



Ministry of Foreign Affairs

Boosting the Food & Agribusiness Sector in Angola

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Boosting the Food & Agribusiness Sector in Angola

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1 List of Abbreviations & Definitions

1.1 List of Abbreviations

AFCTA	: Africa Continental Free Trade Agreement
CAGR	: Compound Annual Growth Rate
CAPEX	: Capital expenditures
ECCAS	: Economic Community of Central African States
FAO	: The Food and Agricultural Organization
FAOSTAT	: FAO Statistical Database
F&A	: Food & Agribusiness
FX	: Foreign Exchange
GDP	: Gross Domestic Product
GW	: Gigawatt
INCA	: National Coffee Institute of Angola
KPI	: Key Performance Indicator
MINEA	: Ministry of Energy and Water
MSME	: Micro-, Small- & Medium Enterprises
NDC	: National Determined Contribution
NGO	: Non-Governmental Organization
OECD	: The Organization for Economic Cooperation and Development
PDAC	: Angola Commercial Agriculture Development Project
PRODESI	: Program to Enhance Production, Diversify Exports and Substitute Imports
RSPO	: Roundtable on Sustainable Palm Oil
SADC	: Southern African Community
SCM	: Supply Chain Management

1.2 Definitions

Cereals:

A grain used for food, such as wheat, barley, maize, rice, millet, and sorghum.

Cluster Approach:

Clusters are geographic concentrations of interconnected companies in related industries, but also encompass specialized suppliers, financial institutions, universities, and trade associations (Source: Porter's cluster strategy and industrial targeting (2013)).

Working in a cluster can give the bank a competitive advantage over other peers. Collaborating with leading partners in the region/sector gives good insight in the local dynamics, which is a mitigation factor for experienced risks, creates an interesting deal flow which is driving profit and positions the bank as the leading bank in the food & agribusiness sector, which attracts other clients in other sectors as well.

Consumer Foods:

Consumer foods comprises of the segments food processing, food retail (for instance supermarkets) and food services (for instance restaurants, chains such as KFC).

Food & Agribusiness:

Is the business sector encompassing farming and farming-related commercial activities. It involves all steps required to send an agricultural product to the market, ranging from input supply, distribution to processing and exporting.

Grains & Oilseeds:

Grains comprises of cereals, legumes, and oilseeds, however oilseeds can also be mentioned as a separate category.

Legumes:

Legumes are important to fix nitrogen. For instance, soybean, pulses such as dry beans, peas, peanuts, and lentils.

Roots & Tubers:

Roots & Tubers are crops that in general are developed underground, such as cassava, yam, and cassava.

Thought Leader:

Becoming a food & agribusiness 'thought leader' means that the bank has to make a transition from being a very good service provider to becoming a connector that is at the centre of a sector ecosystem. This requires in-depth knowledge of a sub-sector, an international network of public- & private partners, universities and governmental organizations that work in that sub-sector and a vision on the sector going forward.

Value Chain:

An agri-food **value chain** or **supply chain** consists of different stages and players/stakeholders that transform raw materials into finished products for delivery to the ultimate consumer.

The term 'value chain' is used to emphasize that value is added to the product in each stage of the chain and by every actor. The final consumer price represents all value addition in the whole chain. Value chain analysis starts from a particular (agri-food) product and analyses how value addition is structured and organized in the various stages of the value chain, all the way to the final consumer.

The term supply chain comes from the scientific field of supply chain management (SCM). This field has its origin in logistics, and in the past, it was focus on the supply of raw material and intermediate products to manufacturers of final consumer goods as well as the supply of products to retailers. SCM often takes a business perspective and presents options for improving the supply chain of a particular company. Over time, SCM has evolved in a more encompassing discipline including strategic and operational collaboration, information exchange, financial relations, and innovation among supply chain partners.

2 Executive Summary

A high-level market analysis of the food & agribusiness sector in Angola is presented in this report. The results are based on desk research and an on-site mission that was conducted in April 2023. Financial institutions play a catalyst role in the development of the food & agribusiness sector. For this reason, the starting point for this research is based on the opportunities and entry points for financial institutions in Angola to actively shape the avenue to a climate-resilient food & agribusiness sector.

The food and agribusiness sector plays a critical role in Angola's socio-economic development. Its growth and development are essential for the country's sustainable development and poverty reduction efforts. The sector employs a significant portion of the country's population, and the sector is critical for ensuring food security.

It can be concluded that Angola has massive untapped potential. The agro-climatical circumstances are perfect to grow high yields, land and water are abundant available and the country has a good infrastructure, for instance with 5 deep-sea ports along their coastline. However, the food & agribusiness sector is nascent. To further develop the sector more support is needed from innovative companies that can provide high quality starting material, share financial- & technical expertise and create a robust and climate-resilient sector.

Fruits & vegetables, livestock and coffee are considered as the sweet spots for financial institutions in the upcoming years. Fruits & vegetables and coffee are important to boost exports and the livestock sector is important to substitute imports. We recommend focussing on the 'champions' in the grains & oilseeds sector. The sector is important for Angola, however has a higher risk-profile. The bank can also play an important catalyst role in developing new markets. Barley, dairy and aquaculture are considered as interesting new markets for Angola.

There is potential for financial institutions to unlock value with a better value chain approach and cross sell when onboarding a client. To enter the market for a financial institution, we strongly recommend applying the cluster approach by working together with specialized suppliers, universities, and enablers. The Dutch Embassy can play an important role in supporting and boosting the development of clusters in the selected sectors.

In summary, Angola is a country with massive opportunities in the food & agribusiness sector, however the sector is nascent. Financial institutions are the avenue to boost the development of the F&A sector and to unlock the massive opportunities in Angola.

3 Unlocking The Potential in the Food & Agribusiness Sector in Angola

3.1 Introduction

Angola has the potential to become an agricultural powerhouse with abundant agricultural land available, a favourable climate, fertile soils, and water supplies for irrigation. Despite the tremendous potential, the food & agribusiness sector is still underdeveloped. Yields are on average extremely low. Angola has one of the largest yield gaps of all African countries, however commercial farms are performing much better and are able to realize yields far above the national average.

The Angolan economy was oil-driven and for that reason, investments in the food & agribusiness sector lacked behind. To reduce the dependency on the oil industry, the Angolan Government wants to diversify the economy by boosting the agricultural sector aiming to guarantee food security, reduce food imports and contribute to Angolan GDP.

To investigate how Angola can unlock its untapped food & agribusiness potential and how financial institutions can play a leading role in this transition, Rabo Partnerships performed a high-level market analysis to determine the interesting food & agribusiness sectors for financial institutions.

The selection process occurs through prioritization of a short-list of F&A sectors weighted and ranked against a number of selection criteria. The criteria should have a link to the vision/mission of a financial institution and help to create a focussed/planned and successful roll out of a food & agribusiness strategy that will:

- Realize growth/ strengthen a bank's competitiveness in Angola
- Achieve the desired impact of the bank in Angola
- Have a positive impact on the environment
- Add to the bank's profitability targets/risk-return requirements.

The selection of the sectors is categorized into the following three segments:

- Sweet Spots: sectors that can be defined as strategic important sectors in which a bank can become a 'thought leader.' This means that the bank is considered in the market as the 'go-to-bank' for a particular sector in terms of vision, knowledge, network, and distinctive solutions for all segments across the sector. This requires in-depth knowledge of a sub-sector, an international network of public- & private partners, universities and governmental organizations that work in that sub-sector.
- Chasing the champions: sectors in which the bank should focus on the key players in the sector. The sector is important, however not important enough to create that leading position compared to the sweet spot sectors.
- New markets: sectors that are nascent but promising for Angola and require additional support, amongst others, from the financial industry to further develop.



Mr. Diniz owns nineteen hectares of land, focussing on tomato and potato. However, to diversify his income he also grows other vegetables. His products are sold through the informal market as the formal market is requesting for other varieties of tomatoes and potatoes. Despite his efforts, the results have been not that good, because of the lack of focus and planning.

Farmers apply a multiple sector strategy, meaning that they grow multiple crops. For instance, farmers rotate maize with beans and keep livestock as well. Another common combination of sectors is fruits and vegetables.

It is important to highlight that the high-level market analysis is based on desk research and the insights gained during the diagnostic mission. A deep dive is needed to do a more thorough risk assessment and to develop a tailored business proposition for the bank.

3.2 Methodology

The methodology to develop a food & agribusiness strategy is based on Rabo Partnerships design playbook.



Figure 1: F&A Strategy Design Playbook. Source: Rabo Partnerships (2023)

This design playbook consists of four phases. This report will focus on the first phase 'discover' that investigates the key trends and F&A transitions in a country and partly the second phase 'define.'

The F&A Sector selection process (or sweet spot analysis) is a decision-making process used to determine and rank the competitiveness potential of a select group of F&A sectors (or F&A subsectors). It is conducted to identify those F&A sectors/subsectors to bank that will maximize/optimize the realisation of a bank's objectives. The selection process occurs through prioritization of a short-list of F&A sectors weighted and ranked against a number of selection criteria. The criteria¹ should have a link to the vision/mission of a bank and help to create a focused/planned and successful roll out of the F&A Strategy that will (1) realize growth/ strengthen the bank's competitiveness in Angola, (2) achieve the desired impact of the bank in Angola, (3) have a positive impact on the environment, (4) add to the bank's profitability targets/risk-return requirements.

The research that underpins the sector selection is based on desk research and the insights gained during the diagnostic mission.

3.3 Structure of Report

This report starts with setting the scene by addressing the key features of the food & agribusiness sector in Angola. Topics such as the key F&A transitions, the trade balance, digitalization, sustainability and enabling environment are addressed in this chapter.

Based on this analysis, a high-level market analysis is performed of all the main sub-sectors in Angola, from grains & oilseeds to dairy and livestock. The analysis starts with a key features of the particular sector in the world and in Africa, followed by the analysis of the sector in Angola.

4 Key Features of the F&A Sector in Angola

Angola is the seventh-largest economy by GDP in Africa and the second largest in West Africa after Nigeria. The Republic of Angola is situated on the West Coast of Southern Africa. The country has a surface area of 1,246,700 km² and is bordered by the DRC in the North, Namibia in the South, Zambia in the East, and the Atlantic Ocean in the West. The population is approximately 34.5 million people.

Angola presents favourable agro-climatic conditions for agriculture production. This includes vast expanses of arable land of which about 5.7 percent is currently exploited. Angola is also endowed with abundant water resources with five main river systems, comprising forty-seven water basins. According to the Food and Agriculture Organization (FAO) 80,000 hectares are irrigated, with Cuanza Sul, Bengo, and Benguela having the largest areas.

4.1 A snapshot of the agricultural sector in Angola

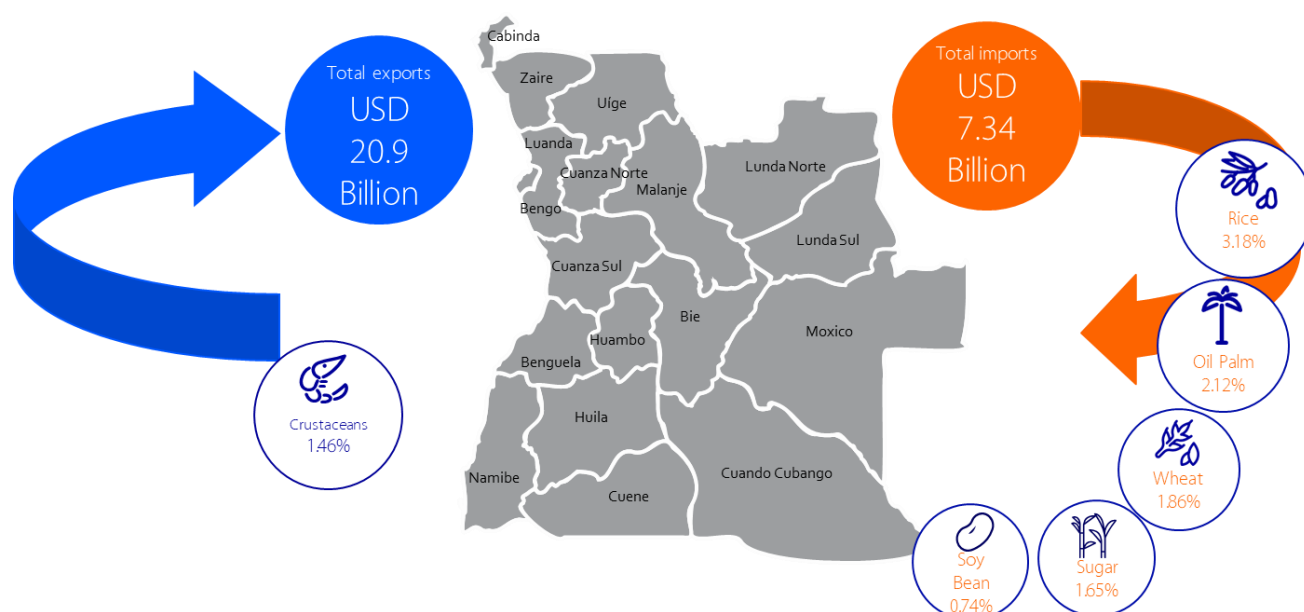


Figure 2: Key import and export sectors. Source: OECD (2020)

Angola has abundant untapped potential. The agro-climatic circumstances are perfect to grow high yields, however Angola has still a yield-gap compared to other African countries. For instance, South Africa farmers produce six tons per hectare of maize, Ethiopian farmers four tons per hectare and Angolan farmers one ton per hectare according to FAOSTAT. The main reasons for the low yields are the use of low-quality inputs and the lack of good agronomical practices.

Land is abundant available in Angola. If farmers want to turn natural land into agricultural land, a twenty percent legal reserve has to be considered, to avoid large-scale deforestation. Land titles can be obtained in Angola. First a title of five years, followed by another five years to check whether the land is productive. After this period, a sixty-year lease can be rewarded.

4.2 Trade Balance

4.2.1 Intra-Africa Trade

Angola is a member state of two Regional Economic Communities, the Southern African Community (SADC) and the Economic Community of Central African States (ECCAS). The SADC members are Angola, Botswana, Comoros, DRC, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia,

Zimbabwe. The ECCAS countries are Angola, Burundi, Cameroon, CAR, Chad, Congo, DRC, Equatorial Guinea, Gabon, Rwanda, São Tomé, and Príncipe.

In addition, Angola is member of the AFCTA, the Africa Continental Free Trade Agreement. The key objective of the AFCTA is to eliminate barriers to trade in Africa and to boost intra-trade across Africa, particularly in value-added production and trade across all sectors of Africa’s economy. It is expected that Intra-African agricultural trade can increase significantly if all tariffs will be eliminated under the AFCTFA.

Approximately 2 percent of Angola’s world exports and 8 percent of imports were to and from the rest of Africa according to Tralac (2019). 81 percent of intra-Africa exports are to South Africa and DRC. Most other main destination markets are in West Africa including Togo, Ghana, and Nigeria. Exports are petroleum oils. Forty-two percent of Angola’s intra-Africa imports are also non-crude petroleum oils with South Africa also being the main source country. Other import products include frozen fish, flour, and soaps. 87 percent of Angola’s total intra-Africa trade is with only five countries: South Africa, Togo, DRC, Egypt, and Morocco.

According to Afrexim Bank, a large untapped potential exists in food products such as fish and crustaceans. This is an opportunity for Angola.

Another opportunity for Angola is the focus on the other five African countries, Cabo Verde, Guinea-Bissau, Equatorial Guinea, Mozambique and São Tomé, whose official language is Portuguese. The population of the six Portuguese speaking countries, including Angola is 71 million with a total GDP of USD 120 billion.

4.2.2 Trade Balance per Sector

The trade balance in Angola per sector is the following.

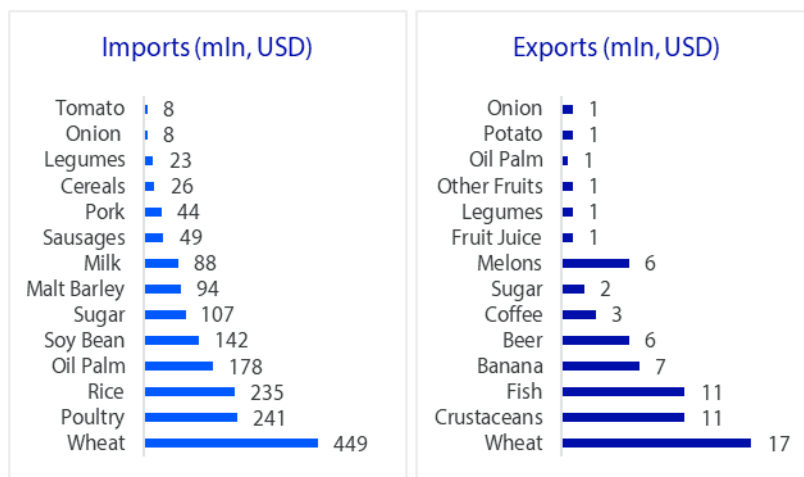


Figure 3 : Crop imports and exports Angola. Source: OECD (2021)

Angola is a large net importer of grains & oilseeds such as wheat, rice, and oil palm. Malting barley is also imported at scale for the brewing industry. Livestock, such as poultry and pork are also imported. Exports focus on fruits & vegetables such as melons, banana, and fish such as crustaceans.

4.3 Climate & Land Use in Angola

4.3.1 Climate

Most of Angola is part of the Guinea Savannah which is an enormous expanse of arable land stretching across Africa and consists of a highland massif bounded by a tiny strip of lowlands with an altitude between 0 and 200 meters. The highland mountains and plateaux are above two hundred meters, and it occupies the largest part of the country. Moco Mountain in Huambo is the highest mountain at approximately 2,620 meters.

The 1,700 kilometres border and higher altitude *hinterland* result in two major climatic zones:

- The coastal zone, with tropical dry climate in the North, and desert in the South, covering a coastal strip influenced by the Benguela Cold Seawater Stream, with annual rainfall ranging from 50 mm in Namibe to 800 mm in Cabinda, a relative humidity of over 30 percent and an annual average temperature higher than 23 degrees.
- The *hinterland* that is subdivided into three zones:
 - A humid tropical climate covering the inner zone and the North-East, with abundant rainfall and high temperatures
 - A tropical climate modified by the latitude and comprising the higher altitudes of the Central Highlands with average annual temperatures below 19 degrees
 - The mid-arid climate zone in the South, with average rainfall ranging from 500 mm to 800 mm per year and low temperatures in the evenings of the dry season.

According to IFAD, it is expected that the temperatures will go up due to climate change. The hottest months of the year, October, and November are predicted to increase by 2.1-2.4 °C. It is predicted that the increase in the other months will be 1.8 to 2.3°C. Lower and/or rainfall will have impact on the agricultural sector in Angola, especially for heat- and drought-sensitive crops such as maize. Irrigation will become more important to mitigate the impact of climate change.

4.3.2 Land Use

Angola has abundant land available for agricultural production. Most of the current land use is for grains & oilseeds.

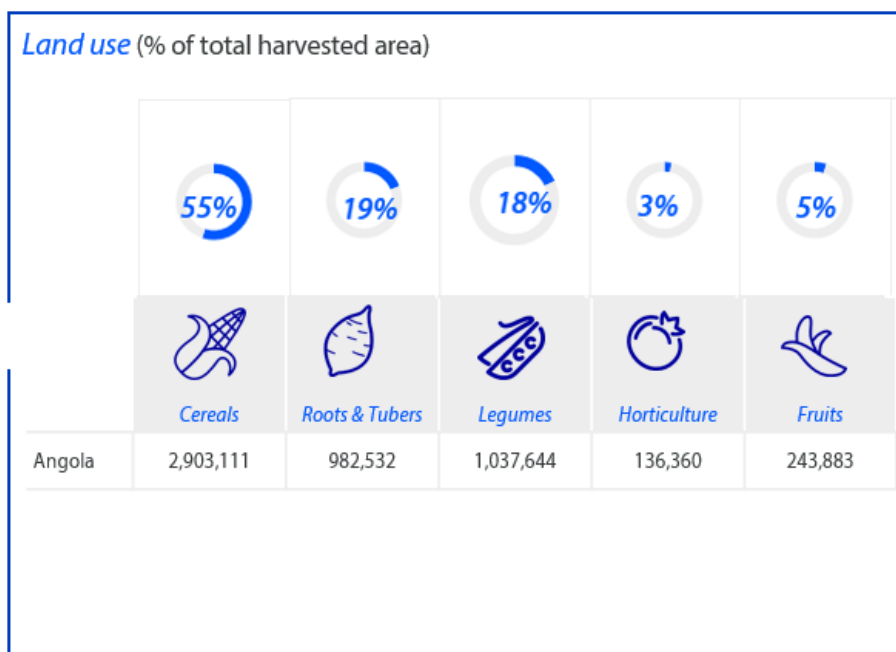


Figure 4: Land Use (percentage of total harvested area). Source: República de Angola Ministério da Agricultura e Pescas (2021)

4.4 Food & Agribusiness Transitions in Angola

Financial institutions play a catalyst role in the development of the economy. For this reason, banks can and should be active to shape the avenue to a climate-resilient food & agribusiness sector. However, providing access to finance to value chain partners, especially when looking at the SMEs and primary producers, is perceived as high risk. Sustainability should be an integrated component of the strategy of a bank for the following reasons:

- Increasingly sustainable business models correlate with more attractive risk profiles. Financial institutions can benefit from selecting those outperformers capable of applying sound agronomical and sustainability practices, resulting in a higher risk-adjusted return on investment.
- Climate change issues cannot be viewed as independent of other transitions in the food system. For instance, reducing food loss and -waste by reducing post-harvest losses can reduce greenhouse gas emissions significantly while mitigating climate change.

