costs are cheaper than Dakar by as much as US\$60 per tonne       | no data                                                                  |
| Tanzania      | Storage via the warehouse warrant system                                            | Trucking reported to be expensive                                 | Facilities at Mtwara and Dar es Salaam can cope with cashews, country to port FOB US\$79 estimated                                        | Mtwara US\$1,100 per container, Dar es Salaam US\$ 1250 per container    |
| The Gambia    | Poor quality                                                                        | Short journeys, competitive costs                                 | Banjul is a competitive port attracting cashew traffic from Senegal                                                                       | US\$ 1,200 per container                                                 |

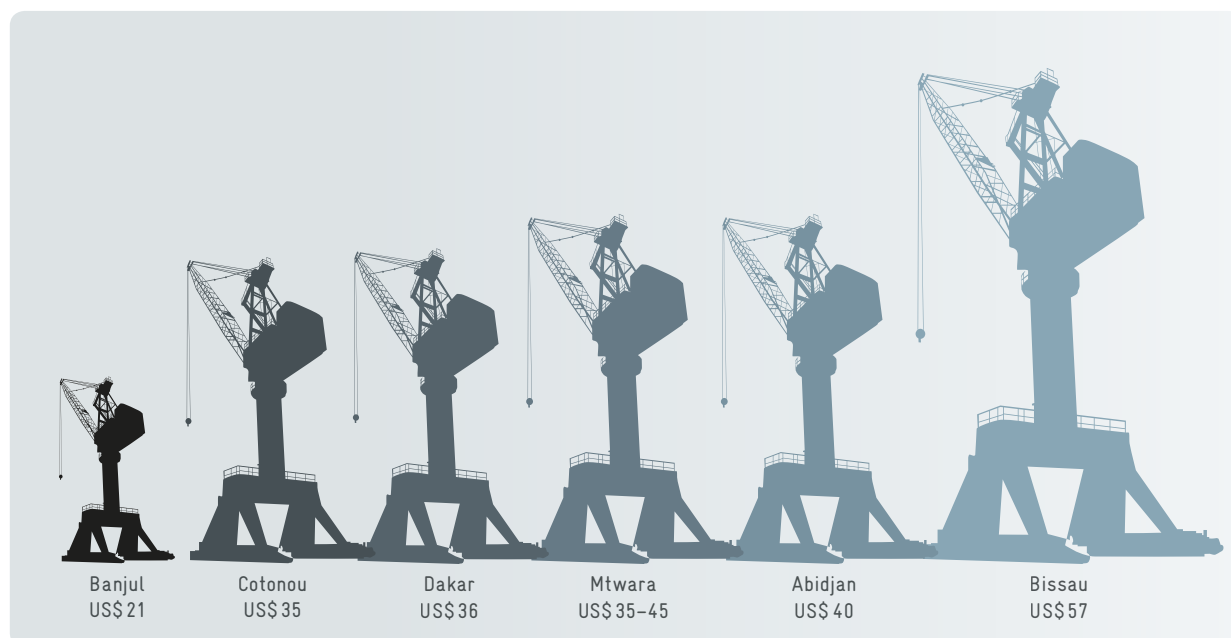
Source: compiled by the author



**Post-harvest storage and services.** It is impossible to rank the African exporting countries in terms of their post-harvest facilities for growers because every country, with the exception of Tanzania, has poor facilities for post-harvest handling. Various factors seem to discourage proper drying, including the lack of facilities and the fact that proper drying is not reflected in the price paid. The importance of drying cashews properly has already been addressed. The nuts should be dried on hard ground (concrete or slate) and regularly turned. No more than 20 kg of cashews should be dried per square metre, to ensure uniform drying. After drying it is important that the nuts are stored in jute bags to allow them to breathe. The loss of moisture should be compensated by better quality and therefore a better price. According to a recent paper delivered by the ambassador of Ivory Coast to India on behalf of *CEPCI*, it is calculated that the value of the nuts rises by 1.3% for every 1% of moisture lost.

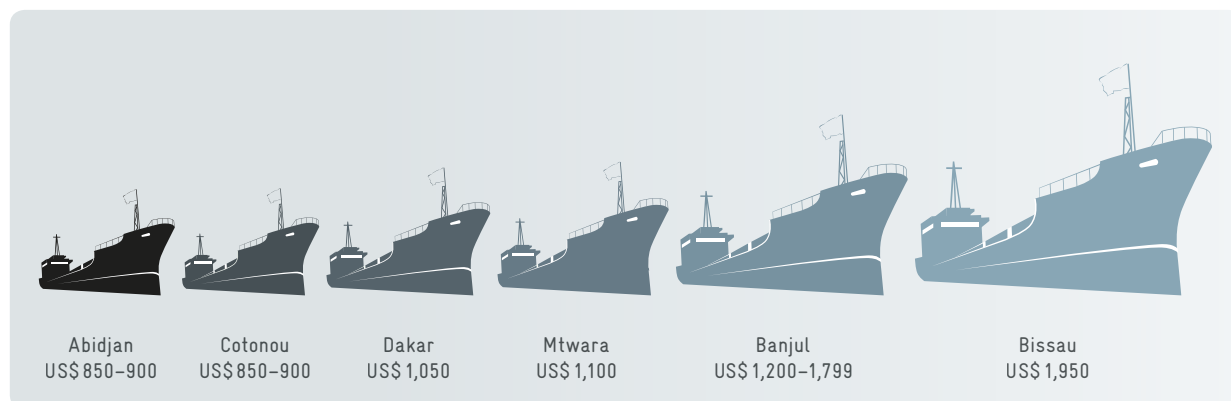
**Trucking.** As can be seen from *Table 5.5 on page 31*, the cost of trucking varies widely from country to country. The cost of trucking in Ivory Coast is very high as a result of the location of the cashew trees and the many road blocks – both government and informal – which cause additional expenses along the way. The costs here can range from a relatively efficient US\$ 30 per tonne to as much as US\$ 112 per tonne. It seems likely, in fact, that the growers pay for these high costs by way of a lower price. A container-load of nuts from Africa can clear customs and be delivered to Kollam in South India at a cost of around US\$ 43 per tonne, yet the price of bringing the cashews to the port of shipment at the beginning of the journey, as well as loading them, ranges from US\$ 55–150 per tonne.

Figure 5.3: African port costs per tonne (loading and export)



Sources: Trade sources

Figure 5.4: African ocean freight costs per 20ft dry container, in-shell cashews season 2010 to Cochin, India



Sources: CMA CGM, Maersk



**Ocean freight.** East African countries are at a disadvantage due to the cost of freight. East African freight rates to India are US\$ 50–250 per container higher than the West African rates, despite the shorter voyage time. West African countries served by ports from Cotonou to Abidjan enjoy the most advantageous rates for exporting in-shell cashews. This is due to lower port charges, better port facilities and, of course, the volumes being shipped. Further west, at US\$ 1,950 in Guinea Bissau, shipping a container costs more than twice as much at the end of the 2010 shipping season. This disadvantage is compounded by very expensive port handling charges and taxation.

#### 5.1.5 Finance

Access to, and the cost of finance for growers, traders and intermediaries is an essential aspect of competitiveness in the international cashew market. The in-shell cashew chain operates with just limited access to finance. Access is essentially limited to the international traders and one or two export

traders in each country. Reasons for this include the poor scope of financial services, prohibitive costs, the weakness of the domestic supply chain, the inability of companies to comply with bank requirements, and the simple exclusion from the financial system of many growers.

Foreign exchange is another important aspect of the finance issue. Growers are paid in their local currencies, but the international trade is conducted in US dollars. Currency movements have an impact on margins, and on the prices paid for the cashew products. However, as this risk can be hedged, it is more manageable than the cashew price volatility risk.

The absence of financial services means that growers and farmers' groups have to sell early in the season when volumes and prices are low. The control of finance keeps the trade in the hands of the few that can raise funds for the season, turn it over and repay it. It is not possible to rank financial services within the scope of this study, but it is clear that improved access to financial services or alternative marketing mechanisms would enhance growers' incomes.

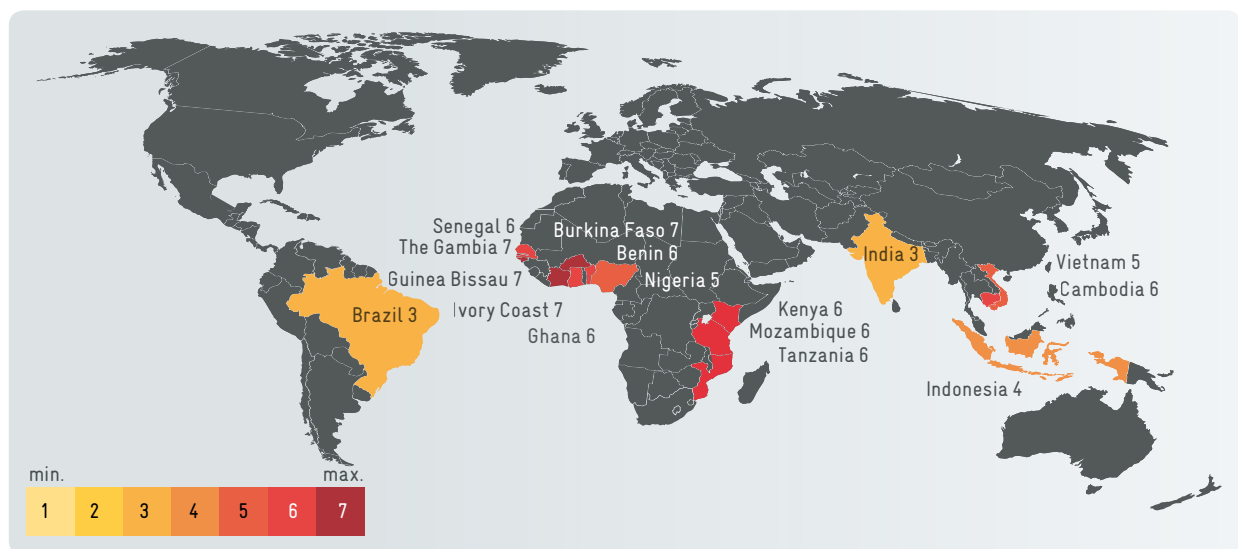


### 5.1.6 Risk and perception of risk

A trader-driven value chain operates on the principal of risk and reward. In a given period, how many times can a certain sum of money be turned over for a profit? Are the risks of losing that money worth the potential rewards involved? The greater the risk in the trader's perception, the higher will be the reward he expects from the given transaction in order to manage or offset that risk – in other words, the higher his margin must be. If he thinks the risks are too high, the trader will not participate in the market.