Food systems worldwide need to be transformed for various reasons. Societies have to achieve food security, while climate change, biodiversity and soil- & water quality have to be addressed. The following key transitions have been identified for Angola:

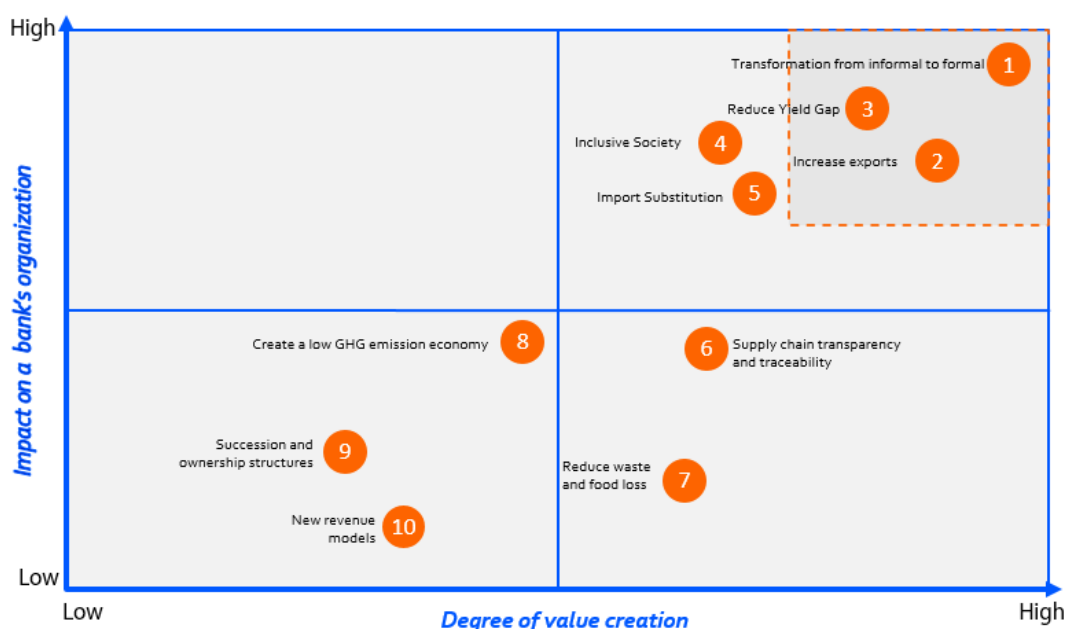


Figure 5: Food & agribusiness transitions in Angola. Source: Rabo Partnerships (2023)

The key transitions are based on desk-research and insights gained during the diagnostic mission. The most important transition that can help Angola to become the food basket of Africa again, is the transition from its large informal sector to a more formal sector. Many farmers are not connected to the (international) markets. A few commercial farms have been able to tap into the huge potential of the food & agribusiness opportunities in Angola. Supply chain integration would also contribute to a more inclusive society, which is another key transition. Increased exports will generate FX inflow, resulting in lower inflation ratios and more stability.

Angola has a significant yield gap compared to other African countries, while the agro-climatical conditions are ideal for high yields. Higher production will result in import substitution. Increased yields can also drive rural development and a more inclusive society. In other words, the top five key F&A transitions are all interconnected.

The financial sector can contribute to the transition pathways by offering tailored services to particular sectors and/or client segments. This will help, for instance, farmers to invest in high quality seeds, which results in higher yields and income. Processors and off-takers can invest in more capacity, which enables these partners to capture more added value in Angola, to increase exports and to substitute imports. This will increase GDP as well.

4.5 Key Features of the Various Segments in the Value Chain

4.5.1 Inputs

4.5.1.1 Seeds

The commercial seed industry activity in Angola is still nascent. Farmers rely entirely on farm-saved seed or imported seed from the government and private companies. It is estimated that 94 percent of maize seed planted by farmers in Angola comes from farm-saved seed on the farm or from grain or seed that is multiplied by farmers. This percentage is believed to be even higher for other crops such as beans, millet, sorghum, groundnuts, and wheat. This results in a low crop production.

The following seed companies are active in Angola:

Company Companies selected for the Access to Seeds Index	Crops in Portfolio		Company activities in country					
	Field crops	Vegetables	Breeding location	Testing location	Seed production	Processing location	Sales	Extension services
Bayer	●	●					●	
Bejo		●					●	
Capstone Seeds	●	●		●	●	●	●	
Corteva Agriscience	●						●	
East-West Seed		●					●	
Enza Zaden		●					●	
Klein Karoo Africa	●	●					●	
Limagrain	●	●					●	
Pop Vriend Seeds		●					●	
Sakata		●					●	
Seed Co	●	●		●	●		●	
Syngenta	●	●					●	
Zamseed	●	●					●	

Figure 6: The seed sector in Angola. Source: www.accesstoseeds.org (2023)

4.5.1.2 Fertilizer and Crop Protection

To increase production, the Angolan government created the Production Support, Export Diversification, and Import Substitution Program (PRODESI), to support economic diversification in the country. Another facility is the Credit Support Project (PAC), which is part of the PRODESI program, aiming to finance private investment projects.

According to a study by the World Bank, Angola provides one of the highest levels of support to agricultural producers amongst developing and developed countries monitored by the OECD. However, agriculture support is geared towards private goods (subsidies and market price support), rather than attracting investments in innovation, infrastructure, or plant health services. Subsidies are paid for inputs (seed programs, land preparation support and machinery subsidies²).

² Creating markets in Angola. Opportunities for development through the private sector

Carrinho, a fully vertically integrated food industry with seventeen factories capable to process rice, wheat and corn which also provides inputs, including technical support, to farmers. In turn, farmers have to deliver its produce to Carrinho. This out-grower structure can help farmers in developing their agronomical skills and in increasing their yields. At the same time, it is important that farmers will not be locked-in in this system and still remain price takers.

A consortium of Angolan companies plans to invest USD 2.2 billion in an industrial fertilizer company in Soyo, expected to be completed in 2026. The facility will be designed to produce granulated urea.

Embrapa, Bras Africa, Casa do Fazendeiro, Angopri, Veranova, Nutrivet and FertiAngola are other input providers.

FertiAngola, established in 2005, has an extensive product range that includes fertilizers, seeds, agrochemicals, veterinary products, garden, tools, and irrigation equipment. The company is quite well organized especially in Benguela.



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4.5.1.3 Mechanization

The availability of mechanization is important for the development of the food & agribusiness sector. LonAgro is a dealer for John Deere, Agroway, a group of Brazilian companies, represents New Holland and Bras Africa sells the Brazilian made Massey Ferguson tractors.

Agromundo is a one-stop shop for agricultural inputs and equipment that represents leading international brands, such as Syngenta and Basf (crop protection), Lindsay (Irrigation systems) and Rovatti Pompe (water pumps).

4.5.2 Farmers

In general, agribusiness value chains present coordination failures and commercialization is based on informal, ad-hoc arrangements. There are a few examples of contractual agreements between off-takers and small and medium producers, exceptions being Aldeia Nova subcontracting egg production to small farmers; Fazenda Maxi, People in Need and the Terra do Futuro projects.

Small and medium-sized agribusiness face severe constraints. These include the lack of capital and access to credit, limited technical skills, and lack of access to markets partly due to high costs and/or lack of transportation. Smallholders have low bargaining power due to their poor access to market information, while the lack of storage, processing and transportation exacerbates their vulnerability as price takers. Productivity is constrained by the limited use and availability of quality seed, fertilizers and mechanization, poor agronomical practices, limited areas under irrigation, and poor dissemination of agricultural knowledge. Small producers also face soil fertility issues.

4.5.2.1 Farm Systems

The two main determinants of farming system diversity are resource endowment (dependent on agroecology and population density) and services endowment (access to agricultural services including markets). A measure related to agroecology is for instance the length of growing season, which is a key indicator of potential biomass productivity. An indicator of services endowment is the travel time to the closest major market town³. Most countries contain several farming systems.

As can be seen from the overview below, agropastoral, maize-mixed and root & tuber crop systems are most common in Angola.

³ Africa through the farming systems lens (2020)

In a maize mixed farming system, maize is the dominant crop, intercropped or rotated with other grains or with cattle, poultry, or other off-farm work. An agropastoral system is a mixed-crop livestock farming system depending on food crops such as sorghum and livestock, such as cattle. Root & tuber crop systems are dominated by roots and tubers such as cassava, combined with legumes.



Figure 7: Farming Systems of Africa. Source: Africa through the farming systems lens, derived from GAEZ FAO, IIASA, FAOSTAT (2020)

4.5.2.2 Age of Farmers

The division of farmers’ age is the following.

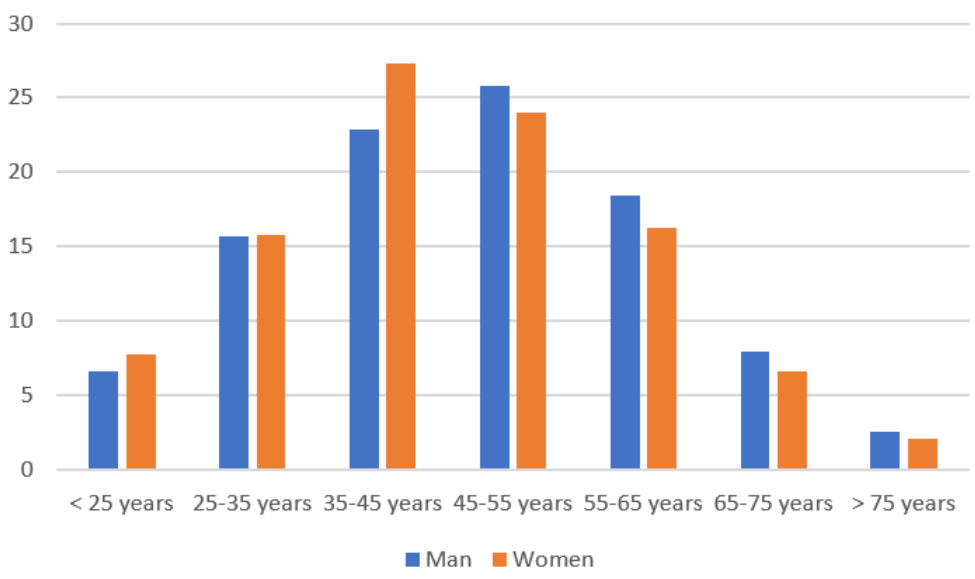


Figure 8: Division of farmers based on age. Source: República de Angola Ministério da Agricultura e Pescas (2021)

It can be concluded that Angola has a young farmer population compared to other African countries, which is an opportunity to develop the F&A sector.

4.5.2.3 Farmer Segmentation

The farmers can be segmented based on size, which shows the following overview as a percentage.

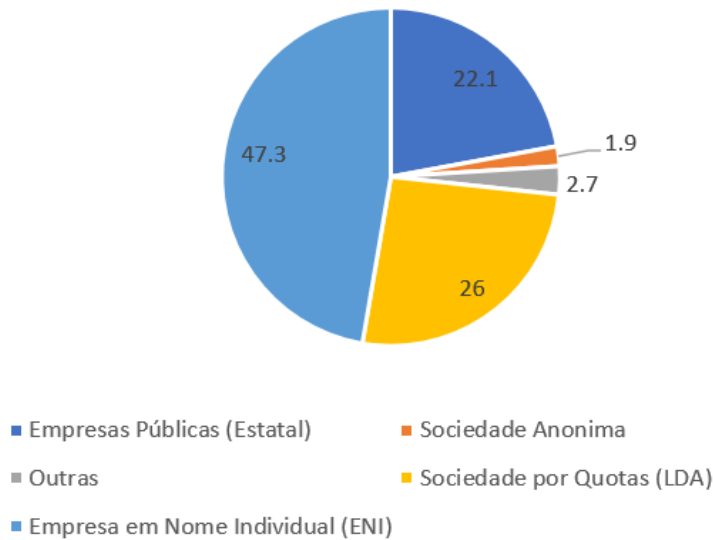


Figure 9: Farmer segmentation. Source: República de Angola Ministério da Agricultura e Pescas (2021)

The largest group of farmers are the smallholder farmers (47.3 percent), followed by the small and medium enterprises of 26 percent. The large commercial farms represent 22.1 percent of the farms. There is a significant gap in terms of size between the smallholder farmers (< 5 hectares) and the large commercial estates (> 100 hectares).

4.5.3 Aggregators - Cooperatives

According to República de Angola Ministério da Agricultura e Pescas, Angola has 1,780 cooperatives. The Government is promoting the development of cooperatives; however, our first impression is that cooperatives are currently a more social instrument instead of a commercial institution. From Rabo Partnerships’ best practices in other countries, it can be concluded that cooperatives based on social-political principles do not play any role in the development of a food system.

Cooperatives can bridge the gap between the individual small farmer and the large market players and can ensure that the farmers obtain a better market position within the value chain. However, that requires cooperatives that are based on business-like principles, such as a clear value proposition, a capitalization policy, a transparent governance system and a minimum size to achieve economies of scale. It is determined that only a few cooperatives are commercially oriented.

Cooperative Model in Angola

Cooperatives in Angola were established to increase countervailing powers; however, the size of the cooperatives is too small to play a role in the value chain, the cooperatives have not a clear business model and are not organized in a professional way.



4.5.4 Processors

Angola has large-scale processors in all industries, for instance, Quinta de Jugais, which is based in the Zona Económica Especial in Luanda. The company imports 75 percent of its supply, for instance pork from Argentina and poultry from Brazil. This shows that there is sufficient room for local, professional producers to supply processors such as Quinta de Jugais.

In the dairy industry, processors such as Gulkis, import powder milk, because there is a lack of local supply.

4.5.5 Retailers

Although the buying power of an average inhabitant of Angola is low, the retail sector is quite well-developed. Nosso Super (Nova Rede de Supermercados de Angola managed by Kero), Shoprite (holding based in South Africa), Maxi Cash & Carry (Teixeira Duarte), Kero Hypermarket (Zahara Group) and Casa dos Frescos (Casa dos Frescos Group) are some of the leading retailers in Angola (source: US Agricultural Affairs Office Luanda).

4.5.6 Enabling Environment

4.5.6.1 Government Agricultural Policy

According to OECD⁴, Angola allocates USD 1.3 billion annually to support the agricultural sector, which is 1.5 percent of GDP. This is much higher than in most of the developing countries. For instance, South Africa allocates 0.4 percent of total GDP to the agricultural sector, while OECD countries' support represents 0.6 percent of total GDP. Most of the support (94 percent) is allocated for direct market price support to farmers and just a mere 6 percent to support public goods and services. The market price support is mainly beneficial for a small number of large-scale, commercial farmers, while it would be important to focus on enhanced sector competitiveness aiming to support the entire sector. The participation in free-trade agreements will increase the necessity to focus on the competitive advantage of Angola to other countries and to provide more sector support. The support provided is mainly focussing on maize and beans.

Angola's agriculture trade policy aims to foster import substitution and is characterized by tariffs and non-tariff barriers (licensing, permits and laboratory fees), which raise the costs for regional and global value chains. However, Angola is moving to a free-trade environment, it has to redirect its policy. One of the instruments is PRODESI (Program to Enhance Production, Diversify Exports and Substitute Imports), which is a program to support the private sector in unlocking SME finance, which is linked to the (PRODESI).

The *Enabling the Business of Agriculture Index*⁵, shows that Angola is ranked 95th out of 110 countries on this index, which is reflecting the regulatory gaps and the disabling environment faced by farmers and other value chain partners. One of the root causes is that the Government is focused on the Government as the leading investor instead of supporting the private sector to support the development of the F&A sector. For instance, the Government has a national irrigation plan, called Plano Irriga, while there is no policy for smaller scale, gravity-fed irrigation systems that could be provided by the private sector.

4.5.6.2 Fin-Tech and Ag-Tech Partners in Angola

The digitalization trend is not yet at the level of countries such as Kenya. Angola has organized incubator events and Fin-Tech and Ag-Tech companies, such as Movimenta, Bweviapy, Lebapay and Digi pay are nascent. Digital solutions are important to bring transactional costs close to zero and to create more transparency and traceability in the value chains.

⁴ Agriculture Support Policy Review Angola, World Bank (2021)

⁵ Enabling the Business of Agriculture, World Bank (2019)

As the market is not yet mature and few start-ups are in the local market a bank should become a front runner in terms of innovation and could lead the innovation drive within Angola. Starting with sponsorship and/or organizing hackathons/ideation sessions, building incubator networks as well as seeking ways to disrupt the organization from the inside. A key factor would be to find the resources inside and outside the company: business ideas, talented staff, and future business models.

4.5.6.3 *Electricity - Energy*

Angola's current installed capacity is estimated at 5.6 GW but only 4.5 GW is available. The country's current energy mix consists of 68 percent hydropower, 31.3 percent other fossil fuels and 0.7 percent solar. However, the Ministry of Energy and Water (MINEA) expects to reach 6.3 GW of generation capacity once the Soyo combined cycle gas plant (750 MW), and the Laúca hydroelectric project (2.1 GW) come into full operation.

Just a mere 47 percent of the population has access to energy. Current electrification rates are estimated at 42.8 percent in most cities and less than 10 percent in rural areas. As a result, both businesses and residents rely heavily on diesel generators for power. The government's announcement to reduce government subsidies, resulting in higher fuel- and electricity prices in the coming years will boost the demand for alternative energy solutions.

Only 9 percent of Africa's current energy mix comes from renewable sources. However, Angola holds great potential for renewable energy production. Studies conducted by the Ministry of Energy and Water identified potential for 16.3 GW solar power, 3.9 GW wind power, and 18 GW in hydropower throughout the country. To address rural demand, the government is pursuing the development of small-scale off-grid projects, using both fossil fuels and renewable technologies (small hydro, solar, wind, and biomass).

The U.S. Government, with support by the U.S. Department of Commerce and the Export-Import Bank of the United States, has facilitated a partnership between Angola and the U.S.-based project development firms, Africa Global Schaffer, and Sun Africa, for the mobilization of USD 2 billion to develop a solar project, which includes the development of solar mini-grids, home power kits and solar-to-power telecommunications.

4.5.6.4 *Infrastructure – Lobito Corridor*

The Lobito Corridor is a railway from the port of Lobito and the city of Benguela through the hinterland of Angola to the mineral rich regions in the Democratic Republic of Congo and Zambia. The corridor runs through the provinces of Benguela, Huambo, Bié and Moxico.

The Lobito Transport Corridor comprises not only the railway, but also the port, roads, airports, and logistic platforms. The port of Lobito has been modernized and expanded with some container terminals. The port will have a capacity of 4.1 million after completion⁶.

4.5.6.5 *Infrastructure – Zona Económica Especial Luanda*

The objective of the Zona Económica Especial in Luanda is to boost investments to Angola, to increase exports and to substitute imports. There are currently eighteen new companies based in this economic zone. Two of these companies are food & agribusiness related, Horta Verde (tomatoes) and Quintas de Jugais (processing).

Companies receive tax holidays and additional support to establish a sustainable business model. For instance, infrastructure, such as roads, water, energy is all well established, and the economic zone is strategically located close to the airport, seaport, and railway.

⁶ Lobito Corridor Fruit Mapping

4.6 Competitive Advantage of Angola

Angola has in potential a competitive advantage compared to peers in terms of labour costs, climate, soil quality, land availability, and water. The infrastructure is also an asset of the country with five deep sea ports, products can be shipped from Angola to Europe in eighteen to twenty days.

Angola can benefit from the strong historical connection with Portugal to leverage its presence in Europe. Portugal is the window to Spain and the rest of Europe. For instance, trucks that enter Portugal from Spain take products back to Spain.

To unlock this potential, Angola has to improve the level of technical- and financial skills of its population and to invest in improved starting material such as parent-stock farms, seed potato and artificial insemination. Food & agribusiness is nascent in Angola, however is still in an infant stage. This mainly because of the civil war and the strong focus on the oil sector.

5 Grain & Oilseeds

5.1 Introduction Grains & Oilseeds

Grains consists of cereals, legumes, and oilseeds. Cereals include rice, wheat, oats, barley, millet, sorghum, and maize. Legumes are for instance beans, soybeans, chickpeas, and peanuts. Oilseeds are seeds grown primarily to produce edible oils, such as rapeseed, groundnuts, sunflower, sesame. Soybeans can also be defined as an oilseed.

Value chains vary per sub-sector, however overall, the value chains for grains & oilseeds look like the infographic below⁷.