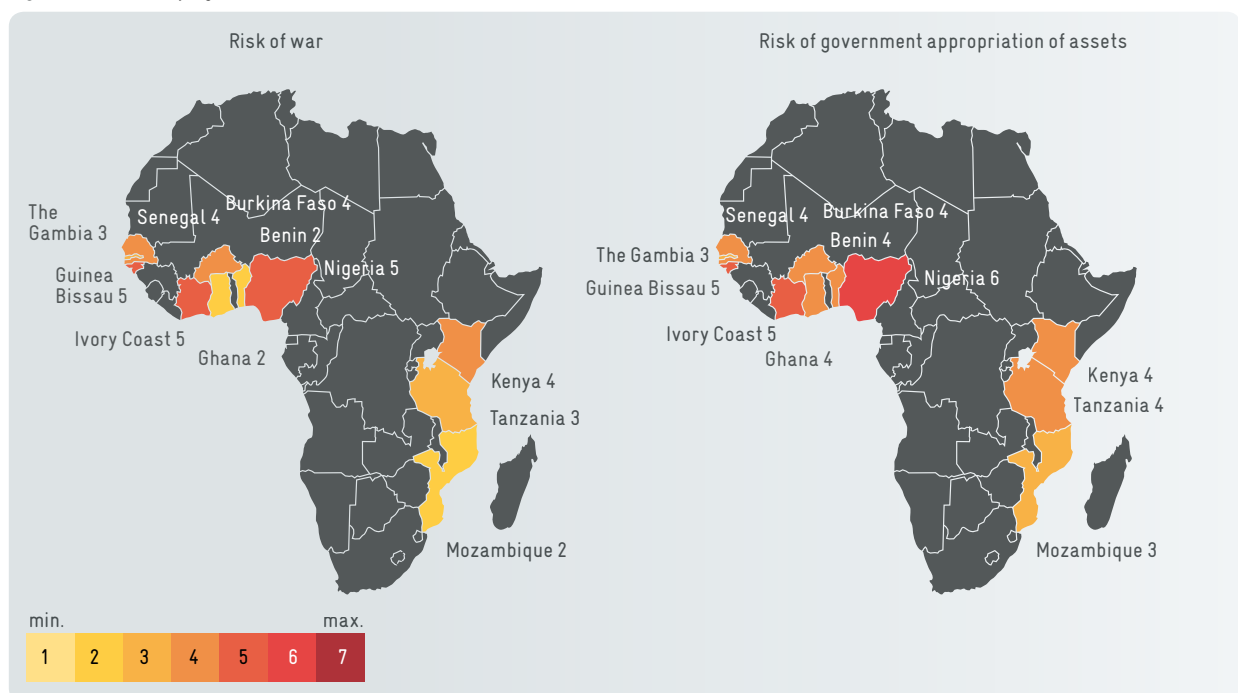
As already discussed at length, the perception of risk has many impacts on the development of enterprise in a country. In the cashew sector, the perception that risks are high has discouraged long-term investment, which has therefore made it possible for traders to enter the market, operating on a seasonal basis to procure in-shell cashews for export. It is not the commercial risk or the climate that discourage potential investors, including companies that are already active in the processing of cashews. Rather it is the country-specific and political risks. Countries which are perceived as having lower risks are more attractive and are therefore more likely to hold their market share and compete with other countries.

Figure 5.5: Quantifying the level of risk of non-repayment of export credits – OECD country credit risk (Jan. 2011)



Sources: [www.oecd.org](http://www.oecd.org), [www.ondd.be](http://www.ondd.be)

Figure 5.6: Quantifying the level of risk – ONDD (Standard & Poor's; Jan. 2011)



Sources: [www.oecd.org](http://www.oecd.org), [www.ondd.be](http://www.ondd.be)

In effect, the international traders see their margins not only as a return on their working capital and the expertise employed, but also as an expression of the risks taken. If the reward starts to overcompensate for the risk, in time new traders will enter the market, the margins will fall, higher prices will be paid to growers, and the chain will work more efficiently.

### 5.1.7 Market access and market linkage

In the in-shell cashew market, market access refers simply to the ability of growers, farmers' groups and cooperatives to assess which buyer to sell to, and whether or not the price and terms proposed represent the best available deal. Does any member of the chain have a choice of buyers? Is there any opportunity to negotiate a better price between different collectors, merchants, traders or processors on any given day? Is the market controlled by a group of exporters who divide it up and control the price? The volatility of prices suggests that there is competition for product, and choice; but how are decisions made? Many people in African countries interviewed for this study believe that the traders keep information to themselves, deliberately putting their suppliers at a disadvantage. It is the job of support groups or trade publications to provide market information and promote competitiveness.

In African cashew-producing countries, market access is often limited from the outset, simply by the fact that most cashew nuts are exported in-shell for processing elsewhere. In addition, the quality of market information is very poor. Cashew processing is the key factor in developing market access, as either a localised or an international activity. Processing takes place throughout the year, and processors are always interested in the market and in developing sales and quality. This tends to create its own associations and market information, which leads to the development of better systems.

*Table 5.6* assesses the level of access to the in-shell market in the African cashew-producing countries, by gauging the following criteria:

- ① Percentage of the crop shelled within country
- ② Strength of farmers' groups
- ③ Availability of alternative mechanisms for sale of product
- ④ Access to cashew market information
- ⑤ Multiple markets supplied
- ⑥ Existence of trade association

The countries have been scored for each of the criteria, producing a total which allows them to be ranked. A higher rank indicates a strong peculiarity of the given indicator.

Table 5.6: Market access characteristics of African cashew-producing countries

|               | % of the crop shelled | Farmer groups 1-5 | Alternative sales channels 1-4 | Market information 1-5 | Supplies multiple markets 1-5 | Trade association 1-5 |
|---------------|-----------------------|-------------------|--------------------------------|------------------------|-------------------------------|-----------------------|
| Benin         | 2%                    | 0                 | 1                              | 0                      | 2                             | 1                     |
| Burkina Faso  | 4%                    | 2                 | 2                              | 0                      | 2                             | 0                     |
| Ghana         | 14%                   | 1                 | 2                              | 1                      | 2                             | 0                     |
| Guinea Bissau | 1%                    | 0                 | 1                              | 0                      | 2                             | 0                     |
| Ivory Coast   | 2%                    | 1                 | 1                              | 0                      | 2                             | 1                     |
| Kenya         | 30%                   | 1                 | 1                              | 0                      | 0                             | 1                     |
| Mozambique    | 28%                   | 0                 | 2                              | 2                      | 2                             | 2                     |
| Senegal       | 2%                    | 1                 | 1                              | 0                      | 2                             | 0                     |
| Tanzania      | 27%                   | 2                 | 3                              | 2                      | 2                             | 2                     |
| The Gambia    | 0%                    | 0                 | 1                              | 0                      | 2                             | 0                     |

### 5.1.8 Government support and intervention

The level of government intervention in the cashew-producing countries varies widely. In India and Viet Nam, there are many incentives to facilitate the importing of in-shell cashews, as well as the processing and export of cashew kernels. However, the two countries have shown only limited success in stimulating new planting in recent years.

In the African cashew-producing countries, there is a wide range of state actions, from high taxes to guaranteed auctions and support for growers, and tax holidays for processors.

Governments in West Africa have been active for many years stimulating the planting of trees, while the East African governments have tried to stimulate the rehabilitation of cashew trees and cashew processing.

African governments generally maintain that they believe cashew growing can benefit the poorest people. However, it is not always clear whether or not these people benefit from their governments' interventions. In countries where a processing

industry does exist, an export duty could give a domestic processor an advantage in procuring its product, thereby encouraging a rise in the overall level of prices paid to growers. This will only have an impact if the domestic processor is efficient and is able to process at least as cheaply as the foreign processors who compete for the in-shell cashew nuts. For the growers, government support and intervention can be very important in increasing production levels, retaining tree stocks, improving the quality and technology of post-harvest handling, and developing market access. Governments must time their support activities carefully to match market developments. The presence and the effectiveness of such activities will affect a country's competitiveness in the international market for in-shell cashew nuts, and some measures are essential for the development of a domestic processing industry in the longer run.