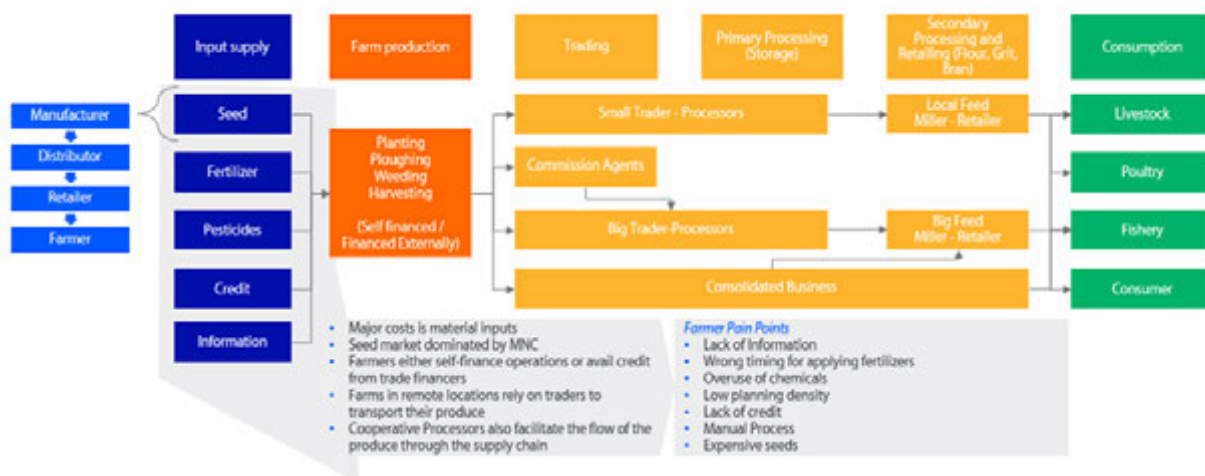


Figure 10: example of a simplified Grain & Oilseeds Value Chain. Source: Rabo Partnerships (2023)

This chapter will elaborate on cereals and oilseeds & legumes in Angola.

⁷ Food & Agribusiness Rabobank

5.2 Grains & Oilseeds in Angola

Angola has a significant grains & oilseeds sector that consists of cereals (such as wheat, barley, maize, and sorghum), legumes (such as beans, soybeans, peanuts), and oilseeds (such as sunflower, sesame, groundnuts). The leading provinces are Huambo and Cuanza Sul, followed by Huila, Bié and Benguela.

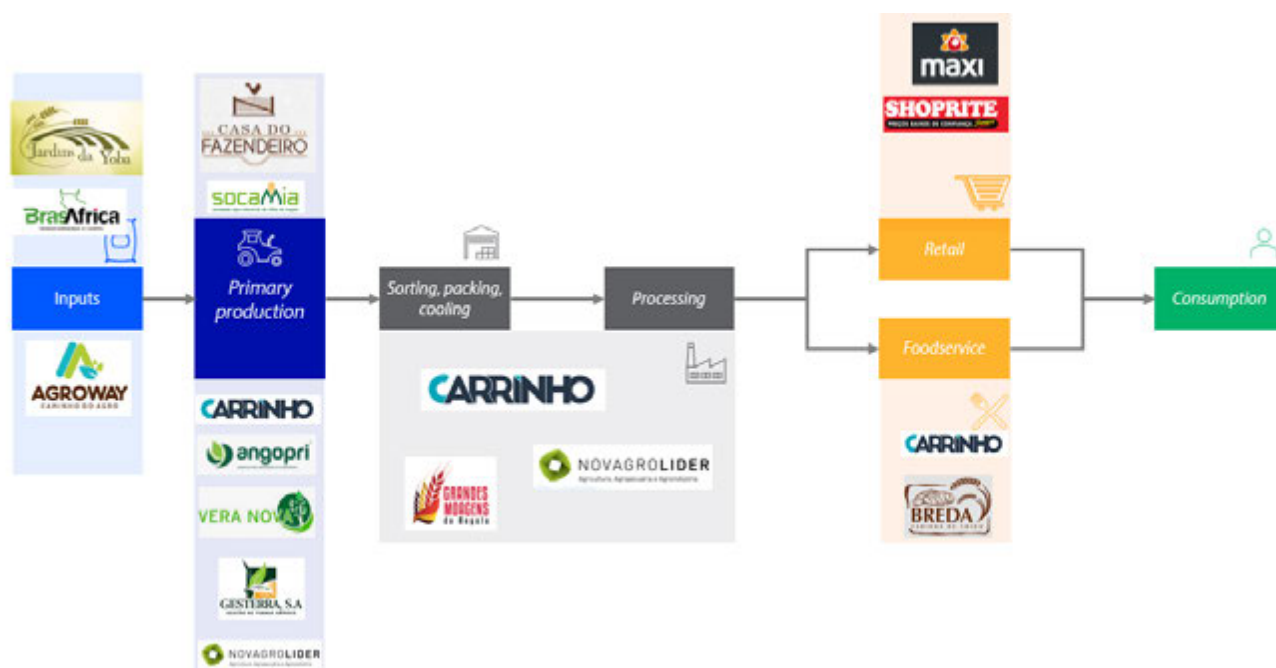


Figure 11: Leading partners in the grains & oilseeds sector in Angola. Source: Rabo Partnerships (2023)

Carrinho is an Angolan family-owned company, vertically integrated in the food industry, managing all stages of the value chain: origination, transportation, storage (stocking capacity of 100,000 tons of cereals and 55,000 m³ crude vegetable oil products), manufacturing and distribution.

The company is involved in the processing of rice, wheat, corn, biscuits, pasta, breakfast cereals, refine and bottling vegetable oil.

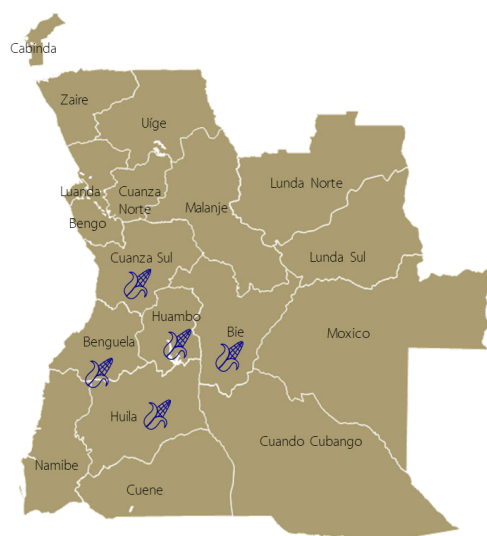


The sector has a number of leading vertically integrated companies, such as Nova Agrolider and Carrinho. Another large-scale company is Gesterra (Gestao de Terras Araveis), which is a state-owned enterprise created in 2006 with a mandate to manage large-scale agriculture projects, particularly in the area of cereals. The focus is on four main crops: maize, soy, rice, and beans. Gesterra's main role is to identify land for agricultural production which it then assigns the title of 'strategic state reserve.'

Maize is the most important cereal in Angola with about 1.2 million under production, produced by mainly smallholder farmers. It is expected that the production of maize in various regions is susceptible to the effects of climate change. The production volumes in wheat, rice, sunflower and sesame are very low, and groundnuts is a subsistence crop. The production of soybeans is increasing gradually. For all grains & oilseeds it can be concluded that Angola has a significant yield-gap compared to other African countries.

5.3 Cereals in Angola

Angola produces 3,071,085 tons of cereals on 2,903,111 hectares. Maize is the most important cereal for Angola. The top five provinces are the following⁸.



Province	Production (tons)	Production (%)
Huambo	706,078	24.3%
Cuanza Sul	506,323	17.4%
Huila	464,392	16.0%
Bié	415,848	14.3%
Benguela	357,425	12.3%

Figure 12: Cereals in Angola. Source: República de Angola Ministério da Agricultura e Pescas (2021)

5.3.1 Maize

5.3.1.1 Maize in the World – Africa

Maize is one of the world’s most important cereals. In Africa, it is the second most important crop after cassava. It provides nutrients for human consumption and animals and is a basic ingredient for the production of starch, oil, and protein.

In most African countries, the vast majority of maize (>95 percent) is grown by smallholder farmers under rain-fed conditions with volatile production from year to year. Use of improved seeds and fertilizer is modest. Maize prices are volatile during the year. Low prices during harvest times and prices are high prior to the next harvest. The milling industry consists of hundreds of small-scale mills. Maize is a political sensitive crop, because of the importance to achieve food security in particular countries.

⁸ Relatório de resultados da campanha agrícola 2019-2020

5.3.1.2 Maize in Angola

Maize is the staple food in Angola and is grown across the country, with about 1.2 million hectares under production, produced by smallholder farmers (95 percent). The production has increased significantly after 2012-2013 with a production volume of approximately 2.3 million tons as can be seen on the graph below. In terms of yields per hectare, Angola has a huge yield gap compared to other African countries.

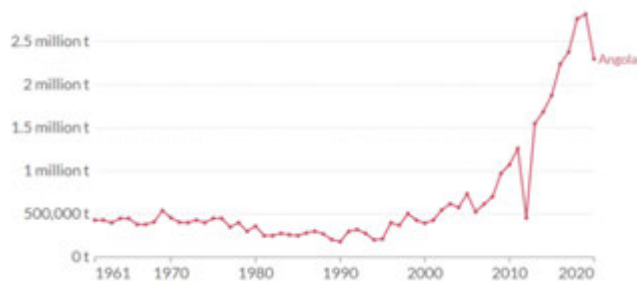


Figure 13: Maize production – 1961 to 2020.

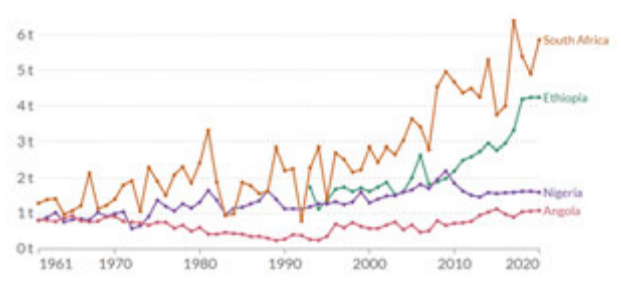


Figure 14: Maize Yields in Angola and leading countries in Africa.

Source: Our World in Data (2021)

Maize is grown as a subsistence crop across all provinces.

According to IFAD, Long-maturing varieties have moderate suitability, while short-maturing varieties have widespread areas of excellent suitability, particularly in the Central and Northern regions.

As can be seen on the map below, most provinces are susceptible to the effects of climate change. A decrease of production is expected in most of the provinces, except for Cuanza Sul, Huambo, Lunda Norte, Lunda Sul and Malanje. Namibe is projected to undergo a considerable reduction in total suitable area for maize production, while Cunene and Luanda are considered as unsuitable for maize production⁹.

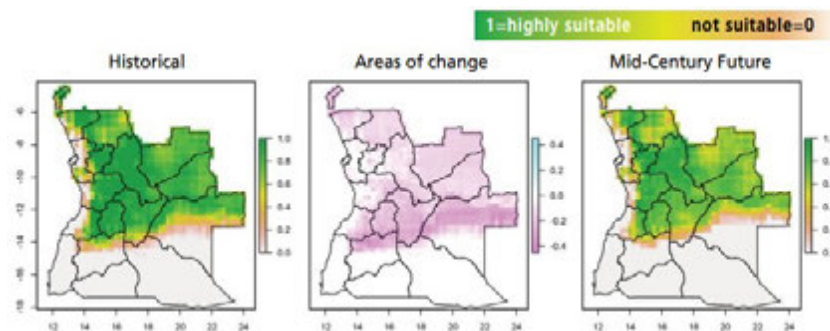


Figure 15: Projected effect of climate change on distribution of suitability for maize in Angola. Source: IFAD (2020)

⁹ Climate change and future crop suitability in Angola

The Castel Group, a French beverage Group, through its subsidiary Sociedade Agroindustrial de Milho de Angola (Socamia) invested over USD 40 million in the province of Malanje to produce 11,000 tons of maize on 10,000 hectares for the beer industry. The currently utilized number of hectares is 1,300 hectares, of which 1,200 hectares under irrigation. The companies grow two crops per season with an average yield of 6 to 10 tons per hectare.

The storage capacity of the warehouse is 22,000 tons with a drying capacity of 80,000 tons. The state-of-the-art processing facility aims to supply maize for their own brewing company in Angola. It is considered as a stand-alone project without any link or involvement of other partners in the beer-grains sector.



5.3.2 Wheat

5.3.2.1 Wheat in the World – Africa

According to the Food & Agribusiness Research team of Rabobank, it is expected that imports of wheat to Sub-Saharan Africa grow faster than those to North Africa, driven by population and income growth. The import growth rates in West Africa and East Africa will be even significantly higher. Climate conditions in many regions do not allow for wheat farming. As a result, almost the entire demand must be covered by imports, mainly from the US, Russia, and Ukraine. The wheat prices reached an all time high due to the Russia-Ukraine conflict¹⁰.

Zambia is the only wheat surplus country on the African continent.

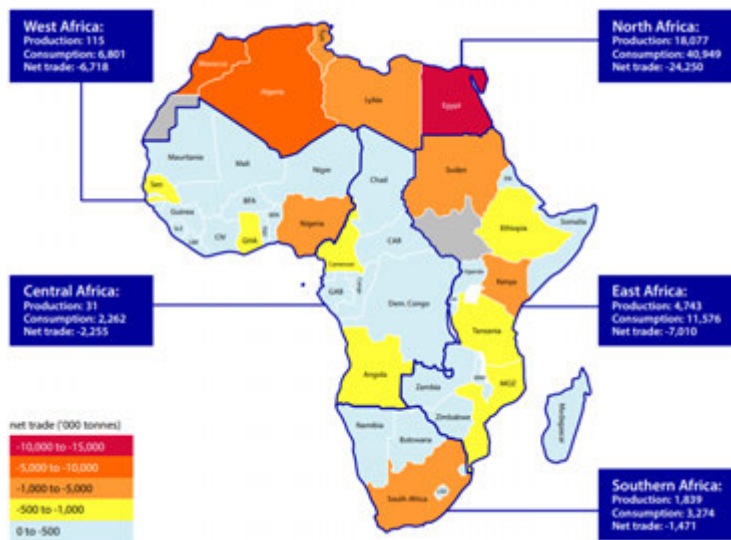


Figure 16: Africa's net wheat trade ('000 tonnes, average 2009/10 – 2014/15). Source: Africa Wheat Imports look South. Rabobank (2016)

5.3.2.2 Wheat in Angola

The figure above shows that Angola is a net wheat importer as well.

¹⁰ Food & Agribusiness Research Rabobank (2016)

The optimum temperature for wheat growth is 16°C and 26°C, respectively. This makes wheat not suitable for all regions in Angola.

The wheat production has plunged from 1961 to 1980 and stabilized after 1980 as can be seen on the graph below. The yields are also low compared to South Africa (4.3 tons) or Zambia (6.79 tons)¹¹



Figure 17: Wheat Production 1961 to 2020.

Source: Our World in Data (2021)



Figure 18: Wheat Yields – 1961 – 2020.

Angola is increasing its processing capacity for wheat. For instance, the Grandes Moagens de Angola (GMA) project in Luanda has the capacity to produce 1,200 tons of wheat flour per day. GMA is also building a wheat mill in the port of Lobito, on the Southern Coast with the same capacity. Kikolo Wheat Mill in Luanda has a production capacity of 1,000 tons of wheat flour per day. Induve, Indústrias Angolanas, a former state-owned enterprise has a milling capacity of 700 tons per day.

Looking at the production levels according to ‘Our World in Data’ and the processing capacity available, it can be concluded that there is a significant over-capacity of processing capacity.

5.3.3 Rice

5.3.3.1 Rice in the World – Africa

Global rice production in 2022 was over seven hundred million tons of milled equivalent annually, with Asia producing 90 percent. China is the market leader, followed by India. The leading production countries in Africa are Nigeria, producing six million tons, followed by Tanzania at 2.9 million tons and Mali with 2.8 million tons¹².

More than thirty-five million smallholder farmers in Africa grow rice. Demand for rice in Africa is growing 6 percent annually, which is for approximately 60 percent produced in Africa.

5.3.3.2 Rice in Angola

The following provinces are well situated for rice production: Lunda Sul, Cuando Cubango, Moxico, Uíge, Malange, Bié and Huambo, however as can be seen on the graph below, rice production is very low in Angola.

¹¹ Our World in Data (2021)

¹² Food & Agribusiness Research Rabobank

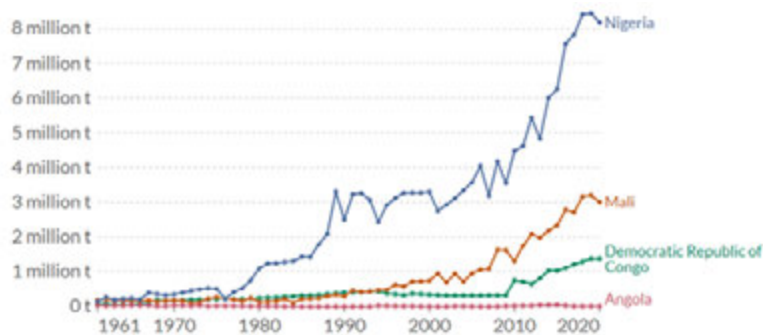


Figure 19: Rice production, 1961 - 2020. Source: Our World in Data (2021)

5.4 Oilseeds & Legumes in Angola

Angola has 1,037,644 hectares oilseeds & legumes with a production of 606,698 tons. This is a productivity of 585 kilograms per hectare.

The top five production provinces are the following¹³.



Province	Production (tons)	Production (%)
Huambo	228,171	22.0%
Bié	199,768	19.3%
Cuanza Sul	157,494	15.2%
Uíge	75,448	7.3%
Malanje	64,854	6.3%

Figure 20: Legumes in Angola. Source: República de Angola Ministério da Agricultura e Pescas (2021)

Beans, groundnuts, and soybean are the most important legumes in Angola.

¹³ Relatório de resultados da campanha agrícola 2019-2020

5.4.1 Sunflower

5.4.1.1 Sunflowers in the World – Africa

Sunflower is an edible, light coloured, neutral flavoured oil with exceptionally low cholesterol and high unsaturated fat levels. Sunflower is regarded as a ‘heart-healthy’ oil that is widely used in food manufacturing and is suitable for frying and salad dressing.

The seeds contain high nutritional value and provide Omega-6 fatty acids and other vitamins. A by-product from the oil extraction, the sunflower cake, contains fibre and is useful as fodder for cows and livestock.

Sunflower seed oil production is 18.2 million tons annually, making it an important edible oil. Ukraine is the largest sunflower producer in the world with 13,626,890 tons production volume per year. The Russian Federation comes second with approximately 11 million tons in yearly production. Ukraine and the Russian Federation combined produce more than 50 percent of the world's total. For perspective, Australia is ranked 40th with 25,000 tons and Uganda at 22nd with 275,000 tons.

The global market for sunflower seeds is expected to witness significant growth over the forecast period. Sunflower seeds are fruits of the sunflower plant and the most popular and healthy of the mass-produced seeds in EU countries. The market drivers that explain the increased sunflower market share include the following factors: growing demand for ready-to-consume convenience foods, increased market opportunity in the snack industry and rising demand for a variety of sunflower seed flavours in supermarkets globally. Manufacturers are increasingly emphasizing healthier food offerings, further expanding demand for sunflower products. The livestock industry worldwide is increasingly utilizing the rich source of fibre present in sunflower cakes as a feed product. These factors have caused the global market share to grow at a double-digit CAGR for the forecast period.

Currently, Africa produces 5.4 percent of the world’s sunflower seeds. Driven by focused development attention, production growth in East African countries such as the United Republic of Tanzania and Uganda has been rapid and successful. One important point of note is that sunflower has largely replaced cotton seed in these countries. The decline of the cotton sector and replacement by sunflower production is an important contextual element.

5.4.1.2 Sunflower in Angola

As can be seen on the graph below, Angola has a very low sunflower production of approximately 12,000 tons per year.



Figure 21: Sunflower Seed Production 1961 to 2020. Source: Our World in Data (2021)

5.4.2 Groundnuts

5.4.2.1 Groundnuts in the World – Africa

Groundnuts is a high-value crop with the potential to create employment and improve the living standards of the rural communities. It contributes to ensure food security and nutritional needs. It is mainly produced for domestic consumption as an ingredient for local dishes such as groundnut paste, snacks, oil, and flour. Rotated with maize, the crop is an integral part of the mixed cropping-livestock system.

The main producers of groundnuts are Nigeria, Sudan and Senegal as can be seen in the graph below.

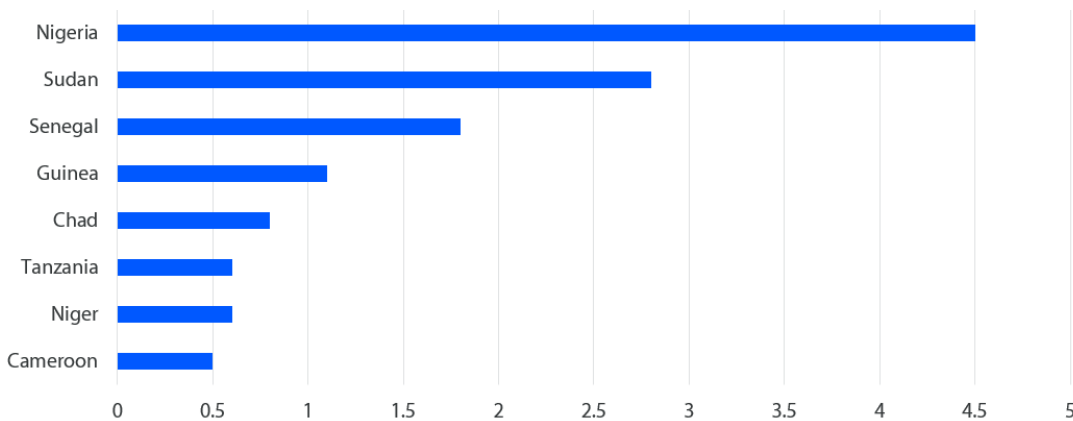


Figure 22: Groundnuts Production 1961 to 2020. Source: Our World in Data (2021)

5.4.2.2 Groundnuts in Angola

Groundnuts are grown as a subsistence crop across all provinces. Groundnuts production is suitable across the country, except for the aridity of the Southern provinces and the Western coastal regions.