The examples in *Table 5.7 on the opposite page* demonstrate that several African governments have identified the value of cashew production. However, only in Tanzania, and to a lesser extent in Mozambique, have measures been brought in to promote the industry.



Table 5.7: Comparison of government support and interventions in African cashew-producing countries

|                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ghana: The government would like to promote the cashew sector.</b>                      |                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Extension</b>                                                                           | The government has tried to promote the expansion of the currently small crop.                                                                                                                                                                                                                                                                                                          |
| <b>Investment</b>                                                                          | Ghana offers tax holidays and reduced rates of corporation tax for companies, and reduced rates of income tax for individuals. However, these incentives are not specific to the cashew sector.                                                                                                                                                                                         |
| <b>Guinea Bissau: The country is dependent on cashew revenue.</b>                          |                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>In-shell export regulation</b>                                                          | An export tax is collected as part of the normal government revenue. The government sets a guide price each year. Export by road is banned.                                                                                                                                                                                                                                             |
| <b>Investment</b>                                                                          | It is difficult to obtain clear information on investment promotion.                                                                                                                                                                                                                                                                                                                    |
| <b>Ivory Coast: Government support is focused on cashew growing.</b>                       |                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>In-shell export regulation</b>                                                          | Exports of in-shell cashews are subject to a levy of CFA 17.50 per kg, which is used to support various industry promotion bodies. There is no price regulation.                                                                                                                                                                                                                        |
| <b>Extension</b>                                                                           | Trees are being planted under the auspices of ARECA. The extension programme of recent years has been extremely successful. The expansion of cashew growing has been well supported but little has been done to promote processing. The country is rife with informal taxation and harassment by petty officials.                                                                       |
| <b>Kenya: A ban on exports of in-shell cashews is hurting growers.</b>                     |                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>In-shell export regulation</b>                                                          | A ban on the export of in-shell cashews was disastrous for some growers as it emerged that the domestic processing industry could not absorb the quantity harvested.                                                                                                                                                                                                                    |
| <b>Mozambique: The government has recognised the cashew sector as important.</b>           |                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>In-shell export regulation</b>                                                          | In-shell nuts cannot be exported until January and are subject to an export tax of 18%. This is intended to protect the national processing industry. In-shell cashews may be purchased and stored for export at any time. The exporter must offer 20% of the procured product to the processors. However, there is no rule governing the price. Cashew kernels are exported duty free. |
| <b>Extension</b>                                                                           | The government agency INCAJU has recognised the need to rehabilitate old trees and to plant new seedlings.                                                                                                                                                                                                                                                                              |
| <b>Investment</b>                                                                          | Support from the administration.                                                                                                                                                                                                                                                                                                                                                        |
| <b>Tanzania: The government has agreed to promote cashew processing within the country</b> |                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>In-shell export regulation</b>                                                          | In-shell cashews are subject to an export tax of 15%. The government issues a guide price each year before the start of the season. In the past, confusion on whether this price was a guide or an obligation caused difficulties in the market. Traders and exporters must be licensed.                                                                                                |
| <b>Other taxes</b>                                                                         | Cashew nuts are taxed at local village level and at provincial level in a complicated system.                                                                                                                                                                                                                                                                                           |
| <b>Extension</b>                                                                           | The Cashew Nut Board of Tanzania is promoting the replacement of old trees with new trees in a strategy which started in 2005.                                                                                                                                                                                                                                                          |
| <b>Warehouse warrant</b>                                                                   | The warehouse warrant system, set up to reduce harvest pressure on growers and encourage good post-harvest practices, is having a mixed impact. It does, however, ensure that correct market information is readily available.                                                                                                                                                          |

Sources: compiled by the author



### 5.1.9 Ease of doing business

In the in-shell cashew chain, as in any other market chain, the general business environment plays a big role in deciding how efficient and competitive the chain is. The '*ease of doing business*' is clearly linked to factors such as finance, risk and market access. Difficulties doing business could mean that, while it is possible to operate on a simple cash basis, bringing funding from outside to buy and assemble cargo and export it, it is nevertheless still not attractive to consider a long term investment in a processing plant.

#### Ease of doing business in Africa.

The difficulties of doing business in some African countries have been reported by many eminent analysts. It is not the purpose of this study to look at these issues in detail. Instead, the World Bank's ease-of-doing-business rankings are

used to illustrate this aspect of the relative competitiveness of the cashew-producing countries. Economies were ranked on their ease of doing business, from **1–183**. A high ranking on the ease of doing business index means the regulatory environment is more conducive to the starting and operation of a local firm. This index averages the country's percentile rankings on 9 topics, of which the four most critical topics in building a cashew nut business are presented in this study. As can be seen, all the African cashew-producing countries are low down on the global scale of 183 countries. However, if we consider the cashew countries of the world, the African countries – especially the East African countries – do not compare badly with the origins in Asia and South America. It is no more difficult to do business in the countries of East Africa than it is in cashew countries on other continents. Excluding Ghana, the countries of West Africa are more challenging.

Table 5.8: African cashew-producing countries ranked by ease of doing business

| Economy       | 2010 Rank | Starting a business | Employing workers | Getting credit | Enforcing contracts |
|---------------|-----------|---------------------|-------------------|----------------|---------------------|
| Ghana         | 92        | 135                 | 133               | 113            | 47                  |
| Kenya         | 95        | 124                 | 78                | 4              | 126                 |
| Tanzania      | 131       | 120                 | 131               | 87             | 31                  |
| Mozambique    | 135       | 96                  | 156               | 127            | 129                 |
| The Gambia    | 140       | 114                 | 85                | 135            | 67                  |
| Burkina Faso  | 147       | 115                 | 82                | 150            | 110                 |
| Senegal       | 157       | 102                 | 172               | 150            | 151                 |
| Ivory Coast   | 168       | 172                 | 129               | 150            | 127                 |
| Benin         | 172       | 155                 | 139               | 150            | 177                 |
| Guinea-Bissau | 181       | 183                 | 175               | 150            | 143                 |

Source: Doing Business 2010

Table 5.9: Major cashew-processing countries ranked by ease of doing business

| Economy   | 2010 Rank | Starting a business | Employing workers | Getting credit | Enforcing contracts |
|-----------|-----------|---------------------|-------------------|----------------|---------------------|
| Viet Nam  | 93        | 116                 | 103               | 30             | 32                  |
| Indonesia | 122       | 161                 | 149               | 113            | 146                 |
| Brazil    | 129       | 126                 | 138               | 87             | 100                 |
| India     | 133       | 169                 | 104               | 30             | 182                 |

Source: Doing Business 2010

## 5.2 The cashew kernels chain

The previous section dealt with factors that affect the competitiveness of the in-shell commodity chain. Here we will focus on factors in the competitiveness of the kernels chain. The intersection between the in-shell cashew chain and the cashew kernels chain is the processor, who shells, peels and grades cashew nuts, and packs them as a food product. The processor must invest more and will incur greater risks for a longer period of time than does an export trader.

### Factors determining the international competitiveness of the kernels chain:

- ▶ Supply of quality products
- ▶ Risk and perception of risk
- ▶ Finance
- ▶ Availability, productivity and cost of labour
- ▶ Business environment
- ▶ Logistics and costs
- ▶ Domestic and international market access
- ▶ Technical support and services
- ▶ Government support.

#### 5.2.1 Supply of quality products

To be competitive, processors need quality cashew nuts that allow them to produce a product that is profitably marketable. The nuts must give a sufficient yield of kernels. They must be of the right size and easy enough to shell, that they yield a sufficient number of whole kernels. If the product is too difficult to shell, the kernels will break, productivity will be low and there will be many grades of nut that are difficult to sell.

An African cashew processor looking for raw materials has to compete not only with other processors but also with in-shell export traders and other buyers. The buyers from abroad have the advantages of better financing, larger scale of production, lower logistical costs, and government assistance through subsidies and marketing aid. On the other hand, African processors have the advantage of not needing to ship the raw cashews across the world, unload them and transport them to a processing plant. Nevertheless, the cashew nuts still have to be stored for up to a year in the African countries where they were purchased. As they lack the scale of production for a quick turnaround of the product, African processors must hope that the market price does not fall.

Taking into account poor financing, high costs and inexperience, it is probable that if all African cashew nuts were shelled in Africa, the prices to growers would be lower than they are

today. For processing to be successful in African countries, African processors need to be able to compete with their competitors from abroad. To achieve this, financing and technical support are required.

The intense interest India and Viet Nam show in procuring in-shell nuts from Africa shows that the African product is of good quality and that it makes a profitable calculation. The potential of African cashews can best be assessed by looking at experiences gathered in India, where the African product is processed by large-scale, experienced companies with high labour productivity.

*Table 5.10* shows the yields generated in India from African in-shell cashews. The results are based on a sample of 11,250 tonnes of cashews over three seasons.

Table 5.10: Average yields\* from African cashews in India 2008–2010

| Origin        | Lbs per bag | Count nuts per kg | Rejected |
|---------------|-------------|-------------------|----------|
| Guinea Bissau | 53.37       | 223               | 6.20 %   |
| Tanzania      | 51.89       | 190               | 5.65 %   |
| Mozambique    | 50.84       | 208               | 5.67 %   |
| Benin         | 48.63       | 194               | 6.85 %   |
| Ivory Coast   | 47.58       | 193               | 8.45 %   |

Source: courtesy of Quality Assurance Systems, India

The yields shown in *Table 5.10* indicate that the cashews from the countries named usually have a higher yield factor than the purchasing specification of the traders. This could be the result of good drying after purchase, or it might be that the specification of the product is better than the lowest common denominator used by the in-shell trade.