According to ReportLinker.com, the groundnuts consumption in Angola is projected to reach 260,810 tons by 2026 up from 253,000 tons in 2021. Angolan groundnuts production is expected to reach 252,330 tons by 2026.

5.4.3 Sesame

5.4.3.1 Sesame in the World – Africa

Sesame seed oil is one of the oldest oilseeds originated in Asia and East Africa. Different varieties of sesame seed are grown in different countries. The seed’s colour can range from creamy white to dark brown or black. There are two types of sesame seed oil. First, the oil used in cosmetics and in foods and is extracted from hulled sesame seeds. Secondly, the oil extracted from roasted sesame seeds that is only used in foods.

The most important suppliers in Africa are Sudan, Tanzania, Nigeria, Burkina Faso and Ethiopia.

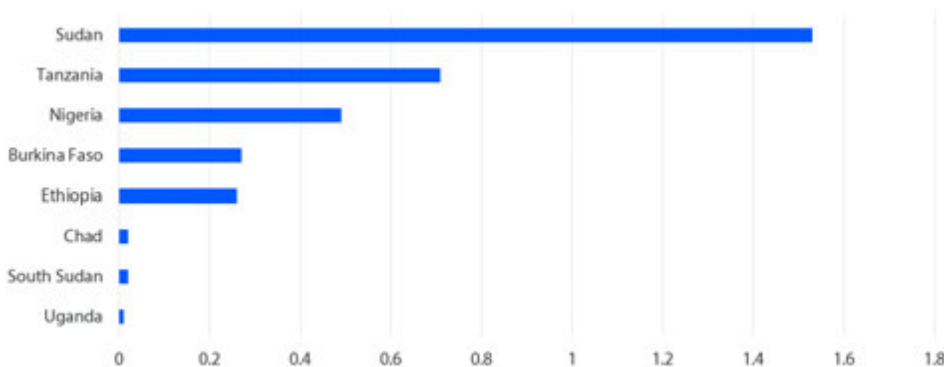


Figure 23: Sesame Production. Source: FAOSTAT (2023)

5.4.3.2 Sesame in Angola

Angola produces sesame seeds, however not sesame seed oil. The volumes are low as can be seen on the graph below.



Figure 24: Sesame Production 1961 to 2020. Source: Our World in Data (2021)

5.4.4 Soybean

5.4.4.1 Soybeans in the World – Africa

Brazil, the US, Argentina, and China are the largest soybean producing countries globally. China is the largest producer of non-GM soybeans, since domestic planting of GM beans is not permitted yet¹⁴.

The crushing of soyabeans results in two main products: soymeal, with an average share of 78.5 percent by weight, and soy oil at around 18.5 percent.

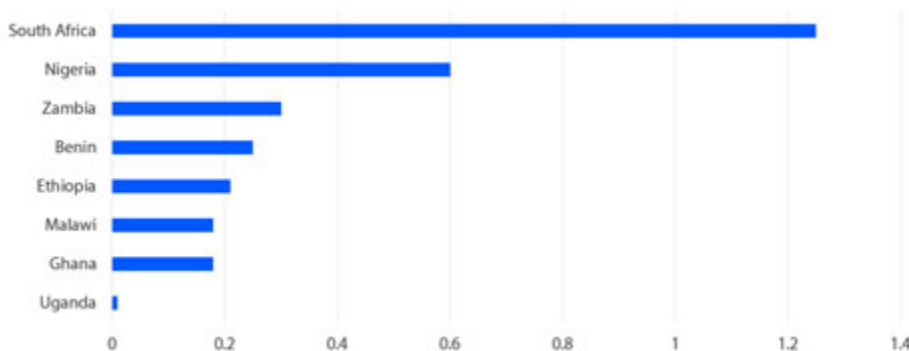


Figure 25: Soybean Production 1961 to 2020. Source: Our World in Data (2021)

¹⁴ Food & Agribusiness Research Rabobank

5.4.4.2 Soybeans in Angola

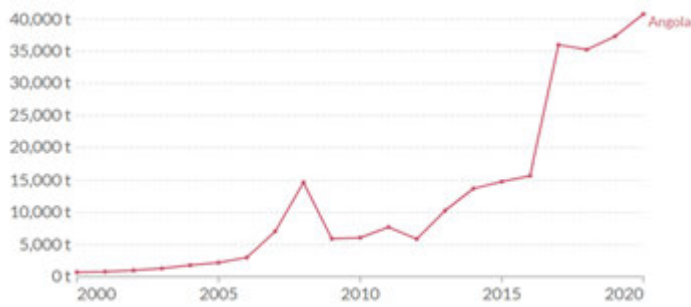


Figure 26: Soybean Production.

Source: Our World in Data (2021)

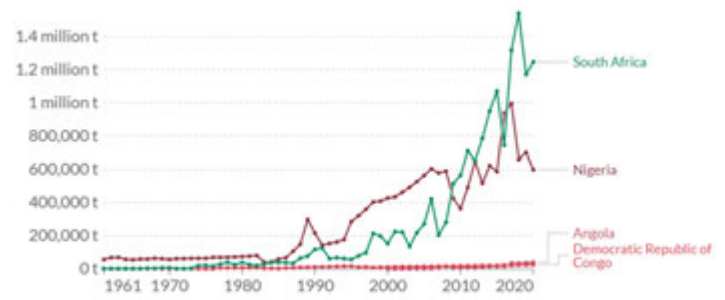


Figure 27: Soybean Production compared to other countries

About 70% of the total planted area is concentrated in six provinces: Huambo, Bié, Uíge, Huíla, Malange, and Kwanza Sul¹⁵. The production of soybean is increasing as shown on the top-left graph, however, like in maize and other crops, there is a yield-gap compared to other countries.

¹⁵ Relatório de resultados da campanha agrícola 2019-2020

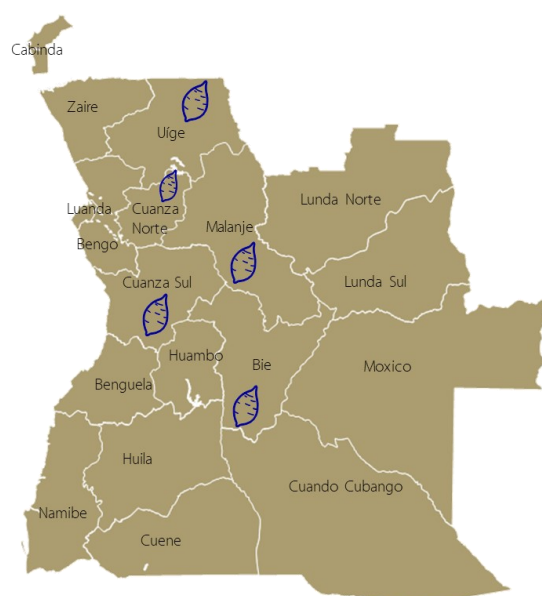
6 Roots & Tubers

6.1 Introduction Roots & Tubers

The main roots & tubers in Africa are yam, cocoyam, cassava, and potatoes. For Angola cassava and potato are the most important sub-sectors. For this reason, both sectors are presented in this chapter.

6.2 Roots & Tubers in Angola

Angola has 982,532 hectares under cultivation of roots & tubers with a production volume of 11,823,262 tons. The main provinces for roots & tubers are the following¹⁶.



Province	Production (tons)	Production (%)
Uíge	187,532	19.1%
Malanje	124,882	12.7%
Cuanza Sul	93,723	9.5%
Bié	68,150	6.9%
Luanda Norte	66,670	6.8%

Figure 28: Roots & Tubers in Angola. Source: República de Angola Ministério da Agricultura e Pescas (2021)

Angola is one of the leading producers of cassava in Africa, is grown in almost all provinces and is drought resistant. Another roots & tubers is potato. The production of potato steadily increased until 2011. This year was a turning point in the production, because the production decreased due to the lack of crop rotation and the application of good agronomical practices.¹⁷ In addition, the value chain is not well-structured. The lack of sufficient storage capacity with cooling is a missing link in the value chain.

6.2.1 Cassava

6.2.1.1 Cassava in the World – Africa

Cassava is a woody shrub originating in South America that is widely grown in tropical and subtropical regions for its edible, starchy tuberous roots. It is the third most important source of calories in the tropics, after rice and maize. It is a major staple food in the developing world, with over half a billion people in Africa, Asia and Latin America depending on

¹⁶ Relatório de resultados da campanha agrícola 2019-2020

¹⁷ Understanding the Angolan potato sector (2022)

it for their basic diet and for their income. There are two types of varieties: bitter and sweet. It is drought-tolerant and can be grown on marginal soils, while giving reasonable yields. It is less sensitive to rain-related hazards than grain and it requires little or no fertilization.

Cassava is popular because of its high productivity, ease of cultivation and because it can be harvested over an extended period of time without significant loss of quantity and quality. Furthermore, cassava leaves can also be consumed, and the stalks are used as planting material. It is rich in hydrocarbons and starch.

The production cycle of cassava is relatively long with a land occupation of about 12 months. Land preparation is minimal, but it requires several times of weeding before harvesting.

6.2.1.2 Cassava in Angola

Nigeria, DRC, and Ghana are the largest producers of cassava in Africa. Cassava is also a major crop in Angola and is grown in almost all provinces; however, the Northern provinces represent about 80 percent of the cultivated area.

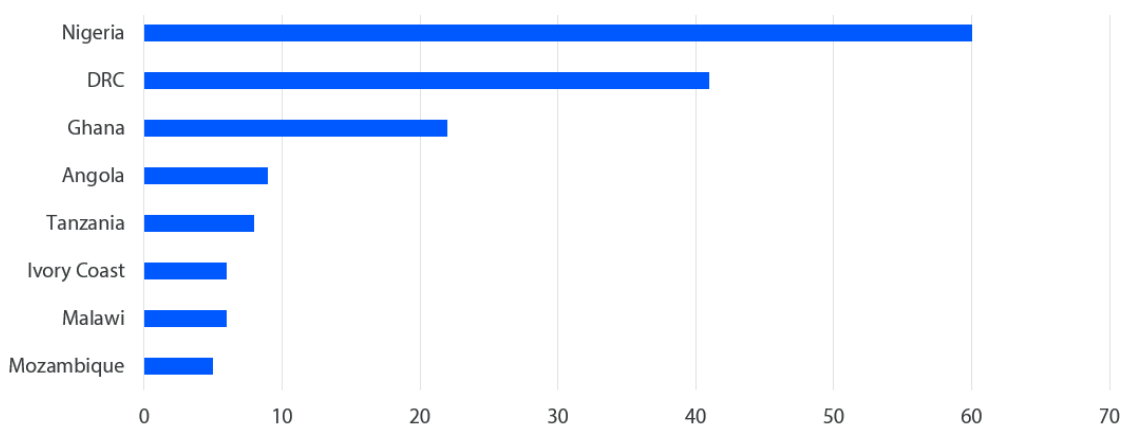


Figure 29: Cassava Production. Source: FAOSTAT (2023)

As can be seen on the graph below, average yields are low because of inadequacy of the varieties, low soil fertility, poor control of pests and diseases.

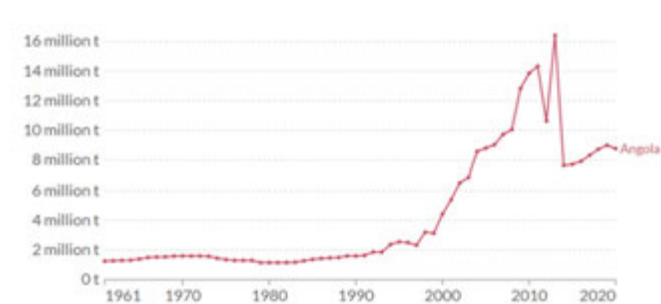


Figure 30: Cassava Production 1961 to 2020. Source: Our World in Data (2021)

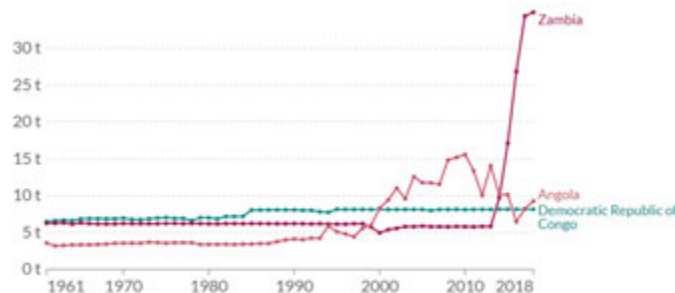


Figure 31: Cassava Yields – 1961 – 2018.

6.2.2 Potato

6.2.2.1 Potato in the World – Africa

Potato arrived late in Africa, around the 20th century. Potato is the world’s fourth-most important crop after rice, wheat, and maize and the first amongst non-grains. The main potato producers in the world are China, India, and Russia with a combined 42 percent share of global production. These countries are followed by Ukraine, the US, Germany, Bangladesh, France, Poland, and the Netherlands.

The production of potatoes in Africa was in 1961 2,079,160 tons and in 2020 26,229,159 tons.¹⁸ The graph below shows the leading potato countries in Africa, namely Egypt, Algeria, and South Africa.



Figure 32: Potato Production, 1961- 2020. Source: Our World in Data (2021)

6.2.2.2 Potato in Angola

The main potato production areas are located in the Huambo province and surrounding areas from neighbouring provinces of Bié and Cuanza Sul. In these areas, potato production takes place at an altitude of 1,800 to 2,000 metres. Angolan agroclimatic conditions allow two to three growing seasons per year. Twice in the rainy season between October and January and between February and May and once in the dry season between June and September.

Yields are on average low because of the use of small and sometimes diseased tubers, low application of good agronomical practices, related to fertilization, crop protection and poor crop rotation.

Seed potatoes are imported from the Netherlands through Schaap Holland, STET, HZCP and TPC.¹⁹

Due to limited yields of 8 tons per hectare, the return on investment is also very low. Yields can be increased significantly if farmers apply good agronomical practices, use high quality fertilizers and crop protection products and improved seed varieties.

A missing link in the potato value chain is storage facilities with cooling. Because of the lack of storage capacity, farmers are obliged to sell the potatoes at harvest time, resulting in a low turnover.

¹⁸ World Bank Estimates

¹⁹ Understanding the Angolan potato sector (2022)

7 Fruits & Vegetables

7.1 Fruits & Vegetables Value Chain

Currently a large part of the population does not yet meet the dietary requirements for fruits & vegetables. However, it is not self-evident that higher local production leads to a higher intake. Individual consumers are driven by taste, price, and convenience when it comes to acquisition and then there incurs food waste before it is even consumed.

The global fruits & vegetable sector is comprised of many different products as well as of different production systems. There is not one single supply chain model applied in the fruits & vegetable business. A very simplified illustration of the most essential activities is presented below. The key activities are breeding, propagation, primary production, processing activities, distribution, and retail/food services. However, the route from grower to consumer can include many different businesses that are involved in activities aggregation, production, storage, sorting, grading, quality checking, collecting, packaging, ripening, preparing (cutting, washing), marketing and distribution.

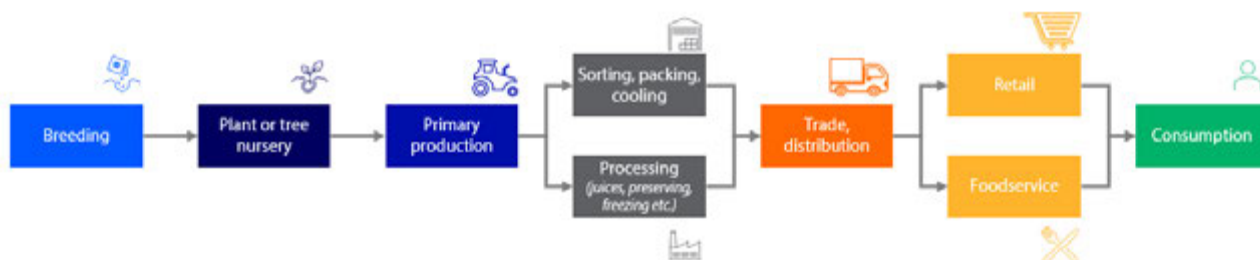


Figure 33: Simplified Fruits & Vegetables Value Chain. Source: Rabo Partnerships (2023)

High quality inputs are key. Inputs like crop protection, fertilizers, energy, packing materials and equipment are crucial. Logistics, storage, and processing are extremely important for highly perishable fruits & vegetables. The perishable nature of some fresh fruits and vegetables requires usage shortly after harvest. For that reason, well-organized logistics are extremely important. The short shelf life is a reason for local or regional production of fruit, vegetables.

Pests and diseases are a major challenge for growers, regulations and requirements on crop protection use have become stricter. Availability of fresh water is a big bottleneck in certain regions of the world.

The main sustainability challenges for the fruits & vegetable sector are food loss and waste, water usage, greenhouse gas emission and labour rights²⁰.

²⁰ Food & Agribusiness Research Rabobank

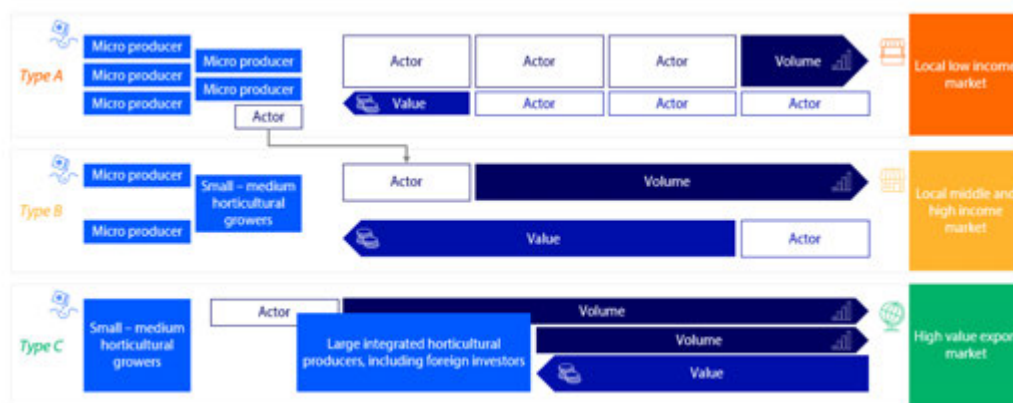


Figure 34: Simplified Fruits & Vegetables Value Chain. Source: Rabo Partnerships (2023)

In general, three broad common types of fruits and vegetable supply chains can be distinguished. Type A serves the local low-income market, type B serves the local middle- and upper-income markets and type C is export-oriented.²¹

Rural farmers are mostly trading on the informal market where prices are set on a spot market. A spot market is a cash market with an immediate exchange of goods. In urban areas, fruits and vegetables produced for local markets are often grown inside or near the city limits, because of the shorter shelf life (highly perishable).

In Sub-Saharan Africa, the development of type B value chains is influenced by the rise of South African supermarket chains. However, supermarkets remain only a small share of the market. In urban areas, where incomes are higher and populations denser, supermarkets are more present.

The type C supply chains focus on the high-value export market.

South-Africa, Kenya and Morocco are important countries for fruits & vegetables. South-Africa has a good infrastructure including harbours. Seasonality is also important to create a competitive advantage. For instance, the altitude and longitude in Zimbabwe are ideal to produce blueberries during another window compared to large-scale producers such as Peru and Chile, which makes it possible to export to Europe. The same for grapes from Namibia that can supply the European market before the Christmas season in Europe.

7.2 Fruits & Vegetables in the World & Africa

Spain, Chile, Turkey, Mexico, Ecuador, South Africa, and Vietnam are the largest net fresh fruit exporters in the world. Nations with a strong competitive position in the global fruit market are situated in the Southern Hemisphere with efficient and high-quality production. For instance, low-cost producers of berries, avocados and other fruit in demand are Peru, Mexico, Morocco, and Colombia.

²¹ Global scoping study on fruits and vegetables; results from literature and data analysis. Wageningen University & Research (2021)

Different fruits have a different position in supermarket's fresh fruit category.²²



Figure 35: Kraljic Purchase Matrix and Supplier Strategy. Source: Kraljic, adjusted by Rabobank (2020)

7.3 Fruits & Vegetables in Angola

Angola is well positioned to boost its fruits & vegetable sector in terms of land, water, soil quality, infrastructure, and climate. One of the competitive advantages of Angola is that Angola follows the seasons of the Southern hemisphere, with a colder season during the months June, July, August, and September, which is opposite to the main production seasons of Northern hemisphere countries such as Costa Rica, Egypt, and Morocco.

Banana is the main fruit being produced in Angola. The country is the largest producer in Africa. However, most of this is produced by smallholder farmers and does not meet the international production standards.

The Lobito Corridor, and the provinces of Huambo and Benguela, is well known for its excellent conditions for fruit production. The lower situated Benguela province can produce tropical fruits such as banana, pineapple, and mango. The Huambo province, with altitudes above 1,200 metres, is well positioned for crops such as avocado and citrus.

Angola is increasingly able to substitute fruit imports for the domestic market and to supply the supermarket channel in Angola.

There are two parallel market channels. First, the high-end supermarket chain, which is estimated to supply 20 percent of the domestic demand. Secondly, the informal markets that are supplied by wholesale markets such as Mercado Treinta in Luanda, Mercado Quatro in Benguela and Alemanha in Huambo. Traders (quitandeiras) are the main link between smallholder farmers and the wholesale market.

A constraint in the Angolan fruit market is the limited availability of seedlings for mango, avocado, citrus pineapple, and passion fruit.

Production in Angola follows the seasons of the Southern hemisphere, with a colder season during the months June, July, August, and September. This is opposite to the main production seasons of Northern hemisphere countries such as Costa Rica, Egypt, and Morocco. Countries with similar seasons are South Africa, Peru, and Chile.

²² Food & Agribusiness Research Rabobank

Nova Agrolider is a leading producer and processor of agricultural products, such as fruits & vegetables, beef, and coffee. The agricultural activities are located on four farms, Fazenda Bom Jesus, Caxito, Quibala and Porto Amboim. The farm Bom Jesus produces mainly banana, mango, and grapes. Banana, melon, mango, table grapes, oranges, etc. are grown in Caxito. Mixed farm activities take place in the other two farms.

The Group also has its own distribution centre and processing facility in Angola and its own warehouses in Portugal. The processing facility has the capacity to produce French fries, deep-frozen potatoes, jams, but also dehydrated fruits and tomato derivatives such as pulp.

Arabica coffee is grown on 2,000 hectares and is processed wet and dry and sold to Delta under the brand name Anglonita. Livestock production focusses on piggery (4,000 pigs slaughtered on an annual basis, and 200 milking cows). The company uses waste from its slaughterhouse to make soap.



There are a few successful, private medium- and large-scale private sector modern operators that have grown by seizing opportunities to meet local demand. The private sector is particularly active in the horticulture and fruit segment, producing fruits (banana, mangoes), and vegetables (potatoes, onions). Important players are Nuviagro, Nova Agrolider, Fazenda Girassol, Turiagro and Jardins Da Yoba.

Nova Agrolider is the largest fruit and vegetable producer in Angola and part of Grupo Lider. Fazenda Girassol is a producer of fifty-two different types of fruits and vegetables. Turiagro is part of Grupo WM, producing banana, papaya, and passion fruit. Nuviagro is part of a Portuguese-Angolan Nuvi Group, producing potato, onion, and carrots.

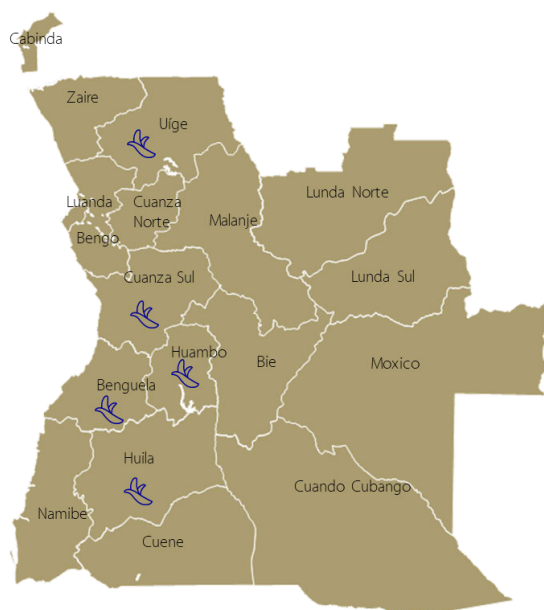


Figure 36: Leading partners in the fruits & vegetable sector in Angola. Source: Rabo Partnerships (2023)

The infrastructure is with the Lobito Corridor improving which will give new opportunities to the sector. The margins for fruits, especially fruits exported, are higher to the margins for vegetables.

7.4 Fruits

The fruit production in Angola is 5,578,778 tons on 243,883 hectares, which is 22,875 kilograms per hectare. The top five producing provinces are the following²³.



Province	Production (tons)	Production (%)
Benguela	43,005	17.6%
Cuanza Sul	29,026	11.9%
Huíla	23,425	9.6%
Uíge	21,135	8.7%
Huambo	18,267	7.5%

Figure 37: Fruits in Angola. Source: República de Angola Ministério da Agricultura e Pescas (2021)

Berries, citrus fruits, and tropical fruits are the main fruits categories that are presented in more detail below.

7.4.1 Tropical Fruit

7.4.1.1 Banana

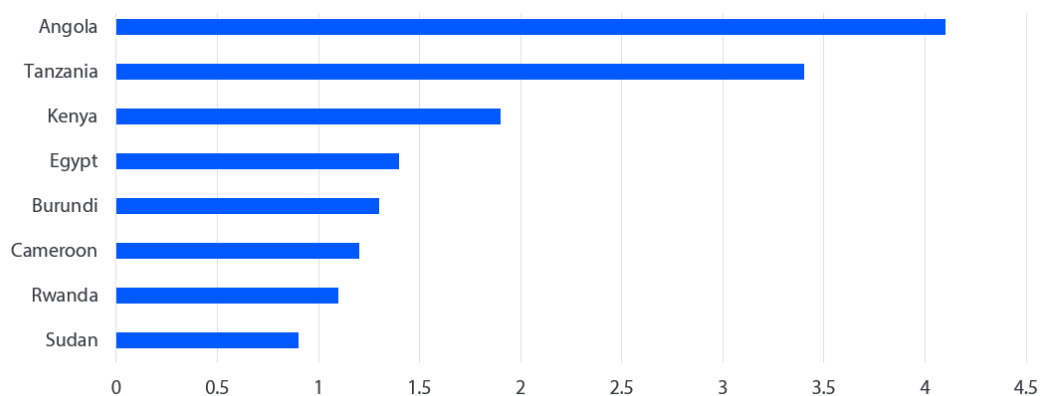


Figure 38: Banana Production. Source: FAOSTAT (2023)

Banana is the main fruit being produced in Angola. The country is the largest producer in Africa. However, most of this is produced by smallholder farmers and does not meet the international production standards. Commercial farmers are

²³ Relatório de resultados da campanha agrícola 2019-2020

Nova Agrolider, Bengo, Caxito farms, Turiagro and Aldeia Nova. Exports of Angolan bananas are still small. Under the brand name Angolanita, Nova Agrolider exports small quantities to Portugal and Namibia.

7.4.1.2 Avocado

There are different types and varieties of avocados in the world with different flowers, shapes, and sizes. The most common varieties are Bacon, Fuerte, Gwen, Hass, Pinkerton, Reed and Zutano.

Avocado has still major growth potential in the global market according to the Food & Agribusiness Research team of Rabobank. At the same time, if the growth rates continue, supply will result in mismatches. Supply chain cooperation and joint promotion can reduce the impact of oversupply and price volatility²⁴.

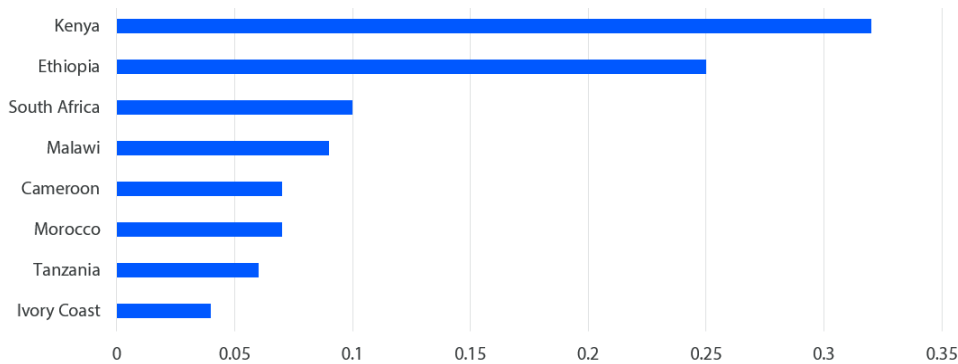


Figure 39: Avocado Production. Source: FAOSTAT (2023)

7.4.2 Citrus Fruits

7.4.2.1 Lemons & Limes

According to the food & agribusiness research department of Rabobank, lemon consumption has developed positively in the last decade. The key challenges are competition, disease pressure, chemical use, and water availability. Emerging exporters such as South Africa, Peru, Morocco have gained market share²⁵.

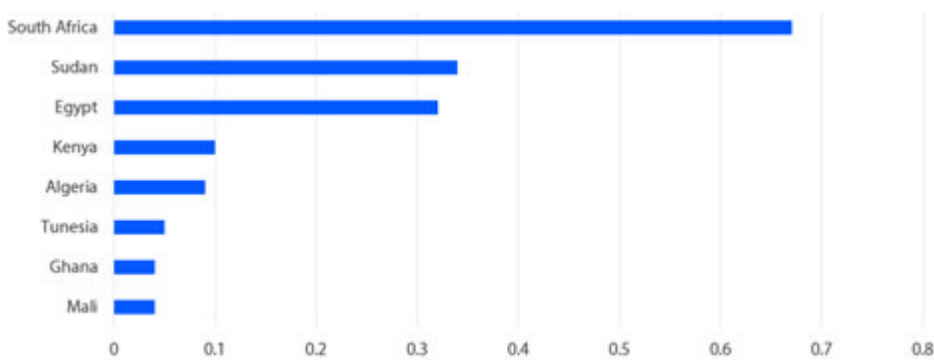
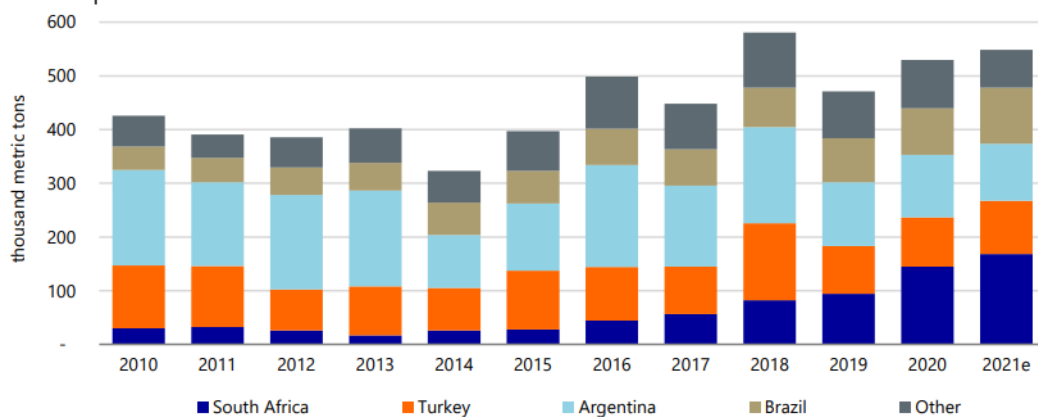


Figure 40: Lemons & Lime Production in Africa. Source : FAOSTAT (2023)

²⁴ Food & Agribusiness Research Rabobank

²⁵ Food & Agribusiness Research Rabobank

African countries could benefit from the longitude and producing lemons and limes during another window to the global competitors in Latin America.



Note: e=estimate

Figure 41: Extra-EU Fresh lemon and lime imports by country of origin, 2010-2021e. Source: Eurostat, UN-Comtrade, Rabobank (2022)

7.5 Vegetable Sub Sectors in Angola

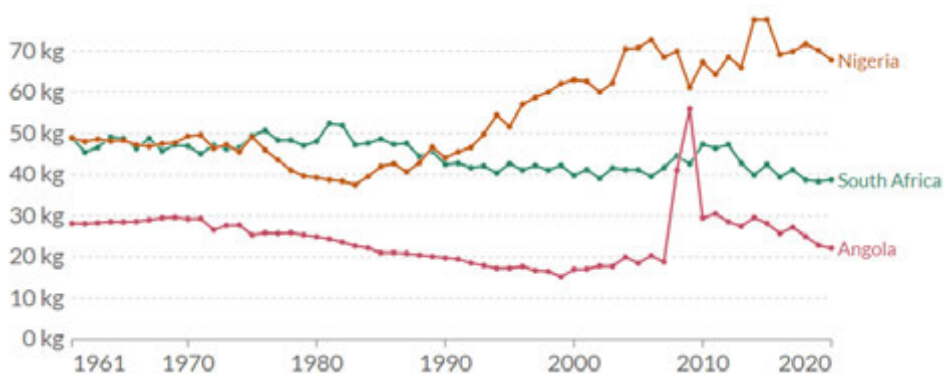


Figure 42: Vegetable Consumption per Capita 1961 to 2020. Source: Our World in Data (2021)

The total vegetable production in Angola is 2,010,420 tons on 136,360 hectares. This makes a productivity of 14.7 kilograms per hectare. The main provinces that produce vegetables are the following²⁶.

²⁶ Relatório de resultados da campanha agrícola 2019-2020



Province	Production (tons)	Production (%)
Huambo	31,169	22.9%
Benguela	26,000	19.1%
Huíla	16,916	12.4%
Cuanza Sul	13,822	10.1%
Bié	10,659	7.8%

Figure 43: Vegetables in Angola. Source: República de Angola Ministério da Agricultura e Pescas (2021)

The main vegetables in Angola are onions (605,998 tons), tomatoes (589,664) and cabbage (304,255 tons).

The leading onion, tomato and cabbage countries in Africa are the following.

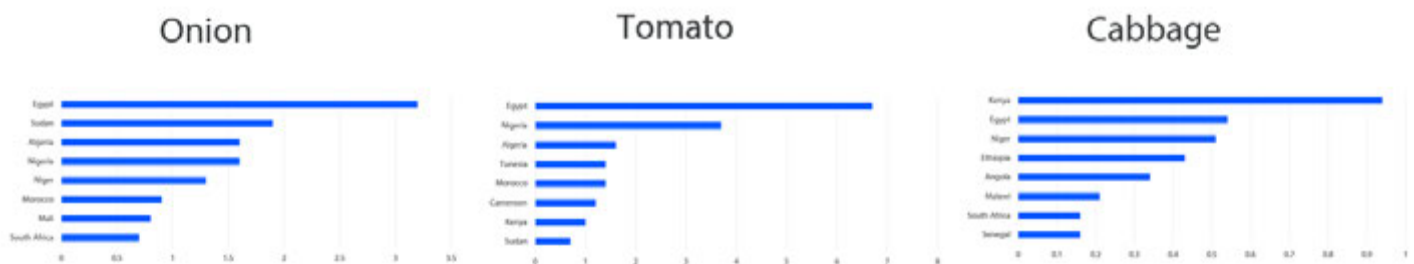


Figure 44: Cabbage Production (HG/HA). Source: FAOSTAT (2023)

The leading vegetable producing countries are Egypt, Algeria, Nigeria, and Kenya. Angola is not on the list of top-producing countries in Africa, however Angola exports vegetables as well.



Fazenda Beatriz Cafunheiro
 Beatriz is a smallholder farmer since 2019. She started with four hectares and has grown to 90 hectares in four years' time with the support of the PDAC facility. She grows maize (23 hectares), beans (26 hectares), cassava, tomatoes, and coffee.

Most of the production is for domestic consumption. Vegetables are produced by all farmer segments in the market, ranging from smallholder farmers to large commercial farms. The margins are considered lower to fruits as the added value is limited compared to the fruits market.

8 Animal Protein

8.1 Animal Protein

Animal protein, that comprises the sectors beef, goat, sheep, pork, and poultry are important for Angola as can be seen in the table below.

<i>Province (production in tons)</i>	<i>Beef</i>	<i>Goat</i>	<i>Sheep</i>	<i>Pork</i>	<i>Poultry</i>
National	42,963	101,693	6,239	5,245	29,860
Cabinda	227	2,047	113	29	662
Zaire	301	4,775	456	49	454
Uíge	310	5,497	634	77	836
Malanje	2,472	3,797	392	310	1,321
Cuanza Norte	2,607	5,503	347	199	1,317
Bengo	669	2,386	109	103	731
Luanda	10,804	35,062	1,339	1,706	10,531
Luanda Norte	429	1,918	144	153	636
Lunda Sul	456	2,104	151	160	613
Cuanza Sul	3,030	4,487	236	499	1,612
Benguela	4,040	6,660	294	383	1,645
Huambo	3,447	6,802	313	399	2,330
Bié	488	2,252	197	67	599
Moxico	457	1,473	85	37	411
Huíla	6,208	6,329	584	617	2,895
Namibe	2,760	4,093	332	313	1,390
Cunene	4,543	5,449	400	109	1,353
Quando Cubango	714	1,058	116	35	524

Figure 45: Animal Protein in Angola. Source: República de Angola Ministério da Agricultura e Pescas (2021)

8.2 Poultry

8.2.1 Poultry in the World – Africa

The poultry sector has strong fundamentals. The urban population is increasing and the middle class expanding. This means a shift from a vegetable-based to a protein-based consumption patterns. Retail, quick service retail and home delivery are expanding.

Brazil (4 million tons) and the US (3.4 million tons) are the main poultry meat exporters. The main import countries in the world for chicken meat are China (0.9 million tons) and Mexico (0.8 million tons). The average import of chicken meat in Africa is around 1.7 million tons.

The poultry market across Africa is bullish because poultry is a cheap protein, it is easy to set up and it can easily transform to a more modern industry.

Poultry production in the Eastern and Southern African countries has gradually grown over the past decades from a backyard farm system to a more professional and commercial poultry value chain. This includes investments in hatcheries, feed input supply, housing equipment, veterinary services, and slaughtering capacity.

Countries such as South Africa, Egypt, Morocco, Nigeria have been the leading countries. The main driver behind the growth is the high demand for animal protein.

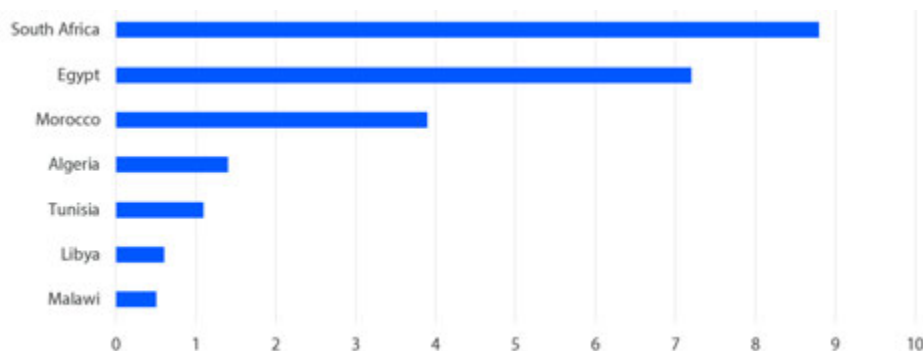


Figure 46: Poultry Production in Africa. Source: FAOSTAT (2023)

Climate change will affect the poultry production in the following four ways:

- The impact of changes in livestock feed-grain availability and price fluctuation. Arid and Semi-Arid regions experience increasing temperatures and erratic rain patterns.
- The impact on forage crop production and the quality of forage.
- Changes in livestock diseases.
- Growth and reproduction rates. Flock heat stress is a severe challenge for poultry farmers because of its negative effect on chicken growth and productivity.

The poultry industry has a natural competitive advantage to other animal protein sectors, because chickens do not emit methane and emit less phosphate and carbon dioxide than other meat-producing animals. Poultry is the most environmentally efficient animal protein production system.

To adopt to climate change, the following measures can be taken:

- Improve air ventilation
- Improve water ventilation
- Engage in fish farming to mitigate risks
- Spread litter and de-cake chicken houses
- Use energy-efficient lighting that create less heat

- Use vitamins and medication for birds²⁷.

8.2.2 Poultry Value Chain

A simplified version of the poultry broiler and layer value chain is presented below.

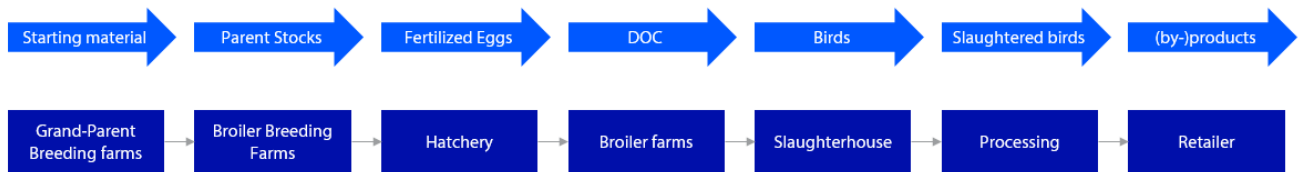


Figure 47: Simplified Poultry Broiler Value Chain. Source: Rabo Partnerships (2023)

Animal feed quality is a major issue in terms of energy, protein, minerals, vitamins, and absence of contamination with bacteria and other hazardous elements such as mycotoxins. The effectiveness of growth is calculated as the Feed Conversion Ratio (FCR), which means the kilograms of feed needed to produce one kilogram of broiler growth or one kilogram of eggs. Feed costs account for approximately 80 percent of a farmers total production costs.

Day old chicks, both for broilers and for layers are also expensive, because of the high feed prices consumed by parent stock. Important players in the African market to supply day-old chicks are EthioChicken, Kenchic, and Hybrid Zambia.