*Table 5.11 on the next page* provides a comparative analysis of the relative shelling values for cashews from the main African cashew-producing countries. These are also compared to the value for average-to-low-grade Indian cashews from the Perinthalmanna district of Kerala. The table indicates that the African nuts compared well with the Indian ones. The benefits of experience and training are reflected in the difference between the whole nut yields of the Mozambican material, which was shelled recently, and the Ivorian material shelled in the Ivory Coast some time ago. In terms of competitiveness between the African countries, the shelling yield figures (overall yield and yield by grades) seem to correspond to the experiences of the in-shell value chain: Tanzanian and Guinea-Bissauan cashews produce the best results, followed by those from Mozambique and Benin, while the Ivorian cashews produced the lowest values.

\* Weight based on moisture content at arrival

Table 5.11: Shelling yields by grades

| Origin                   | Tanzania         | Guinea Bissau    | Ivory Coast       | Benin            | India (Kerala)   | Mozambique  | Ivory Coast      |
|--------------------------|------------------|------------------|-------------------|------------------|------------------|-------------|------------------|
| Shelled in               | India            | India            | Ivory Coast       | India            | India            | Mozambique  | India            |
| White wholes (lbs)       | 31.14            | 29.47            | 18.65             | 24.31            | 23.82            | 24.33       | 26.09            |
| Scorched wholes (lbs)    | 1.88             | 5.64             | 4.11              | 5.79             | 3.63             | 4.11        | 1.75             |
| Mid range - broken (lbs) | 13.38            | 8.52             | 14.77             | 6.18             | 10.01            | 14.77       | 9.21             |
| Lower grades (lbs)       | 5.50             | 1.47             | 6.57              | 4.59             | 2.85             | 6.57        | 1.94             |
| Total (lbs)              | 51.90            | 45.10            | 44.09             | 40.87            | 40.31            | 39.53       | 38.99            |
| Net yield                | 29.49 %          | 25.63 %          | 25.05 %           | 23.22 %          | 22.90 %          | 22.46 %     | 22.15 %          |
| Source                   | Indian processor | Indian processor | Ivorian processor | Indian processor | Indian processor | TechnoServe | Indian processor |

Source: compiled by the author

Clearly, a more detailed analysis including the shelling methods, technology used and the characteristics of the nuts would provide interesting information for processors and prospective processors in African countries. However, the main point is that processed cashews are profitable using African nuts, and that they compare well with some profitable, commercial grades grown in India. The difficulties facing African processors lie in other areas, such as costs and financing.

### 5.2.2 Risk and perception of risk

In terms of risk, cashew nut processors face the same questions as in-shell traders, but they must deal with much longer time scales and more complex risks. A processor will be concerned about the stability of the country, and the possible impacts of any instability on its business over a five to ten years period in which it is looking for a return on the capital invested. This contrasts with the Indian processing industry, which developed with relatively low investments, and benefited from good workers in a context of primitive manufacturing, packaging and export processes.

The advent of more demanding food safety standards, factory audits, and traceability means that the cost of entry is now far higher if a processor is to compete and achieve a viable scale of production for exports to the major consumer markets.

The risk is far higher, too, although the perception of risk may be much greater than the actual risk, as many African countries have a far worse reputation than they deserve. Ghana is a good illustration of the role played by risk perception. There the risks are perceived to be lower and it is viewed with strong interest as a base for cashew business, despite the fact the country itself produces only a very small crop.

### 5.2.3 Finance

The availability of financial services is an essential component in the development of processing. It is a major issue for almost all African cashew-producing countries. Processing cannot become competitive at an internationally viable level unless the otherwise well-qualified processors can obtain financing for their activities. The processors trade in Africa but sell their products in Europe and the USA. They must be competitive in their sales price, but they must also purchase at a fair rate or they will not secure any raw materials.

As has already been explained, the in-shell trader requires short-term financing to fund activities for a season or less. The processor, on the other hand, has more complex, long-term financing needs. Firstly, it needs the initial capital investment to build and equip its plant, which requires special, often expensive, equipment, as well as buildings and land. The second investment is in working capital. While Indian or Viet Nameese processors can purchase raw materials from different sources, literally following the cashew harvest as it takes place around the world, African processors usually have to buy their entire stock for a year during the appropriate season and store it, as they generally do not import nuts. Moreover, in all the African countries examined by the study, the cost of finance was high. Percentage interest rates in most of the countries were in the mid teens, but the Gambia was most expensive with a rate of 22%. African processors are therefore at a disadvantage compared to those in India, where the financing rates for importing cashew nuts are between 5.25% and 6%.

The problems of finance and financial services affect the growers (by weakening their holding power), the intermediary merchants and the processors. They have a particularly strong impact in the cashew sector, wherever there is competition to purchase raw materials from other markets.

## 5.2.4 Availability, productivity and cost of labour

Despite advances in processing technology, processing cashew nuts still requires a large labour force, unless a processor invests in the type of expensive solution that has so far only been seen in Brazil. It is the labour intensive nature of the industry that makes cashew processing such a powerful tool for the alleviation of rural poverty. It ensures that the benefits of value addition are spread across the community. Cashew processing has also been an effective way of helping women, who are often more marginalised than the men in poor rural communities, to earn an income.

The nature of the process and the absence of technology over the years have enabled both the Indian and the Viet Nameese cashew processing industries to benefit from the availability of a large and productive work force for shelling, peeling and grading the cashew nuts. A 5,000 tonne in-shell processing plant can employ up to 1,250 workers.

### Availability, productivity and cost of labour in Africa.

Reports from *TechnoServe* and visits to cashew shelling plants confirm that productivity in African shelling plants on average is lower than in India or Viet Nam. This may be due to a range of factors, such as a lack of experience, low quality of the in-shell nuts, poor standards of training, and high absenteeism and instability of the workforce. Regardless of the reasons, the competitiveness of a shelling industry is strongly influenced by the workers and their skill levels. In assessing this factor, of course, it is only possible to assess countries that actually have a shelling industry, so comparisons are limited.

### Labour productivity.

#### *Mozambique 1 (2003)*

|          |                           |
|----------|---------------------------|
| Shelling | 35kg per worker per day   |
| Peeling  | 12.5kg per worker per day |

#### *Mozambique 2 (2008)*

|          |                                              |
|----------|----------------------------------------------|
| Shelling | 40kg per worker per day (average), max. 60kg |
| Peeling  | 9–10kg per worker per day                    |

#### *India*

|          |                            |
|----------|----------------------------|
| Shelling | 40kg per worker per day    |
| Peeling  | 8kg per worker per day     |
| Grading  | 20–25kg per worker per day |

Table 4.12: Wholes cut, peeled and graded per day

| Wholes per day [kg] | Cutting | Peeling | Grading |
|---------------------|---------|---------|---------|
| Mozambique          | 8       | 7       | 75      |
| Ivory Coast         | 12      | 8       | 90      |
| Tanzania            | 13      | 9       | 100     |
| India               | 17      | 12      | 120     |

Source: TechnoServe

### Labour costs.

While there may be issues of productivity that have to be addressed through training and better organisation, it seems clear that the costs of labour in Africa are now competitive with those in India and Viet Nam.

|             |                                            |
|-------------|--------------------------------------------|
| Ivory Coast | Wages (US\$ equivalent): US\$ 1.90 per day |
| Mozambique  | Wages (US\$ equivalent): US\$ 2.40 per day |
| Indonesia   | Wages (US\$ equivalent): US\$ 2.50 per day |
| India       | Wages (US\$ equivalent): US\$ 3.70 per day |

## 5.2.5 Business environment

A stable business environment in which business and investment can be conducted in a predictable and cost effective manner is essential to the growth of cashew processing. Unfortunately, the cashew-producing countries of Africa, and particularly West Africa, have only fostered entrepreneurship to a limited degree. This lack of promotion has a major impact on the cashew sector. Potential entrepreneurs in the African cashew-producing countries operate in a difficult environment, one which lacks a substantial domestic market in which to learn, grow and develop ideas. When setting up a business, entrepreneurs must deal with complicated bureaucracy, problems and delays, while facing competition from the most successful and experienced cashew processors in the world.

## 5.2.6 Logistics and costs

Processors incur a range of costs. The cost of labour has already been mentioned, but other costs – energy, packaging materials, transportation, export documents, inspections and certification, etc. – also have an impact on their competitiveness. Processors do not have the option of not trading when they are losing money, as traders might; and they are dependent on costs and sales prices that are beyond their control, being set either in the domestic market or in the global kernels market. High costs mean that a processor can not afford to pay as much to the growers, and thus loses competitiveness in terms of sourcing; as a result, it must either purchase less stock, or inferior stock.

As we have seen in the last chapter, the most significant costs for the processing industry are labour costs, and in this respect the African industry has a big advantage over India and Viet Nam. However, other costs, such as energy and fuel, are higher in African countries and represent a competitive disadvantage for the African industry. The impact of higher costs in certain areas, such as transportation, ocean freight and packaging, may be lower on high-value goods, such as cashew kernels, than they would be on low-value commodities, such as in-shell cashews.