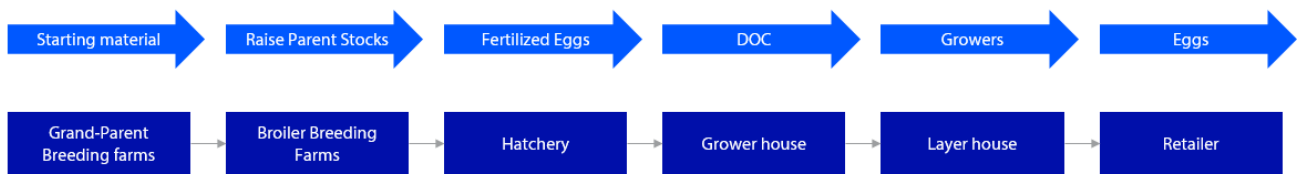


Figure 48: Simplified Poultry Layer Value Chain. Source: Rabo Partnerships (2023)

The poultry sector in Africa is dominated by two production systems, namely a local backyard system (low input-low output system) and a commercial production system (high input – high output) based on hybrid birds from international breeding companies.

8.2.3 Poultry in Angola

Poultry is the main animal protein sector, followed by beef. Angola is a net importer of poultry meat. The poultry production is estimated at 51,000 tons²⁸.

Kikovo and Aldeia Nova are two leading producers of layer eggs. Kikovo is a fully integrated company with a capacity of 1.2 million layers. Aldeia Nova, a public-private partnership between Vital Capital Fund, part of the Mittreli Group (an Israeli based company) and a consortium of state-owned companies, such as Gesterra (responsible for agricultural projects) and Instituto de Desenvolvimento Agrário Sul Province. Aldeia Nova buys eggs from the 524 families that live on the compound through an out-grower scheme and is breeding one-day chicks. The current production of the company is 120,000 eggs per day, while the capacity is 242,000 eggs per day.

²⁷ Food & Agribusiness Research Rabobank

²⁸ FAOSTAT (2023)

Infrastructure setup is costly in Angola. Energy and water supply are also critical challenges that have impact on profitability. Another issue is the feeding costs, especially corn and soybean. Due to low levels of national production, those crops have to be imported.

The opportunity for Angola is to shift from importing hatching eggs and day-old-chicks to parent stocks. This requires more parent and grand-parent stock farms. Currently, Cobb Africa is a supplier of Cobb Parent Stock with a presence in Angola.

Poultry is the main animal protein sector; however, Angola is still a net importer of poultry meat and is more or less self-sufficient on layer-eggs. Kikovo and Aldeia Nova are two leading producers of layer eggs.



Figure 49: Leading partners in the poultry sector in Angola. Source: Rabo Partnerships (2023)

The infrastructure setup is costly in Angola and the prices of feeding costs, especially corn and soybean, can be very volatile. Day old chicks, both for broilers and for layers are also expensive and have to be imported. At the same time, the poultry sector is very interesting, because it is a cheap protein with a good food conversion ratio and the sector can easily be transformed to a modern industry. The opportunity for Angola is to shift from importing hatching eggs and day-old-chicks to parent stocks.

8.3 Beef Sector

8.3.1 Beef in the World – Africa

Global meat production has increased rapidly since 1961 driven by population growth, urbanization, and rising incomes. Asia is the leading producing region, accounting for 40-45 percent of total meat production. Africa’s share of total global meat production in 2020 reached approximately 1 percent. Beef production constitutes around 22 percent of total global meat production. The demand for beef is expected to increase, putting further pressure on resources and the environment. The sector must focus on sustainable intensification, adopting innovative technologies, and enhancing climate resilience to meet this demand while minimizing negative impacts.

The following trends can be observed throughout the global beef value chain:

- Increased consolidation and vertical integration: there are a trend toward larger, more vertically integrated beef producers that control a greater proportion of the value chain, from breeding and rearing cattle through processing and distribution. This enables more control over quality and efficiency, but it can also lead to issues over market concentration and lack of competition
- Shift towards higher-value products: As customer tastes and preferences change, there is a shift toward higher-value beef products, such as grass-fed, organic, and certified Angus beef. This trend is fuelled by an increased

demand for high-quality beef produced responsibly, and it is providing new market possibilities for farmers and processors

- Adoption of new technologies and data-driven solutions: technology and data-driven solutions, such as precision agriculture, genetic selection, and data analytics, are gaining importance in the beef value chain. Across the value chain, these technologies are enhancing efficiency, sustainability, and transparency.

The global beef value chain is confronted with a number of significant challenges including:

- Deforestation: cattle ranching is a major cause of deforestation in many regions in the world, especially in South America. This can result in substantial emissions of greenhouse gas and biodiversity loss
- Water consumption: beef production requires substantial quantities of water
- Animal welfare: with a rising focus on a humane treatment of animals throughout the production process.

Some African nations have well-established commercial beef production systems, while others rely primarily on subsistence agriculture or small-scale production. South Africa is the largest producer of beef in Africa, with a robust commercial beef industry that sells to other nations. Botswana and Namibia also have well-established commercial beef producing systems, with exports to the European Union and other regions. In some regions of Africa, traditional methods of livestock husbandry continue to predominate, with smallholder farmers rearing cattle for subsistence or local markets. These systems can contribute to food security and rural livelihoods, but they may encounter obstacles such as restricted access to veterinary services and markets.

Overall, Africa's domestic beef production is hampered by drought, disease outbreaks, and restricted access to inputs and markets. However, there are also chances for growth and development, such as improved genetics, veterinary services, and export market access²⁹.

8.3.2 Beef Value Chain

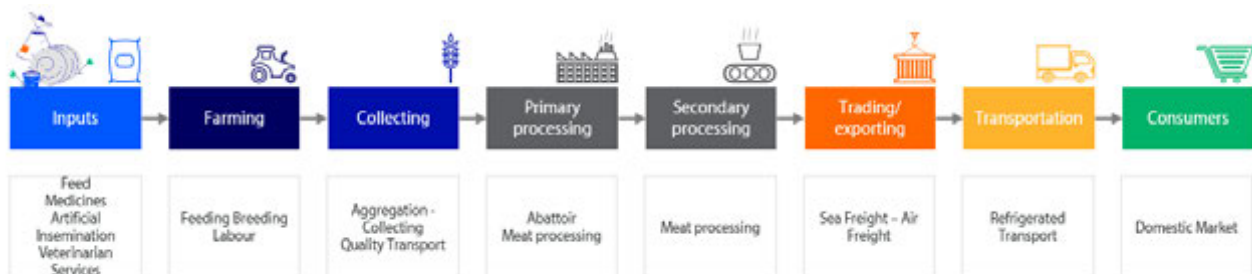


Figure 50: Simplified Version of the Beef Value Chain. Source: Rabo Partnerships (2023)

The beef value chain involves the production, processing, distribution, and consumption of beef products. This may include cattle farmers and processors, as well as distributors, retailers, and consumers. The beef value chain is a complex and dynamic system driven by a variety of factors, involving production techniques, market demand, policy and regulatory frameworks, and environmental and social issues.

²⁹ Food & Agribusiness Research Rabobank

8.3.3 Beef in Angola

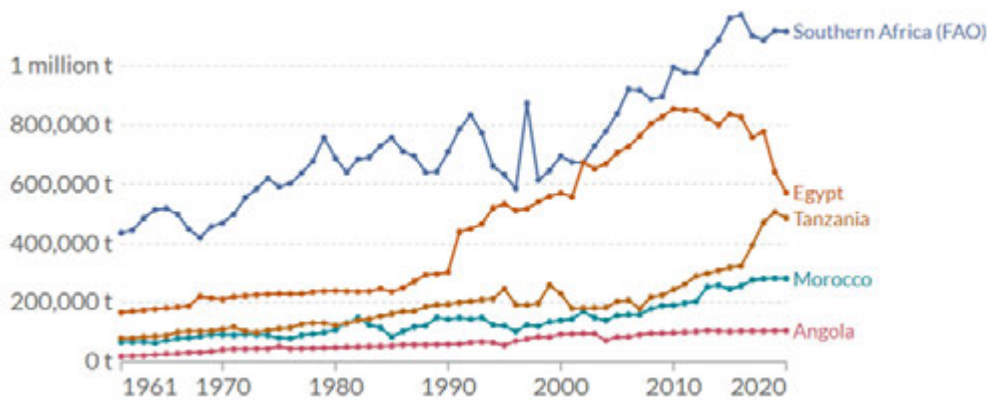


Figure 51: Beef Production 1961 - 2020. Source: Our World in Data (2021)

Angola has 46 commercial livestock farms on 2,629 km², which is 67 percent of the grazing land. In 2019, 4 agro-livestock farms, which cover an area of 45,000 hectares are privatised (Longa -Kwando Kubango; Cuimba- Zaire; Camaiangala-Moxico; Sanza Pombo- Uíge).³⁰

One of the key constraints in the beef sector in Angola is the lack of high-quality semen. Huambo Gene is one of the few companies that can provide artificial insemination services to livestock farmers. At farm level, Angola has a few large-scale players such as Agri Mumba, Fazenda Boy Gordo and Nova Agrolider.

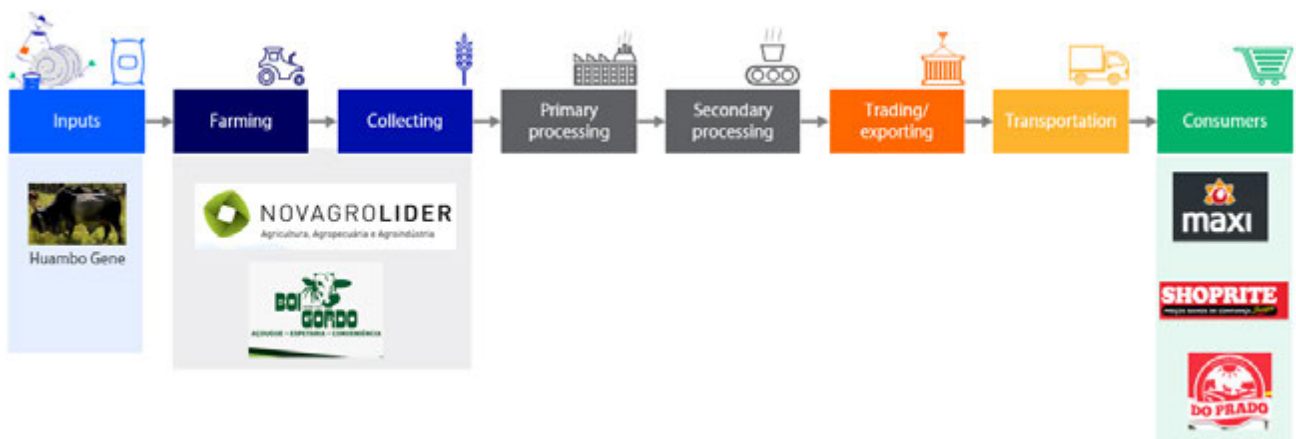


Figure 52: Leading partners in the beef sector in Angola. Source: Rabo Partnerships (2023)

³⁰ Drought and commercial cattle farming exposes tens of thousands to devastating hunger (2019)

8.4 Pork

8.4.1 Pork in the World – Africa

Pork meat accounts for approximately 24 percent of the global meat production. More than 57 percent of the pigs are raised under intensive conditions and pigs are common to be held by rural households in developing countries.

Further intensification of production, to meet growing demand, could challenge the environment and consumer health, particularly in countries with poor regulatory environments. Pressure to improve productivity and intensify production systems will require increased inputs (concentrate feed) and generate intensified countries with poor regulatory environments.

8.4.2 Pork Value Chain

The pork value chain can be divided into three key components. First the supply side of the chain (breeding, animal feed, farming, and slaughtering), subsequently industry and processing (fresh market for pre-packed meat, industrial market to further process meat and by-products as an ingredient in other food. Thirdly, distribution through food retail, food services or the industry.

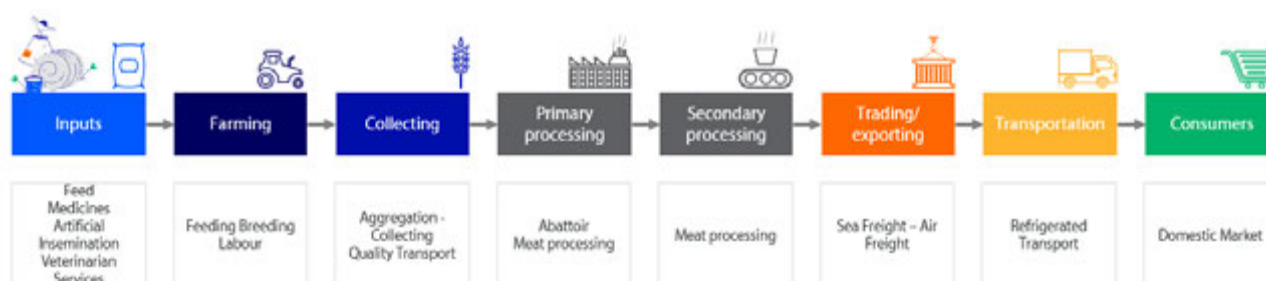


Figure 53: Simplified Pork Value Chain. Source: Rabo Partnerships (2023)

Input costs can have a significant impact on production. Volatile feed costs can slow down the response of adjusting production costs to changing input costs during the production cycle of 9 months, from insemination to the pig being ready for slaughter. Integration at farm level is expected aiming to anticipate to the growing diversification demand of the retail sector and the pressure on income. Key success factors for slaughtering are costs-competitiveness and market access. Forward integration towards cutting and processing pre-packed fresh and convenience products for direct sale to retail is growing. The industrial market and by-products are very important for the carcass valuation³¹.

³¹ Food & Agribusiness Research Rabobank

8.4.3 Pork in Angola

Angola is still a net importer of pork meat; however, the number of pigs is increasing as can be seen on the graph below.

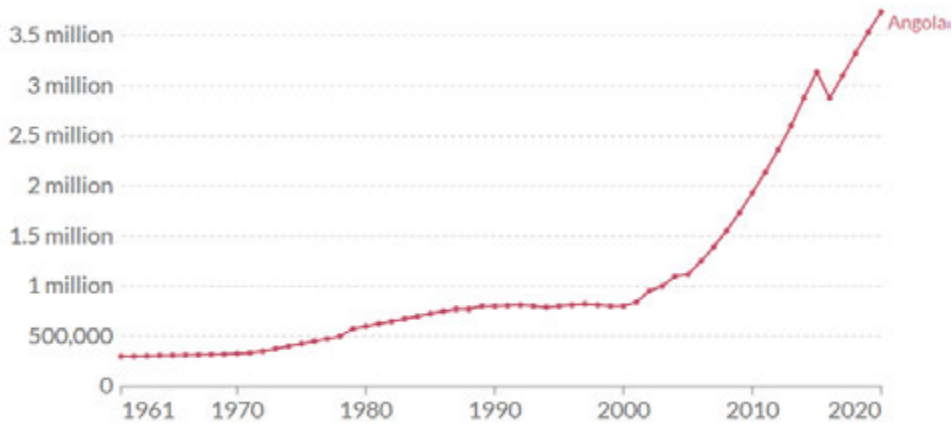


Figure 54: Number of Pigs, 1961-2020. Source: Our World in Data (2021)

It is observed that the sector is still in the development stage with some large-scale and medium-sized farmers. Angola could make a leapfrog by strengthening the breeding industry and sharing more technical knowledge with leading international partners. In addition, it is important that farmers can grow maize and soy on their own farm so that farmers not depend on the high volatile feed costs.

The pork sector in Angola is nascent. For that reason, Angola is still a net importer of pork meat. Next to Nova Agrolider, Angola has some pork farms, such as Fazenda Greenfield, Sinto Antonio and Fazenda Cambondo.

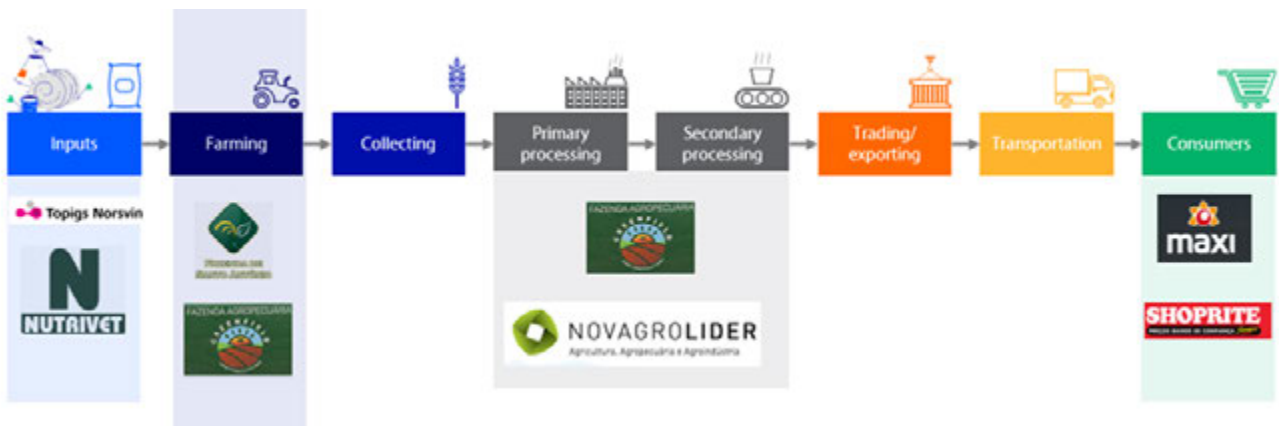


Figure 55: Leading partners in the pork sector in Angola. Source: Rabo Partnerships (2023)

High quality feed is also one of the key challenges for pork farmers.

9 Commodities

9.1 Coffee Sector

9.1.1 Coffee in the World - Africa

Coffee is one of the most widely consumed beverages in the world. In 2020/2021, around 166 million 60-kilogram bags of coffee were consumed worldwide, a slight increase from 164 million bags in the previous year.

The two main types of coffee beans used to make different sub-branches of coffee with different palette notes, flavours, and caffeine content are *Coffea arabica* (Arabica) and *Coffea canephora* (Robusta). Arabica is considered the premium class coffee with a lower caffeine content, sweet, soft taste, with sugar, fruit, and berry aromas on the palette and commands a dominant 70 percent of market share. Robusta has a higher caffeine content, which makes them less sour and much stronger. Robusta coffee accounts for 25 percent of global demand.

Coffee is primarily grown in the equatorial regions of South America, Southeast Asia, the Indian sub-continent and Africa within the Tropics of Cancer and Capricorn, known as the 'coffee belt.' Arabica is native to the southwestern highlands of Ethiopia, southeast Sudan, and northern Kenya. Robusta is native to western central sub-Saharan Africa including Uganda³².

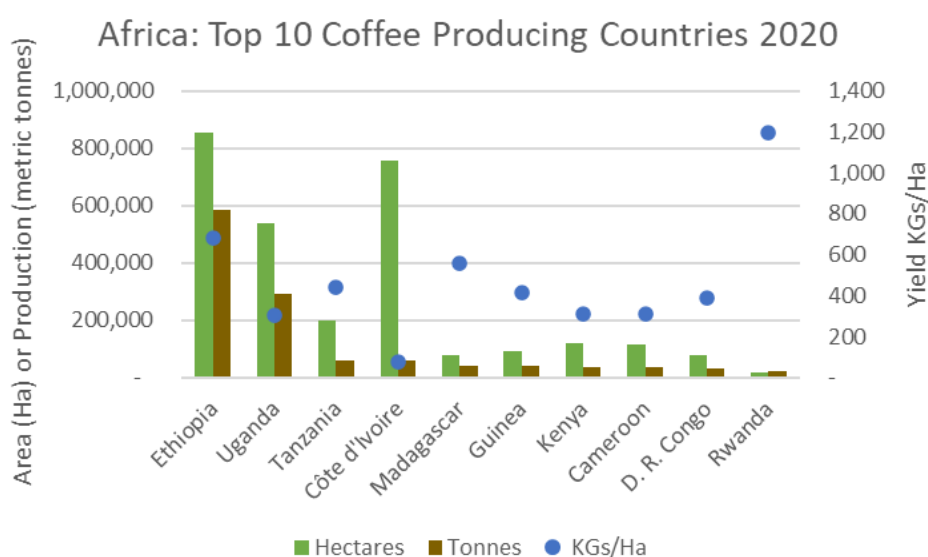


Figure 56: Top 10 Coffee Producing Countries. Source: FAOSTAT (2023)

Coffee is grown in thirty countries in Africa and is an important economic crop, which according to CABI (Centre for Agriculture and Bioscience International) directly supports twelve million farmers and millions more people along the value chain. Total production in Africa in 2020 accounted for 28 percent of global production by area (hectares harvested) and 12 percent of global production by volume (tonnes green beans). The key producers are Ethiopia accounting for 28 percent of total African production by area and 19 percent by volume and Uganda which accounts for 18 percent by area and 10 percent by volume. Cote d'Ivoire has large areas planted to coffee, however due to the poor

³² Food & Agribusiness Research Rabobank

farming practices and aged plants, yields are extremely low and as such production by volume is non-material to the overall African volume of production.

The most pressing issues regarding the coffee sector are the following:

- Climate change – Coffee production, especially Arabica, requires cooler temperatures so is vulnerable to rising temperatures, changing seasonal timings and volatility in seasonal extremes.
- Deforestation – agriculture is responsible for 80 percent of tropical deforestation; Arabica coffee grows best in tropical forest climates and requires large areas of land for viable production; Uganda has the third highest deforestation rate worldwide. Conversion to agricultural land has been a major driver of this development and by 2050, there will be no forest cover left in Uganda at the current rate of loss.
- Water pollution – wet processing uses significant volumes of water, which can pollute waterways causing disease and loss of biodiversity.
- Biodiversity - the majority of production is under monoculture systems, which reduces biodiversity.
- The use of chemicals and fertilisers can cause pollution, reduce biodiversity, and impact soil health.
- Extreme poverty and lack of effective social infrastructure in many producer countries.
- Producer vulnerability to volatile commodity price movements. Coffee price directly impacts access to education, housing, food, healthcare, and other basic necessities.
- Gender inequality - the Rainforest Alliance reports that female coffee farmers produce less than their male counterparts because they have far less access to resources.
- Fair Trade and sustainable pricing through the value chain.

9.1.2 Coffee Value Chain

The coffee value chain is organized as follows:

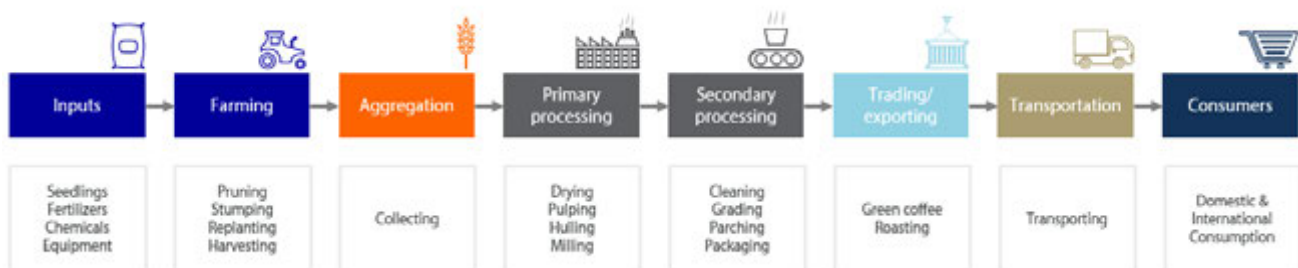


Figure 57: Simplified Coffee Value Chain. Source: Rabo Partnerships (2023)

Seeds are typically planted in shaded rows to reduce direct exposure to the sun. The best areas for coffee growth are well hilled with nitrogen rich volcanic soils providing good plant nutrition and drainage. Arabica coffee is best grown at altitudes between 1,000m – 2,000m above sea level at temperatures between 15 to 25 degrees Celsius and is slower growing than Robusta. Robusta is hardier and can be grown at lower altitudes from sea level to 600m above sea level at temperatures between 20 – 30 degrees Celsius.

There are two types of farming system, monocropping (pure stand) or intercropping (mixed stand). Mono cropping is the practice of growing coffee as a single crop on one piece of land. Inter cropping is the practice of growing coffee plus one or more other crops on the same piece of land, usually a food crop. Yields are highly variable and dependant on a number of factors including climatic conditions, soil type, fertilisation, water availability, variety, and farming practices.

Once harvested, the cherries must be processed to extract the coffee seeds from the fruit and then dry the seeds. There are two methods that can be used:

Dry or ‘natural’ method involves drying the whole cherry. It is the simplest method and requires little machinery. Wet method requires the use of special equipment and the availability of water. As with the dry method, the ripe cherries are first cleaned. They are then pulped by a machine to separate the flesh and the skin are from the beans. The beans are left with a slippery outer skin (the mucilage) and a parchment covering.

Milling or hulling is the process mechanical process to remove the parchment layer from wet processed coffee or the entire dried husk from dry processed dried cherries. Polishing is an optional process to remove the silver skin that remains on the beans after hulling is removed by machine.

The roasting process releases the more than 1,000 different aromatic components of coffee and transforms the green bean into the well known aromatic brown bean. By variation of the roasting conditions, it is possible to achieve the specific flavour profile of the final coffee according to the preferences of the consumer.

Roasted coffee beans are ground to produce the most flavour in a cup of coffee³³.

9.1.3 Coffee Sector in Angola

Fifty years ago, Angola was one of the largest coffee producers in the world and has a favourable climate to grow coffee with altitudes up to 1,200- 1,300 meter above sea level, fertile soils, and abundant water.

As part of the diversification strategy in Angola, the country wants to regain its position as a leading coffee producer again. Today, Angola produces a mere 6,050 tons per year on less than 50,000 hectares.

To become competitive again, Angola has to produce specialty coffee and add value by roasting, packing, and marketing its Robusta and Arabica varieties. Next to the favourable climate conditions, Angola can benefit from its ties with Portugal and use this country as the entry to the European market. Other export markets can be explored as well to position Angolan coffee as a high-quality, specialty coffee.

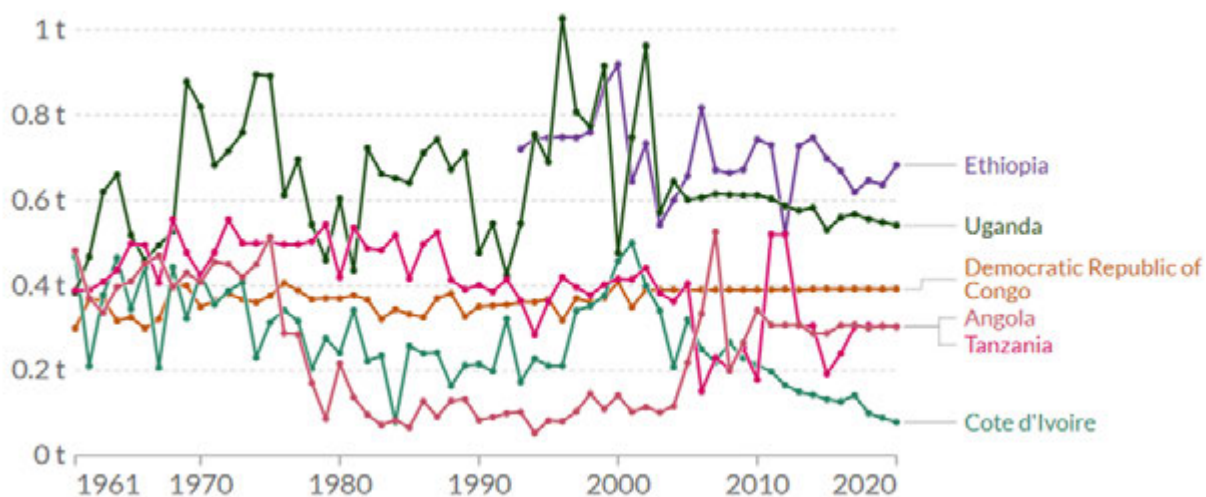


Figure 58: Coffee Bean Yields, 1961 to 2020, measured in tons per hectare per year. Source: Our World in Data (2021)

One of the key challenges farmers are facing is the aging trees that can be more than 40 years old.

Raw and unprocessed coffee can be traded in the form of 'café mabuba' (dried cherries or parchment coffee) or 'café commercial' (green coffee). Most of the coffee is produced in the Northern and Central regions, with the Uíge and Cuanza Sul provinces as the main producing regions.

The National Coffee Institute of Angola (INCA) aims to attract private investors by, amongst others, a Coffee Development Fund of Angola for smallholder farmers.

³³ Food & Agribusiness Research Rabobank

The sector is facing the following challenges:

- Lack of inputs
- Supply of seedlings
- Lack of irrigation
- Lack of inputs (fertilizer and crop protection)
- Low level of mechanization

Fazenda Vissolela

Fazenda Vissolela is a coffee farm established five years ago. Today, May 2023, 360 hectares have been planted and the ambition is to increase production to 1,000 hectares by 2027. The altitude and soil conditions are ideal to produce high-quality coffee based on an irrigated mono-culture system. Harvesting is done manually.

One of the competitive advantages is that labour is cheap, however the key challenge for the company is to train all staff on good agronomical practices. Part of the fertilizer needed for the coffee trees comes from manure from their livestock. Maize is also grown to feed the livestock.

In addition, Fazenda Vissolela works with 250 smallholder farmers to support local communities. 15 percent of the (green) coffee is sold as Café Romana in the domestic market and the remaining is sold to international partners such as Nestlé and Delta.

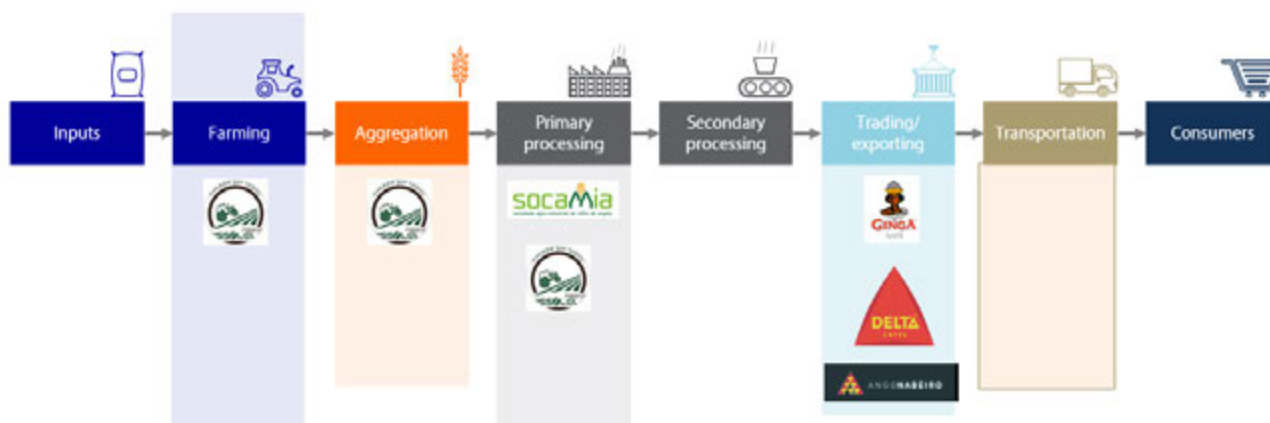


Figure 59: Leading partners in the coffee sector in Angola. Source: Rabo Partnerships (2023)

Fazenda Vissolela is one of the leading coffee farms that supplies Nestlé and Delta.

9.2 Oil Palm

9.2.1 Oil Palm in the World - Africa

Palm oil is derived from the fruit of oil palm trees. Native to West Africa, Oil palm trees are a tropical plant species, thriving on evenly distributed and substantial annual rainfall, ample sunlight, and humid conditions. Accordingly, the most sought-after growing conditions can be narrowed to a thin horizontal band on either side of the equator, within 10 degrees.

As the most common vegetable oil globally, palm oil has three significant uses. The vast majority of palm oil reaches the consumer market, whether in cooking or food applications (67 percent) or other cleaning and household consumer products (27 percent). A slim percentage is used as a biofuel. Palm Oil is used internationally as it is an economically viable input for producers around the world.

Demand for palm oil is increasing and is feasibly expected to continue to increase into the coming decades when considering centres of population growth occurring in the low-middle income earning regions. RaboResearch states the expected market for palm oil in 2027 is USD 65b, with the market valued at USD 51b in 2021.

Palm oil has been subject to sustainability and ethics commentary for decades. As the highest yielding vegetable oil per hectare, as well as being well known for its diverse range of uses, the product attracts high demand. However, the changing preferences of the modern consumer and rising demand for ESG considerations has forced a restructure in the approach to palm oil production. Palm oil has also been implicated and is commonly associated with deforestation and significant greenhouse gas emitting.

The industry has seen a great push towards a more environmentally sustainable product, leading to the creation of a predominant, international industry body, Roundtable on Sustainable Palm Oil (RSPO). As the first sustainability industry standard, RSPO represents a variety of stakeholders including palm oil producers, consumer goods manufacturers, banks, investors, and environmental NGOs to ensure a palm oil supply chain aimed towards the uptake of certified sustainable palm oil.

Given the growing conditions required for palm oil, African nations that are current growers are situated in West and Central Africa. For a considerable time, Nigeria led the global palm oil market in exporting, prior to the investment made into Malaysia and Indonesia. When applying FAO data from 2019, the largest producers the continent are Nigeria (1.2mln tonnes), with Cameroon (0.51mln), DRC (0.30mln), Côte d'Ivoire (0.29mln), and Ghana (0.26mln).

Despite possessing the growing conditions for successful oil palm growth, demand for palm oil in the region exceeds local supply. Africa is a net importer of palm oil, with the leading oil palm producing nations also net importers. Nigeria (+6.2mln tonnes).

Key climatological requirements for successful oil palm growth lie in consistent rainfall, substantial sunshine, consistent and specific minimum & maximum temperatures. These climactic circumstances typically occur within a 10-degree band of the equator. Rainfall is considered the most critical factor when considering appropriate conditions for oil palm growth as the contingency on dependable evenly distributed annual rainfall is paramount for a sustainable yield. Studies have shown that a requirement of 1,550mm annual rainfall is required for oil palm to reach peak production, deficits from that figure will make the area less suitable for cropping. Sufficient rainfall of this nature is reached in the region of Central & Western Africa³⁴.

³⁴ Food & Agribusiness Research Rabobank

9.2.2 Oil Palm Value Chain

Palm oil production is either done on large plantations or through a nucleus estate concept in which the nucleus provides seedlings, other inputs, and technical training to smallholder farmers.

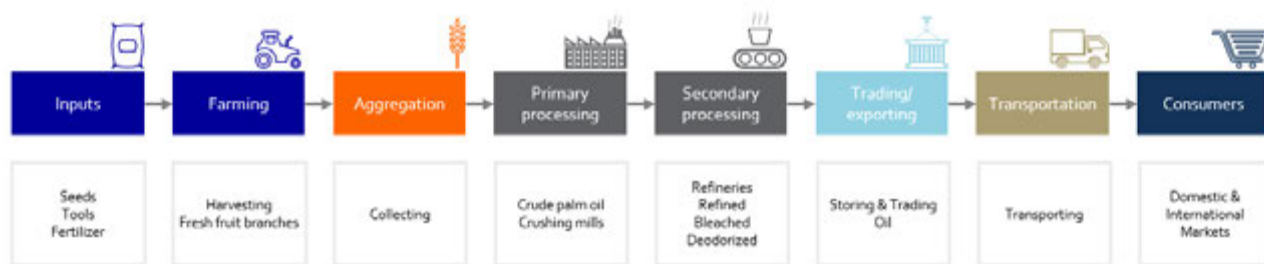


Figure 60: Simplified Oil Palm Value Chain. Source: Rabo Partnerships (2023)

After harvesting and collecting the fresh fruit branches, the crude palm oil will be crushed and refined. After refinery, the crude palm oil will be transported for further processing to the (international) market.

9.2.3 Oil Palm in Angola

Angola is a net importer of oil palm, despite its own production capacity. According to OEC World, Angola exported USD 374,000 in oil palm, to the Republic of the Congo, Democratic Republic of the Congo, Brazil, Nigeria, and Cuba. At the same time, Angola imported for USD 178 million in oil palm, primarily from Malaysia, Indonesia, Singapore, India, and China.

As can be seen on the graph below, the domestic production is with 250,000 tons low and the trend is downwards.

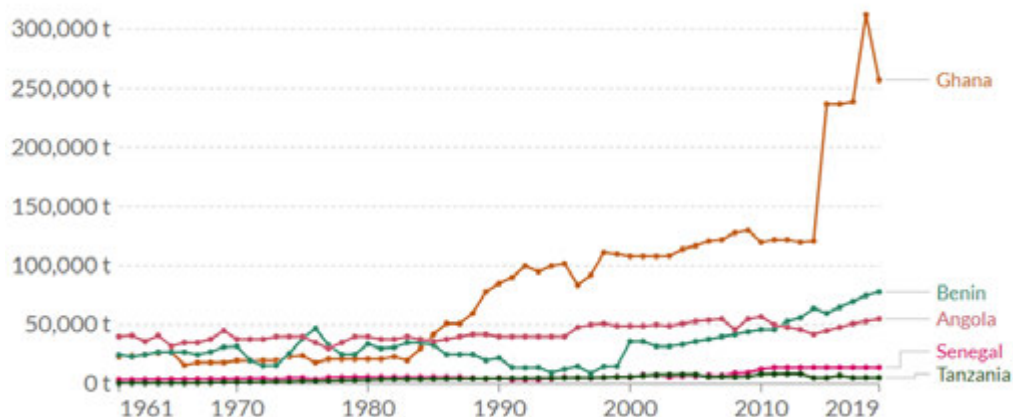


Figure 61: Oil Palm Production. Source: Our World in Data (2021)

10 Sugar

10.1 Sugar in the World - Africa

Sugar cane is one of the world's oldest documented commodities. Sugar cane is a tropical grass that grows 10–20 feet high. Unlike sugar beets, it is a perennial species, meaning it does not need to be replanted every year. When harvested, sugar cane is cut just above the root level so new sprouts will grow, ready to be harvested again in 10–12 months.

Primarily cultivated for its juice from which sugar is processed. Most of the world's sugarcane is grown in subtropical and tropical areas. The plant is also grown for biofuel production, especially in Brazil, as the canes can be used directly to produce ethyl alcohol (ethanol). The by-products from cane sugar processing, namely the straw and bagasse (cane fibres), can be used to produce cellulosic ethanol, a second-generation biofuel. Other sugarcane products include molasses, rum, and cachaça (a Brazilian alcohol), and the plant itself can be used as thatch and as livestock fodder.

Sugarcane accounts for around 86 percent of sugar production globally, beet being the other crop used to produce sugar. In 2021, the global production of cane sugar represented 1.9 billion tons. The world average per capita consumption of sugar was around 21.4 kilograms yearly.

The main production regions of sugar cane are Asia with around 40 percent of the global production and Latin America with around 30 percent of the world production. Africa is the third largest regional producer of sugar cane, with an expected output of 8 percent of the total global production by 2029.

Based on the agro-ecological zones, that the Democratic Republic of Congo, Cameroon, Republic of the Congo, Gabon, Equatorial Guinea, and Uganda offer the best prospects for planting sugarcane.

However, part of the land identified as suitable in the above-mentioned countries has important evergreen lowland forest, which are forests characterized by multiple layers of vegetation and having extremely high species diversity. Appropriate land planning and management is required to allow the sustainable expansion of food and bioenergy production from sugarcane while preserving biodiversity and natural resources. It is also worth noting that in the areas presented as marginally suitable in the figure above, sugarcane production exists through irrigation. Considering future rainfall uncertainty and potential for yield uplift, it seems inevitable that future agricultural developments will increasingly depend on irrigation to ensure crop water demands. In that regard, mitigation, and adaptation strategies to address decreased water availability in the future include planting drought-tolerant varieties, investing in irrigation infrastructure, and improving irrigation efficiency and drainage systems.

Another potential issue relates to the impact of fertilizers, pesticides, and agrochemicals on water quality. In that regard, environmental and regulatory controls are insufficient in the region. Nonetheless, new environmental regulations are emerging, driven by the private sector, such as ISO standards or BONSUCRO certification.

The potential of Sub-Saharan Africa for the sugarcane sector expansion is significant. Sub-Saharan Africa has abundant land for sugarcane crop expansion and could contribute to meeting projected global energy demands that would require an estimated 49 percent increase in land area under sugarcane cultivation by 2050. It has been estimated in southern Africa alone, almost six million hectares of suitable land are available for sugarcane production. This hectareage is significantly larger than the current 0.37 million hectares under sugarcane cultivation in the region and the 1.5 million hectares cultivated across the entire African continent in 2014. Mozambique, with over 2.3 million hectares of suitable land, offers the best potential for expanding sugarcane production, followed by Zambia and Angola, each with over 1.1 million hectares. An assessment of constraints to production and yield performance determined that Angola, Malawi, Mozambique, Tanzania, Zambia, and Zimbabwe have good potential for expanding sugarcane production.

The sugar industry in Africa is dominated by two South African-based conglomerates, namely Illovo and Tongaat Hulett, whose operations cover countries such as Mozambique, Malawi, Tanzania, Zambia, and Zimbabwe. Tongaat Hulett Zimbabwe has the monopoly in the sugar industry in Zimbabwe³⁵.

10.2 Sugar Value Chain

Sugar can be produced through sugar cane or sugar beet production as presented below. In the African context it is produced through cane production.

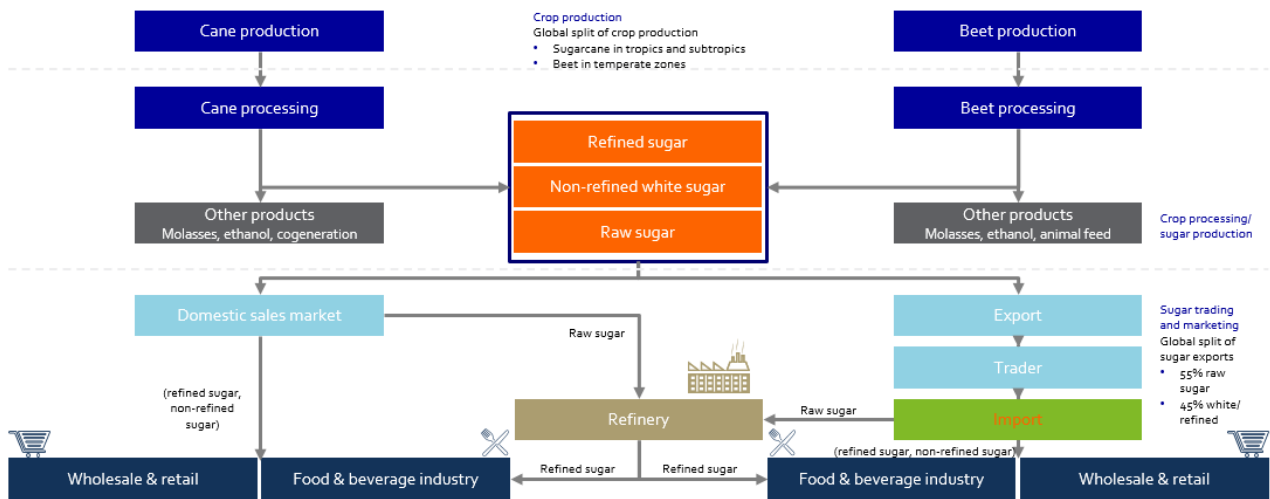


Figure 62: Simplified Sugar Value Chain. Source: Rabo Partnerships (2023)

The essential inputs for cane production are seeds, fertilizer, some pesticides, and labour. For the first ratoon extra costs are needed for land preparation and planting. Farmers have to wait for at least eighteen months to get the first harvest. It is important to process the cane within twenty-four hours, so production should take place close to the processing facility.