In terms of raw materials, the African processors have an advantage if they can match the costs of Indian and Viet Namese processors, which include the cost of shipping from Africa to India or Viet Nam. When moving in-shell cashews to India, costs of US\$ 150 per tonne are assumed (freight, fobbing, unloading, transport, margins). Thus, if all other factors are equal, an African processor can accept costs of up to US\$ 150 per tonne more than the Indian processor, and still compete.

The response from Viet Nam to rising labour costs has been to develop low cost technology. If this process reduces the processing costs or has a significant effect on the productivity of workers, without impinging on the yields or quality, it could present a threat to the new processing industries in Africa.

### 5.2.7 Domestic and international market access

In discussing market access, the main points are clear. Where do we sell? Who do we sell to? Can we find an agent to represent us? Less clear are questions about the market structure, the names of purchasing companies, which grades are best sent to which markets, the preferences of certain markets for certain packaging, and many other issues, all related to product marketing, maximising returns or avoiding problems. In order to succeed, a good source of accurate information is essential. This includes short-term information about prices and long-term information on trends and developments in the destination markets and in the competing markets. A processor must

have a clear idea of how the entire production will be sold, and it should try and reflect this information in its budget.

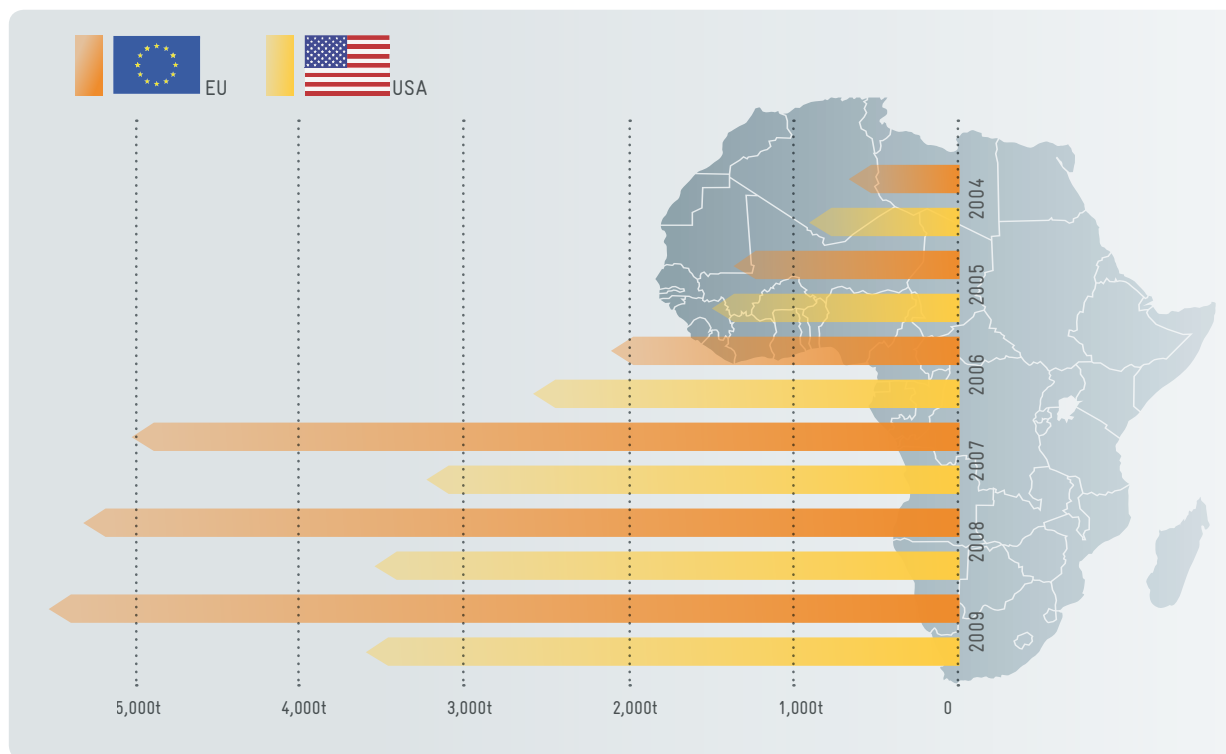
The major cashew processing countries of India, Brazil and Viet Nam all have domestic or regional markets. There is no doubt that a domestic market is a major competitive advantage. A regional market not only facilitates the delivery of small quantities of a wide range of grades, but it also contributes to fast payment for and turnover of inventories.

### Market access in Africa.

In terms of market access, the first consideration is the product. There are no reasons why properly produced cashew kernels from an African country, which meet the necessary safety standards, cannot enter the consumer market. Nothing suggests there is an inherent problem with African cashew kernels to limit their marketability. India and Viet Nam market thousands of containers of African nuts every year. There are few barriers regarding the specification of the product as, unlike in-shell nuts, the international specifications for kernels are clear and present no insurmountable problems.

The EU, North America and Australia have no import tariffs for unroasted cashew kernels, while India imposes a tariff of 30% of the CIF value of imports. African countries, particularly East African, have made progress in recent years in re-establishing markets that existed in the past. The trend is encouraging for the value-added sector, even if the volume only represents a small proportion of the overall market.

Figure 5.7: Exports of African cashew kernels to the EU and the USA



Source: UN Comtrade, customs in various countries



In Western countries, barriers to market entry for cashew kernels are mainly in the form of process development and controls. Food safety is the major issue for many packers and roasters of cashew nuts. The second issue is product traceability. This simply means the ability to state where and how the raw material was obtained, so that, if there is a problem, it is possible to identify the point at which that problem developed.

A bigger challenge to market entry is the lack of information. This not only means market information but, more importantly, an understanding of the customers and their business. African cashew-producing countries that already have some involvement in the market as processors are more likely to develop their processing activities further. Unfortunately, cashews are a small and specialised commodity for which no good information system, and just a few trade publications exist.

#### 5.2.8 Technical support and services

The work of *TechnoServe* in Mozambique demonstrates the value of technical support, especially for fledgling processors. Operational advice and support in adapting tested methods to local conditions is invaluable when developing a cashew processor. At the same time, technical support agencies also facilitate exchanges of experience within countries so that that the processors can learn from one another, besides competing with each other. This is helpful, because the efficiency of processing improves with experience. This factor has become more important in recent years as low cost mechanisation solutions have developed.

As mentioned above, the cashew processing is a food business which requires food safety procedures and good manufacturing practices. The cost of entering the processing industry has risen due to these requirements, while the lack of suitable laboratory and quality control facilities forms a barrier to entry.

At present, cashew nut processing is a relatively low-tech activity. However, the food industries are becoming ever more demanding; standards, analysis and manufacturing processes are growing in importance. These factors can form a barrier to entry if suitable technical support and services are not available. Such service providers assist in construction and also help interpret the standards and methods demanded by the buyers. The essential services include:

- ▶ Business start-up advice, ranging from business planning to team selection
- ▶ Processing plant design, selection of system and analysis of raw material
- ▶ Construction to specification
- ▶ Installation of systems for raw material handling, process and packaging
- ▶ Plant commissioning
- ▶ Certification of standards such as *ISO*, *HACCP* or *BRC*
- ▶ Testing and laboratory services for raw material and finished product
- ▶ Pre-shipment testing and certification.

#### 5.2.9 Government support

In the African cashew-producing countries, governments have tried various methods to encourage the development of processing. They have created laws to regulate exports of in-shell cashews or to ban their export completely, and they have introduced relevant tax holidays and duties. These methods have worked with varying degrees of success, wherever the other factors mentioned above were in place. However, without the other factors, even the most enlightened government policies cannot be effective – tax breaks will not turn low yielding cashews into high yielding cashews.



### 5.3 Summary of findings

#### 5.3.1 The African in-shell cashew chain

So far, we have discussed a number of failings and weaknesses in the competitiveness of the African cashew sector. However, it should not be underestimated that every year 700,000 tonnes of in-shell nuts are shipped from Africa to India and Viet Nam for value addition. African in-shell cashew production is evidently succeeding. Every year, many hundreds of thousands of farmers grow cashews using few inputs and sell them for cash. The rapid expansion of production over the past ten years is not only due to the fact that cashews grow on marginal land with low inputs, it is also indicative of the fact that growers see cashews as a worthwhile crop.

There are undoubtedly serious difficulties in the chain, many of which are currently inherent to the economies of Africa, and particularly West Africa. Problems of infrastructure, the lack of financial services or an entrepreneurial culture, the costs of finance, transport and energy, and a difficult business environment are just some of the factors that have a major impact on the development of the in-shell value chain.

As has been shown, there is evidence that some traders take unusually high margins, and also that they face a high level of risk. The nature of the value chain gives rise to contract performance failure and price speculation, which ultimately affects the prices paid to growers, if not in the current season then in the next.

Buyers of in-shell cashews complain that the post-harvest handling of the African product is poor, which makes shelling more difficult and reduces the shelling yields. This has resulted in a system where the differences in quality between countries, or between regions are reflected in different prices paid, but where the better quality of one farmer over another is not. Thus a system has evolved based on the lowest common denominator of quality. There are few rewards or penalties for delivering better or worse quality. This stifles competition in the chain and gives farmers no incentive to improve.

Given the structural difficulties and the governance of the traders, the price set has to cover risks, eventualities and failures in the chain. The price is set from outside, and usually reflects the expected outcome of the Indian and Viet Nameese harvests in any given year, even before the likely production levels in West Africa are known. The chain is competitive on some levels, but failures of infrastructure, information and finance limit its competitiveness. All members of the chain are exposed to high levels of risk due to the volatility of the cashew prices, but the growers are the worst affected. Price volatility has been a feature of the cashew business since the 1980s. There is little suggestion that this will change as supply and demand are so finely matched, although demand seems likely to grow faster than supply in the foreseeable future.

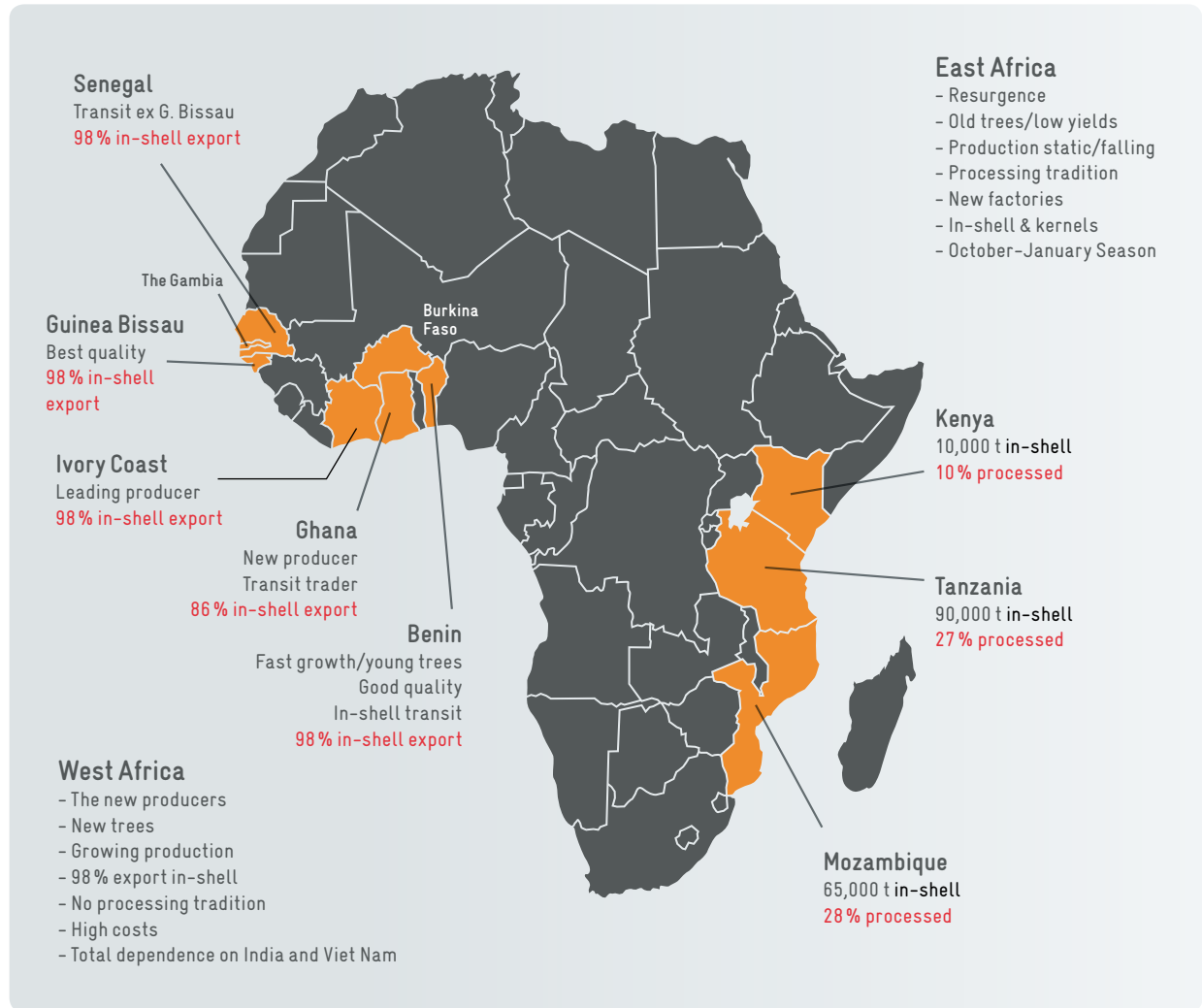
This study has analysed the value chains for African in-shell and kernel production separately. There is also another distinction within the African industry as a whole, that is the difference between East and West Africa. Distinctions between the two regions exist in the ages of the trees, the amount of processing, the seasons, the costs, and the levels of government support. East Africa is a resurgent region with an established processing industry. West Africa is a large-scale grower, with a crop that arrives annually at around the same time as the Indian and Viet Nameese crops, and which does little processing of its own. East Africa is less exposed to overproduction elsewhere and has better controls over its quality, despite having much older trees.

Countries within Africa compete on the quality of their product, the timing of their crop and the costs within their infrastructure. The buyers are limited to a small number of international traders and a few processors who buy direct. These dominate the market because their experience, their market access and their ability to raise short-term finance leave no room for alternatives.

*Figure 5.8 on the opposite page as well as Table 5.13 & 5.14 on page 46 illustrate the findings.*



Figure 5.8: Assessing competitiveness I – African cashew producers



Source: compiled by the author



Table 5.13: Assessing competitiveness II – the East African in-shell chain

| Strengths                                                                                                                                                                                                                                                                                                                                                                                                                                       | Weaknesses                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▶ Seasonality</li> <li>▶ Government support</li> <li>▶ Competition between chains</li> <li>▶ Kenya: Quality yields</li> <li>▶ Mozambique: Technical support through INCAJU</li> <li>▶ Tanzania: Quality shelling</li> <li>▶ Tanzania: High quality yields</li> <li>▶ Tanzania: Technical support through CBT</li> <li>▶ Tanzania: Warehouse warrants</li> <li>▶ Tanzania: Quality is rewarded</li> </ul> | <ul style="list-style-type: none"> <li>▶ Poor financial services</li> <li>▶ High costs of financial services</li> <li>▶ Cost of transport</li> <li>▶ Kenya: In-shell export ban</li> <li>▶ Mozambique: Lack of laboratory analysis</li> <li>▶ Tanzania: Bureaucracy</li> <li>▶ Old trees in need of renewal</li> <li>▶ Dependence on Indian buyers</li> <li>▶ Prevalence of tree diseases</li> <li>▶ Low yields</li> <li>▶ Country risk</li> <li>▶ Business and work culture</li> </ul> |
| Opportunities                                                                                                                                                                                                                                                                                                                                                                                                                                   | Threats                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>▶ Viet Nam as a customer</li> <li>▶ Renewing trees</li> <li>▶ Improving yields</li> <li>▶ Finance</li> </ul>                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>▶ Powdery mildew disease</li> <li>▶ Failure to renew trees</li> <li>▶ Black market foreign exchange</li> <li>▶ Indian self-sufficiency</li> </ul>                                                                                                                                                                                                                                                                                                |

Source: compiled by the author

Table 5.14: Assessing competitiveness III – the West African in-shell chain

| Strengths                                                                                                                                                                       | Weaknesses                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▶ Scale of production</li> <li>▶ Quality</li> <li>▶ Competition btw India and Viet Nam</li> <li>▶ Cluster of cashew countries</li> </ul> | <ul style="list-style-type: none"> <li>▶ Low yields</li> <li>▶ Poor post harvest handling</li> <li>▶ Timing of harvest</li> <li>▶ Cost of transport</li> <li>▶ Narrow market linkage</li> <li>▶ Low processing volumes</li> <li>▶ Country risk</li> <li>▶ Business and work culture</li> </ul> |
| Opportunities                                                                                                                                                                   | Threats                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>▶ Improving post harvest handling</li> <li>▶ Rewarding quality</li> <li>▶ Improving yields</li> <li>▶ Reducing costs</li> </ul>          | <ul style="list-style-type: none"> <li>▶ Low yields</li> <li>▶ Tree diseases and pests</li> <li>▶ Fire</li> <li>▶ Indian self-sufficiency</li> <li>▶ Political instability</li> </ul>                                                                                                          |

Source: compiled by the author

### 5.3.2 The African kernels chain

It can be argued that the African cashew kernels chain is competitive, as it seems quite well able to maintain its market share at the current low level. However, its capacity to expand to a more sustainable level in the long run is questionable, given the difficulties involved in setting up and running businesses in the cashew-producing countries of Africa.

The kind of investments, processes and skilled labour required make it much harder to operate in the kernels market than in the in-shell market. Risks and rewards are both longer term factors, and a processing enterprise is more exposed to the kinds of risk that are prevalent in many African countries. A processor faces the same problems as the in-shell exporter, in addition to all the challenges related to processing. When competing with exporters for raw materials, the only cost

advantage the processor has are the savings it makes from not paying freight and the traders' margins. It may incur higher costs and lower labour productivity which cancel out the advantage gained in sourcing the raw cashews. Anecdotal evidence suggests that small-scale African processors need to source in-shell nuts at lower prices than do the in-shell exporters. This may well be related to their small size and their lack of access to the kernels market.

In countries where the government and technical services have intervened to balance the market in favour of the processors, processing has begun again and is proving successful. In addition to this support, East African cashew-producing countries also benefit from easier market access than the West Africans have. This is because none of the three countries ever fully ceased processing cashews, and in the past the buyers often bought contracts which allowed

their importer to supply them from African sources. Cashew kernels from East Africa are evidently of adequate quality to be used by buyers in all of the main consumer markets.

Given the results of shelling and initial processing of African cashews in India, there is little reason to suggest that West African cashews would have any basic difficulty penetrating the market. The problems associated with developing shelling facilities in West Africa have much more to do with the individual countries and cultures involved than with any issues specifically related to the cashews they produce. Unique selling points are difficult to identify. Perhaps, the most relevant for wholesale buyers would be reliability, when compared to the delivery problems experienced recently with many suppliers in India and Viet Nam. Reliability will take time to establish but it is usually worth paying a higher price for, and it creates an opportunity to sell a forward contract, thus helping to manage market risk. Traceability could also be a factor that gives the African processors an advantage.

Considering the ever greater demands made of food processors to ensure food safety procedures and certification, to be a new entrant in the market might in fact be a competitive advantage. However, to fulfil those safety requirements the processing plants will need to be sufficiently large.

Overall, the African processing sector has a potentially good product in a market in which conditions are as good as they have ever been, although they are limited by the structure of the economies in which they function. Entry is difficult, primarily because of the lack of financing options for local entrepreneurs. International investors may be discouraged by the specific risks associated with African countries. The safety and traceability requirements of the modern food industry raise the cost of entry, but they will also sustain the interest of buyers in the face of competition from plants in other countries which do not meet the standards.

The *tables below* illustrate the findings.

Table 5.15: Assessing competitiveness IV – the East African kernels chain

| Strengths                                                                                                                                                                                                                                                                                                          | Weaknesses                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▶ Established processing</li> <li>▶ Good RCN quality</li> <li>▶ Good kernels quality</li> <li>▶ Available low cost labour</li> <li>▶ Technical support and intervention</li> <li>▶ Export controls on in-shell cashew</li> <li>▶ Buyers looking for alternatives</li> </ul> | <ul style="list-style-type: none"> <li>▶ Established processing</li> <li>▶ Good RCN quality</li> <li>▶ Good kernels quality</li> <li>▶ Available low cost labour</li> <li>▶ Technical support and intervention</li> <li>▶ Export controls on in-shell cashew</li> <li>▶ Buyers looking for alternatives</li> </ul> |
| Opportunities                                                                                                                                                                                                                                                                                                      | Threats                                                                                                                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>▶ Diversifying markets</li> <li>▶ Improving post harvest handling</li> <li>▶ Demand growth</li> <li>▶ Seasonality</li> <li>▶ Easier product traceability</li> <li>▶ Broken cashew export to India</li> </ul>                                                                | <ul style="list-style-type: none"> <li>▶ Price volatility</li> <li>▶ Lack of financial services</li> <li>▶ Food safety issues</li> <li>▶ Powdery mildew disease</li> <li>▶ Old trees</li> </ul>                                                                                                                    |

Source: compiled by the author

Table 5.16: Assessing competitiveness V – the West African kernels chain

| Strengths                                                                                                                                                                                                                                                                                                                                                                     | Weaknesses                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▶ Good RCN quality</li> <li>▶ Good kernel quality</li> <li>▶ Available low cost labour</li> <li>▶ Close to markets in EU and USA</li> <li>▶ Technical support</li> <li>▶ International goodwill</li> <li>▶ Ports (except Guinea Bissau)</li> <li>▶ Buyers looking for alternatives</li> <li>▶ No trade barriers to the West</li> </ul> | <ul style="list-style-type: none"> <li>▶ Poor post harvest handling</li> <li>▶ Poor financial services</li> <li>▶ Low labour productivity</li> <li>▶ Cost of transport and energy</li> <li>▶ Poor market information</li> <li>▶ Poor market linkage</li> <li>▶ Small domestic market</li> <li>▶ Business and work culture</li> <li>▶ Country risk</li> </ul> |
| Opportunities                                                                                                                                                                                                                                                                                                                                                                 | Threats                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>▶ Increasing value addition</li> <li>▶ Improving post harvest handling</li> <li>▶ Demand growth</li> <li>▶ New factories complying with food safety standards</li> <li>▶ Easier product traceability</li> <li>▶ Broken cashew export to India</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>▶ Short crops in India</li> <li>▶ Price volatility</li> <li>▶ Lack of financial services</li> <li>▶ High cost of funding</li> <li>▶ Lack of scale</li> <li>▶ Food safety issues</li> <li>▶ Political instability</li> </ul>                                                                                           |

Source: compiled by the author



## 6 Competitiveness of African Cashews compared with the Main Cashew Processing Countries

In this section the African cashew sector is compared to the top three cashew kernel processing and exporting countries: India, Viet Nam and Brazil. In all three of these, cashews are grown predominantly by smallholder farmers, with some

plantations as well. Cashews almost everywhere have the advantage of growing on degraded or poor land, although better soils will still produce better yields.

### 6.1 Growing cashews

Table 6.1: Characteristics of the cashew sector in major cashew-producing countries and regions

|             | Growers                                | Yield kg/ha                | Crop tonnes | Supply chain                    |
|-------------|----------------------------------------|----------------------------|-------------|---------------------------------|
| India       | Smallholders, plantations in new areas | 815 national average       | 465,000     | Multi collector, trader, import |
| Viet Nam    | Smallholders                           | 600–1,200                  | 400,000     | Multi collector, trader, import |
| West Africa | Smallholders                           | 350–600                    | 680,000     | Multi collector, trader, export |
| East Africa | Smallholders                           | 250–450                    | 155,000     | Multi collector, trader, export |
| Brazil      | 65% Smallholders                       | 150–350, 1,000 new variety | 300,000     | Multi collector, larger traders |

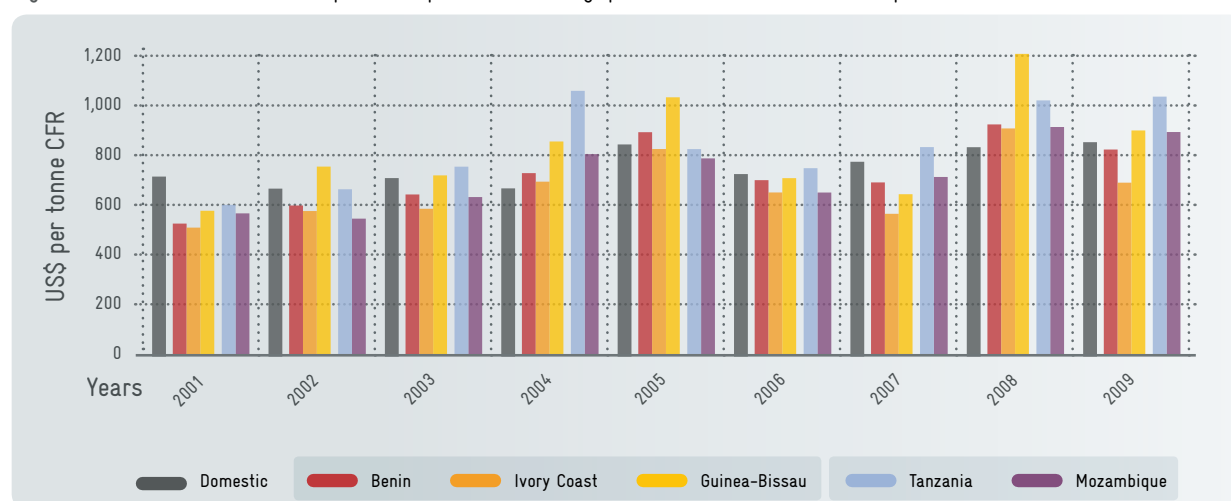
Source: compiled by the author

Prices in a long supply chain are difficult to measure as genuine data is difficult to find for Brazil and Viet Nam. India, however, has an established series of markets where traders, collectors and growers sell their in-shell cashews. The following chart compares the average weekly values traded for domestic and imported in-shell cashews between 2001 and 2009 (using the *CFR* price of imported cashews). It gives an impression of the prices of imported cashews compared to those produced in India.

East African in-shell cashews tend to achieve higher prices than the Indian domestic crop each year. This reflects the quality of

the Tanzanian in-shell cashews, as well as the advantage East African countries have because their harvest arrives near the end of the calendar year, when global in-shell supplies are scarce. In general, the differences between the imported price and the domestic price in India reflect the quality, seasonality and price fluctuations. Thus, the quality of the African in-shell is seen to be competitive and the supply chain evidently works. It is also apparent that the prices paid to growers in Africa do not reflect the true market value. This is not necessarily due to high margins taken by traders, but seems to be a function of costs and poor post harvest handling.

Figure 6.1: Indian domestic in-shell prices compared to the average price of West and East African imports



Source: CEPCI, UN Comtrade

## 6.2 Government support

The role of the Indian government in supporting the cashew industry is often claimed to be one of unfair protection. However, many myths exist regarding the amount of support given in India and Viet Nam. In broad terms, the support in India is for the processing industry, and it aims to encourage exports, while in Viet Nam, support is only given to the growers.

### 6.2.1 Indian government support

- ▶ Subsidised financing is available for all export industries. This is often not taken up.
- ▶ The *Directorate of Cashew Nut and Cocoa Development* helps to develop cashew nuts.
- ▶ The *Cashew Export Promotion Council of India* promotes exports.
- ▶ Modernisation and diversification scheme: processors can upgrade their factories and consumer packaging, and install new packaging systems and international quality systems. These activities are subsidised by the government with 25% of the total investment.
- ▶ There is a 30% import duty on cashew kernels.
- ▶ Cashew nuts are subject to value added tax.

### 6.2.2 Viet Nameese government support

- ▶ Support primarily consists of extension support via the *Ministry of Agriculture and Rural Development*.
- ▶ Research has primarily focused on better yielding tree varieties, taking into account the limited land availability in Viet Nam.
- ▶ The government supports the development of technology and transfers it to enterprises.
- ▶ Export of in-shell cashews is effectively prohibited by a 40% export duty.
- ▶ Many companies are partly state-owned but there are no subsidies for processors.

### 5.2.3 Brazilian government support

- ▶ Through the *Brazilian Agricultural Research Corporation, Embrapa*, the Brazilian government supports the development of agriculture by developing better planting stock.
- ▶ The import of in-shell nuts is effectively prevented by the imposition of a high import tax.
- ▶ Employer taxes on wage labour are very high in Brazil.
- ▶ Cashews, including in-shell, are subject to sales tax when moving between states.

In summary, the support for the industry is not extensive in any of the three countries. In the current market, the Indian industry benefits far more from the imposition of the 30% import tax than from any assistance given to processing or imports.

## 6.3 Processing

The method of processing and its suitability to the market and economy of a processing country are critical for its competitiveness. Processing is changing as low investment machinery is being developed in India and Viet Nam, particularly in response to the rising costs of labour. *Table 6.2* compares the processing countries.

The mechanised processing used in Brazil is a high investment and a low labour model, which causes a relatively high proportion of broken kernels. For example, a large factory capable of mechanically processing 70,000 tonnes of in-shell cashews each year would employ fewer than 3,000 people, whereas for a manual process (if such a large factory could exist) five times the number of employees would be needed.

## 6.4 Traceability

Since the Brazilian industry has sophisticated sourcing management and is dominated by a few large companies, traceability is possible down to the village or municipality level. India is less good at tracing the product as batches are often amalgamated several times before they arrive at the processors. Viet Nam does not currently have a traceability system, but the organisation of the chain and the Viet Nameese society suggests that it would be possible to implement. Maintaining traceability in India and Viet Nam is complicated by their reliance on imported in-shell cashews. African cashew-producing countries may well have an advantage in this respect.

## 6.5 Financial services

The absence of financial services is a major drawback for the African industry. In this area, India has an advantage with a well developed financial service sector which allows growers, processors and traders to borrow funds against inventory or assets. The government encourages small-scale funding to agriculture of all types. In Viet Nam there is no specific funding allocation for the cashew industry through the state banks. Processors have to seek financing as any business would.

Growers are usually funded using their land certificates as security. However, these certificates take a long time – even years – to acquire. In Brazil, the business is dominated by large com-

Table 6.2: Comparison of cashew-processing countries

|                                   | India                 | Brazil         | Viet Nam            | Mozambique     | Tanzania                |
|-----------------------------------|-----------------------|----------------|---------------------|----------------|-------------------------|
| Started industry                  | 1920s                 | 1970s          | 1990s               | 1970s          | 1970s                   |
| Harvesting                        | Picked                | Fall           | Fall                | Picked         | Mix                     |
| Roasting                          | Steam, oil bath       | Oil bath       | Oil bath            | Steam          | Mix                     |
| Shelling                          | Manual cracking       | Mechanized     | Manual              | Manual cutting | Manual                  |
| Peeling                           | Manual                | Mechanized     | Becoming mechanized | Manual         | Manual                  |
| Grading                           | Manual                | Mechanized     | Manual              | Manual         | Manual                  |
| Yield shell, kernel average       | 27 %                  | 21 %           | 27 %                | 26 %           | 30 %                    |
| Packing                           | Plastic flexi         | Corvac         | Plastic flexi       | Plastic flexi  | Flexi                   |
| Technology                        | Low                   | Medium to high | Low to medium       | Low            | Low                     |
| Proprietors                       | Mixed, family         | Corporate      | State, entrepreneur | Entrepreneur   | Corporate, entrepreneur |
| Investment                        | Low                   | High           | Medium              | Low            | Low                     |
| Performance reputation            | Only reliable         | Reliable       | Very unreliable     | Reliable       | Medium                  |
| Imports in-shell tonnes           | 700,000 +             | No import      | 200,000             | Exports        | Exports                 |
| Domestic market                   | Very large            | 5–10 %         | Very small, China   | None           | None                    |
| Number of factories               | 200–250 plus seasonal | Less than 20   | 200                 | 23             | 6                       |
| Shelling capacity in-shell tonnes | 1.3 million           | 450,000        | 650,000             | 25,000         | 35,000                  |

Source: compiled by the author

panies that hold significant assets. They can raise funding by using these assets or the inventory as security. The financial situation of the small-scale growers is precarious. Like their counterparts in the African cashew-producing countries, they do not have the option of raising finance or holding inventory.

## 6.6 Markets and market access

Clearly India, Brazil and Viet Nam are well known players, with established parameters of quality and performance. The Brazilian exporters are reliable, as they fulfil their contracts regardless of the market movements. This is not the case in India or Viet Nam, except for a small group of reputable processors in each country. In fact, the common failure to honour contracts has caused buyers to reduce their forward buying as they have realised this is not a hedge against risk. The existence of a domestic or close regional market is a distinct advantage. It allows the rapid sale of partial lots to prevent

inventory building up and to enhance cash flow. An export sale takes at least eight weeks from contract to payment, whereas a domestic sale can be concluded within a week. African processing countries have small domestic markets which are not large enough to make a difference to the structure of their industries. As Ivory Coast has experienced in the past, stocks of cashew pieces can build up while the processors struggle to find markets.

For export markets, Brazil has an advantage of cost and voyage time for serving the US market. A West African processor would have an advantage for shipment to Europe. However, the freight cost advantage is limited as the price of transporting cashew kernels is only 1% of the value of the cargo on a Cochin (India) to Rotterdam (Netherlands) ship, at current market prices. The transit time might be more relevant, and could be a unique selling point for West African processors in the European market. Brazil is called the *cashew warehouse of America*. West Africa could perform the same role for Europe.



## 6.7 Logistics and costs

Despite rising costs in recent years, India and Viet Nam have advantages in certain cost areas. As discussed above, trucking and port fees are expensive in Africa. This can be demonstrated by looking at landing rates in India, for example. A quote from Cochin port for delivery of a container of in-shell cashews to a processor in Kollam gives a rate of approximately US\$ 16 per tonne. As mentioned in an earlier chapter, a similar journey for the same container to an African port ready for export ranges from US\$ 25–35 per tonne. In India, clearing a container of imported cashews at the port of Cochin will cost between US\$ 10–12 per tonne. As we have seen, exporting them could have cost from US\$ 21–57 per tonne at the port of shipment in Africa.

## 6.8 Conclusion

African cashew-producing countries face a major challenge if they are to establish themselves as reliable suppliers. The countries already established hold a number of competitive advantages which can not easily be tackled only using the cashew market mechanism. Aligned public and private efforts are needed.





## List of Abbreviations

|         |                                                                                              |
|---------|----------------------------------------------------------------------------------------------|
| ACi     | African Cashew initiative                                                                    |
| BRC     | British Retail Consortium (lead trade association for the UK retail industry)                |
| CBT     | Cashew Board of Tanzania                                                                     |
| CEPCI   | Cashew Export Promotion Council of India                                                     |
| CFR     | Cost and freight                                                                             |
| CIF     | Cost, insurance & freight                                                                    |
| CMA CGM | Container shipping company with head office in France                                        |
| FOB     | Free on board                                                                                |
| HACCP   | Hazard Analysis Critical Control Point (Food safety system based on analysis and prevention) |
| INC     | International Tree Nut Council                                                               |
| ISO     | International Standards Organisation                                                         |
| Lbs     | Pounds (unit of mass)                                                                        |
| Maersk  | Liner shipping company with head office in Denmark                                           |
| OECD    | Organisation for Economic Cooperation & Development                                          |
| ONDD    | The Office national du ducroire Nationale Delcrederedienst (Belgian Export Credit Agency)    |
| Vinacas | Viet Nam Cashew Association                                                                  |

## Relevant Cashew Terms

|              |                                                                                                                                                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conventional | Food produced without organic or fair-trade certification                                                                                                                                                                                                            |
| Fair-trade   | The fair-trade system is about trading as directly as possible with producer organisations and ensuring that all participants comply with fair-trade standards. These standards guarantee fair and sustainable terms of trade for producers in developing countries. |
| FB           | Fine broken                                                                                                                                                                                                                                                          |
| FCL          | Full container load                                                                                                                                                                                                                                                  |
| FS           | Fancy split                                                                                                                                                                                                                                                          |
| In-shell     | Nuts as harvested, prior to processing                                                                                                                                                                                                                               |
| Kernels      | Shelled cashew nuts                                                                                                                                                                                                                                                  |
| LWP          | Large white pieces                                                                                                                                                                                                                                                   |
| Organic      | Production system which excludes the use of chemicals and promotes environmentally sustainable methods.                                                                                                                                                              |
| Outturn      | Weight of kernels produced from a unit of in-shell nuts (lbs per 80 kg bag)                                                                                                                                                                                          |
| RCN          | Raw cashew nuts (the cashew in its shell)                                                                                                                                                                                                                            |
| tonnes       | Metric tonnes                                                                                                                                                                                                                                                        |



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