³⁵ Food & Agribusiness Research Rabobank

10.3 Sugar in Angola

Angola sugar consumption is about 300k tons/year, out of which 40 percent provided by a local producer named Biocom (40 percent owned by Odebrecht and 60 percent owned by Sonangol, a state-owned oil company) , the first company that started sugar and ethanol production in the country (2014) with crushing capacity of 2.2mln tons per year. The remain portion is imported from Brazil (75 percent), South Africa (20 percent) and Portugal (5 percent). The country does not export this commodity. Ethanol is used in the beverage, pharmaceutical, hygiene and beauty industries, being Biocom responsible for more than 50 percent of supply.

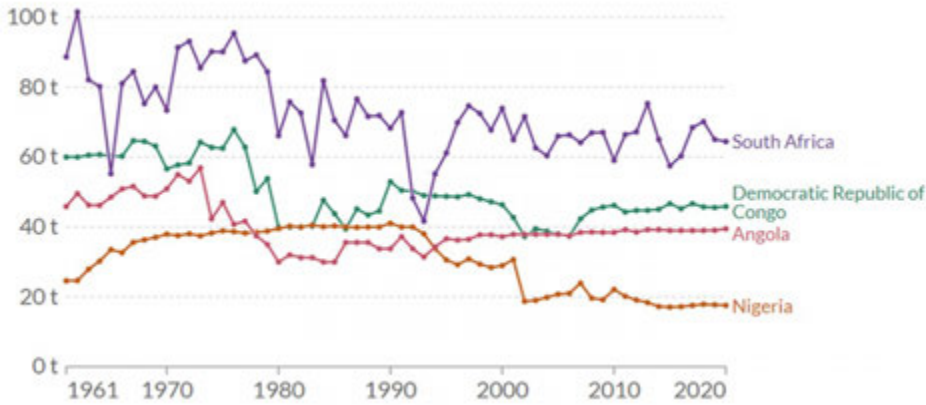


Figure 63: Sugar Cane Yields, 1961-2020. Source: Our World in Data (2021)

11 Dairy

11.1.1 Dairy in the World and Africa

The global milk market landscape is changing rapidly. Fresh, fluid milk remains a local or domestic market.

Per capita consumption of fluid milk in developed markets started to decline during the post-World War II era and began in earnest in the 1970s when Ancel Keys made the spurious connection that consuming fat was bad for your health. Since early two thousand, value-added fluid milk products have gradually entered the category. Milks with differentiating attributes, such as enhanced protein and lactose-free, as well as differentiating production styles, such as organic and pasture milks have been far more successful. Packing and shelf-life attributes found in Ultra High Temperature (UHT) and extended shelf life (ESL) milk have contributed to positive growth in developing markets, and healthier margins in developed markets. UHT and ESL milks currently account for one-third of all global milk sales. In addition, many premium milks, including organic, A2, Fairlife, FIT and Agropur's Natrel are also manufactured in an ESL format. Extended shelf life is a cost-effective attribute that provides an additional margin opportunity for processors and reduces food waste at the retail level and in consumer homes.

Economies of scale in milk production and the conversion of milk into longer shelf-life products, such as butter, cheese and dry dairy ingredients have required many dairy companies to be more globally oriented.

Sales of milk alternatives, such as plant-based beverages consisting of soy, almond, oat, rice, etc. have increased over the last years, however its market share is still relatively small.

Milk remains very versatile and nutritional in comparison with any other single 'superfood.' Some fluid milk players have realized how they might recapture this lost value proposition through premiumization via attributes such as higher protein, organic, etc.

Two hundred countries in the world are producing cow milk, however almost 92 percent of global production is concentrated in fifty countries only. The top-3 countries/regions are the European Union (24 percent), the United States, (14 percent), and India (12 percent). The top-10 milk producers represent 60 percent of global production, implying the magnitude of these producers. The top-3 world dairy companies are Lactalis (France), DFA (USA), and Danone (France).

An overall trend that can be noted in developed countries is that the production of milk is decreasing along with the number of dairy farms and dairy animals, while productivity per cow is increasing. In developing countries, production is increasing together with the number of milk-producing cows.

The sustainability agenda for the dairy sector is the following:

- **Greenhouse gases** are quantified and reduced throughout the entire value chain
- **Soil nutrients** application is managed to minimize impacts on water and air, while maintaining and improving soil quality
- **Waste** generation is minimized, and where inevitable, waste is reused and recycled
- **Water** availability, as well as water quality, are managed responsibly throughout the entire value chain
- **Soil** quality is proactively managed and improved to ensure optimal productivity
- **Biodiversity** risks and opportunities are understood, and strategies are established to maintain and improve these
- **Product safety and quality** are guaranteed by safeguarding the integrity and transparency of the dairy chain, in order to ensure optimal nutrition, safety and product quality
- **Animal welfare** is guaranteed by treating dairy animals with care. Besides that, they should be free from hunger and thirst, discomfort, pain, wounds and diseases, fear, and anguish, and they should be capable of showing normal patterns of behaviour.

The dairy sector in Africa is facing the following challenges:

- Bull stations that need technical assistance to produce enough quantity and quality genetics.
- Poor milk quality is a challenge. Hygiene starts at farm level. Access to potable water and collection and cooling centres is often a constraint.
- Lack of quality and quantity feed. The concentrate feed does not often meet the minimum standards.

There is a significant potential for growth in dairy demand. Africa has been a net importer of dairy for several decades, and the gap between local production and consumption is widening. With regard to local milk supply, adopting a zonal view provides more valuable insight than a country-by-country investigation, as milk production is possible in subhumid and semi-arid zones, and particularly in the highlands³⁶.

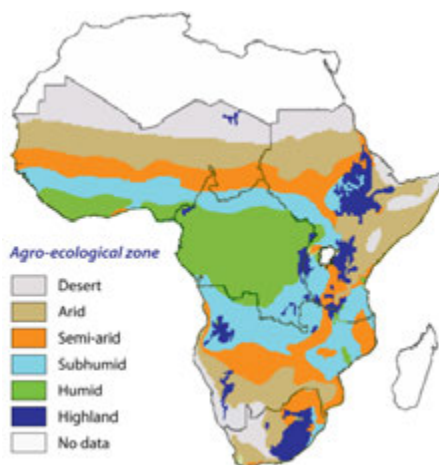


Figure 64: Agro-Ecological Zones in Africa. Source: *Ready for Take-Off? A helicopter view of the Sub-Saharan African Dairy Sector*. Source: Rabobank (2016), adjusted from FAO (2015)

Ethiopia, Kenya, South Africa, and Egypt are the leading dairy countries in Africa.

³⁶ Food & Agribusiness Research Rabobank

11.1.2 Dairy Value Chain

A well functioning dairy value chain requires a vertically integrated chain, because of the high perishability of the milk.

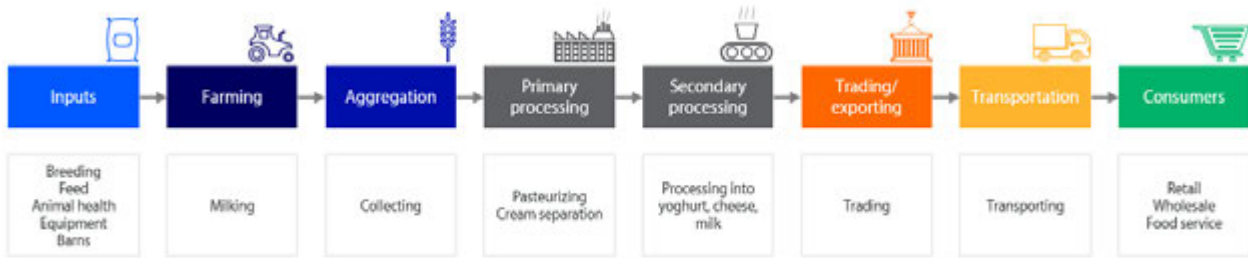


Figure 65: Simplified Dairy Value Chain. Source: Rabo Partnerships (2023)

Farmers produce fresh milk with the help of agricultural inputs (feed, heifers) and artificial insemination. Surplus milk is then sold to either a retailer, a transporter, a collector, or a processor. A collector aggregates fresh milk and chills it, thus preventing spoilage, before re-selling the milk to a retailer or processor. The processor adds value to the milk by extending its shelf life and producing a variety of products. Often, payments are made to transporters in order to move milk to the next link in the value chain.

11.1.3 Dairy in Angola

Angola is a net importer of dairy products and powder milk. As can be seen on the graph below, the domestic production is with 200,000-225,000 tons stable and low over the last decades. At the same time, Angola has a number of dairy processors that processes dairy products from imported powder milk.

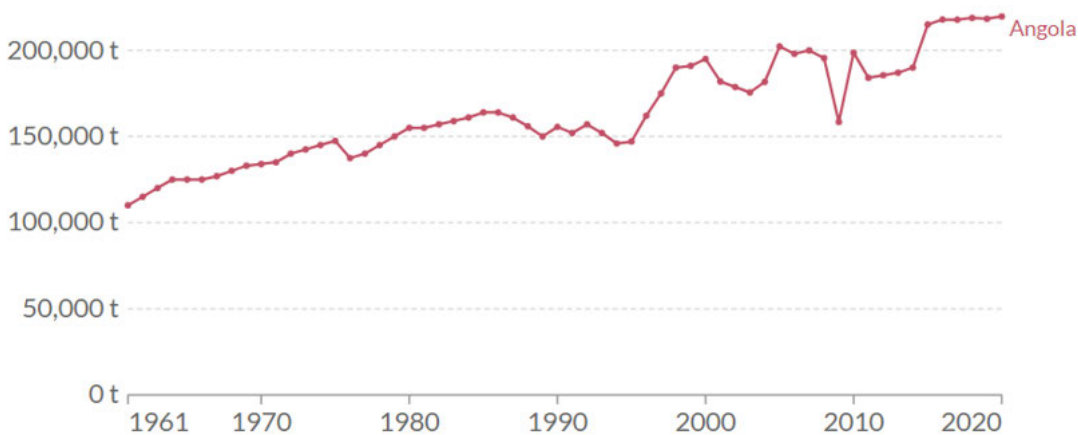


Figure 66: Milk Production 1961-2020. Source: Our World in Data (2021)

Looking at the agricultural- and climatical condition in Angola, a modern dairy value chain can be further developed in close cooperation with these processors. This requires alignment with input providers (providing genetics and quality (compound) feed, veterinary- and extension services, commercial farmers, collectors, and processors.

Angola has a number of dairy processors that process dairy products from imported powder milk, such as Gulkis, and Lactiangol.



Figure 67: Leading partners in the dairy industry in Angola. Source: Rabo Partnerships (2023)

12 Aquaculture & Fisheries

12.1 Aquaculture in the World and Africa

The extreme complexities and ever-changing nature of the global seafood trade make it exciting and frustrating in equal measure. Fortunes can be made one day and lost the next, however one recent development heralds a raft of opportunities for aquaculture producers and traders around the world.

China has now become a net importer of seafood, which should be good news for farmers: both in countries like Ecuador and Vietnam, which are exporting more shrimps and pangasius to China, and for those in regions such as Africa, that may not have to compete with cheap Chinese tilapia imports for much longer.

The global seafood sector accounts for approximately 30 percent of global animal protein production. The overall seafood sector (wild catch and aquaculture) is expected to grow at a modest pace (0.9 percent CAGR) according to the food & agribusiness research team of Rabobank. The aquaculture sector is expected to grow, while wild catch is expected to remain flat. Significant environmental & sustainability risks exist for both with trends in the sector facilitating more sustainable practices (for instance, reduced antibiotic use, land-based aquaculture, fisheries catching methods). Certification is increasingly adapted for specific species such as salmon.

One of the most pressing sustainability topics for aquaculture and the fisheries sector is biodiversity. Runoff waste from aquaculture (feed, chemicals, antibiotics, fish manure) into inland or coastal water systems can cause environmental degradation. The indirect deforestation impact is also high, as aqua feed increasingly relies on terrestrial produced crops (for instance soy). Regarding fisheries, the depletion of wild stocks, catching and trading of endangered species are main concerns³⁷.

12.2 Aquaculture Value Chain

Aquaculture refers to the breeding, rearing, and harvesting of animals and plants in all types of water environments, including ponds, rivers, lakes, and the ocean. Aquaculture is used for producing seafood for human consumption, enhancing wild fish, shellfish, and plant stocks for harvest. Freshwater fish lives in inland water bodies such as rivers, streams, and lakes, while fish that lives in open water in the sea is defined as marine fish.

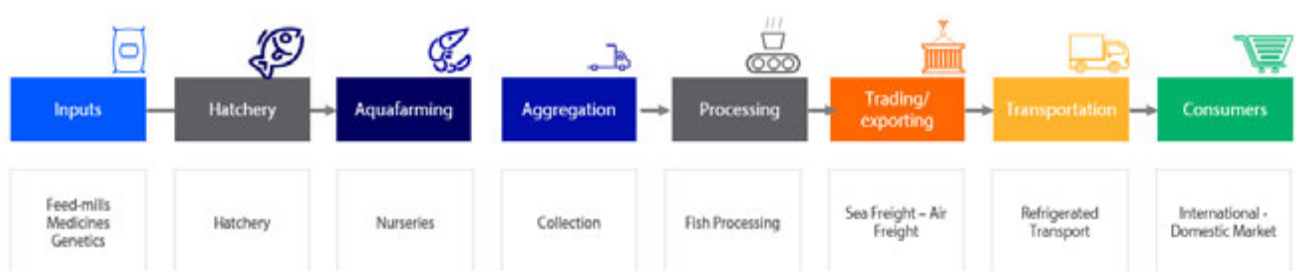


Figure 68: Simplified Aquaculture Value Chain. Source: Rabo Partnerships (2023)

High-quality inputs are important to develop a mature aquaculture value chain. Genetic improvements can be made through selective breeding or genetic manipulation. Medicines are needed as fish farming is subject to diseases. At hatchery stage, brood stock (group of mature individuals used for breeding purposes) is used to hatch eggs into the

³⁷ Food & Agribusiness Research Rabobank

larval stage (ends in 'fry'), juvenile stage (ends in fingerling). In the nursery young fish is raised until market weight. After collecting and processing the fish is traded across the world. A well-organized cold chain is a pre-requisite to support all partners across the value chain.

Aquaculture is one of the most resource-efficient protein with a food conversion ratio (indication how much feed is needed to produce a kilogram of protein) of 1.2 compared to chicken (1.9), pork (5.9) or beef (8.7).

12.3 Aquaculture in Angola

Angola is well-positioned to become a leading partner in the aquaculture & fisheries sector, because of its long coastline of 1,650 kilometres with two diverging currents, namely the Guinea Current with its warm water from the North and the cold Benguele Current in the South, creating a strong up-welling with a high productive ecosystem for marine resources.

The major river systems in Angola are: the Zaire River Basin, the Zambezi River Basin, the Okavango River Basin, the Northern coastal rivers, and the Cunene River Basin³⁸.

The fishery industry can be divided into an industrial and artisanal sector. Industrial fishing is mainly performed by foreign fleets from Spain, Japan and Italy and targets commercial fish species such as pelagic (horse mackerel, sardinella, tuna), shrimp, deep sea red crab, lobster, and demersal fish).

Artisanal fishers catch horse mackerel and lower value species such as groupers, snappers, seabreams, croackers and spiny lobster. Many freshwater fish species exist in Angola, of which tilapia is the most important one.

The sea fishing production is around 449,000 tons per year, of which 85 percent is used for domestic consumption. The aquaculture production is 1,925 tons which is fully consumed by the domestic market.

Angola is well positioned to increase its aquaculture sector and has a competitive advantage to many other African countries with its long coastline and deep seaports. Most of the (semi) industrial fishing is organized around the ports of Namibe, Benguela, Porto Amboim and Luanda³⁹. Free-trade agreements across the African continent can also boost intra-trade, especially to landlocked countries.

The aquaculture sector has especially high growth potential and to replace sea fishing. The growth expectations for sea fishing are limited due to the decreasing species diversity and well-explored commercial species. However, opportunities for pelagic fisheries can be explored as well. For instance, to seek cooperation with leading international players such as Parlevliet & Van der Plas.

To mitigate illegal fishing, Angola works together with Namibia and South Africa to protect their water resources, however it remains challenging.

Angola is one of the largest importers of tilapia. This might be an interesting opportunity for Angola to further explore and to substitute imports.

³⁸ Marine Technologies, fisheries, and seaports. Angola country commercial guide (2022)

³⁹ Marine Technologies and seaports. Angola country commercial guide (2022)

Solmar, Syncopal and Diside are some of the players in the industry.

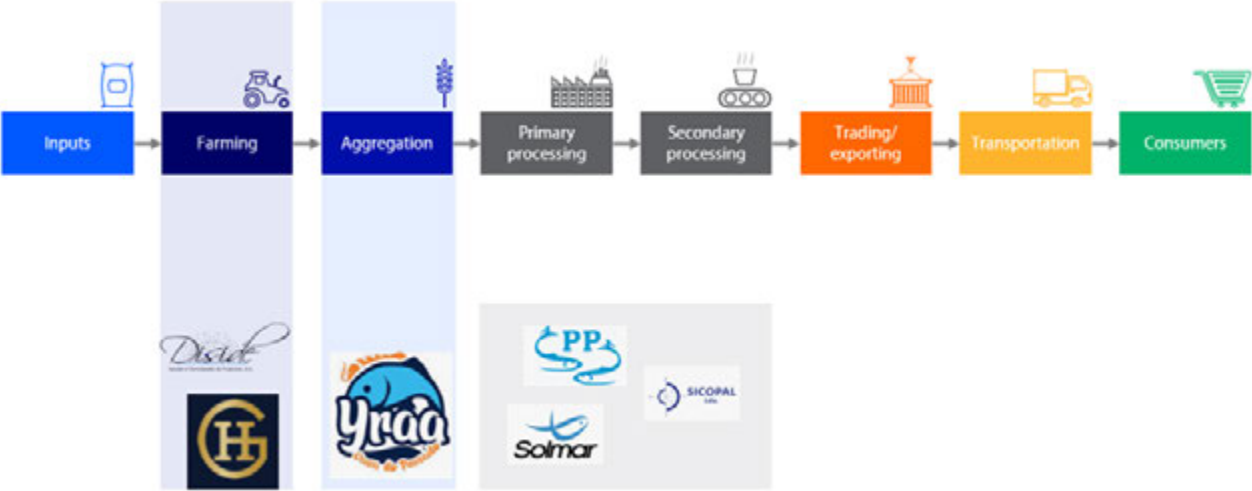


Figure 69: Leading partners in the aquaculture industry in Angola. Source: Rabo Partnerships (2023)

13 *The role of Finance in Boosting the Development of the F&A sector in Angola*

Financial institutions play a catalyst role in the development of the economy. For this reason, banks can and should be actively shaping the avenue to a climate-resilient food & agribusiness sector. Nonetheless, there is still a need for support to guide financial institutions on this journey. Why? Providing access to finance to value chain partners, especially when looking at SMEs and primary producers, is often perceived as high risk, either based on past experience, or often the lack of such experience.

This chapter will address the correlation between access to financial services and economic growth in general, the financial landscape in Angola and the role of finance in boosting the development of the F&A sector in Angola.

13.1 The Correlation between Access to Financial Services and Economic Growth

The key question is whether there is a correlation between financial development and economic growth. Research present two major theories. The first one is the 'demand-following' theory, in which financial development will follow economic growth. The second one is the 'supply-leading' theory that suggest that financial development promotes economic growth.

A study performed in 109 countries by Calderón and Liu shows that financial development generally leads to economic growth.⁴⁰ A study published by Odhiambo (2007) shows that the demand-following response seems to be stronger than the supply-leading hypothesis in Kenya, while in Tanzania the supply-leading approach seems more dominant.⁴¹

A working paper published by the European Central Bank in 2017 also presents the historical evidence that financial development has a positive effect on economic growth. This conclusion was reached in studies based on aggregate data, on industry data and on firm data.⁴²

⁴⁰ The direction of causality between financial development and economic growth (Calderón and Liu - 2003)

⁴¹ Supply-leading versus demand-following hypothesis: empirical evidence from three SSA countries (Odhiambo - 2007)

⁴² Working Paper Series: evidence on finance and economic growth (Popov – 2017)

The correlation between the private sector credit and GDP per capita can be seen in the graph below as well.

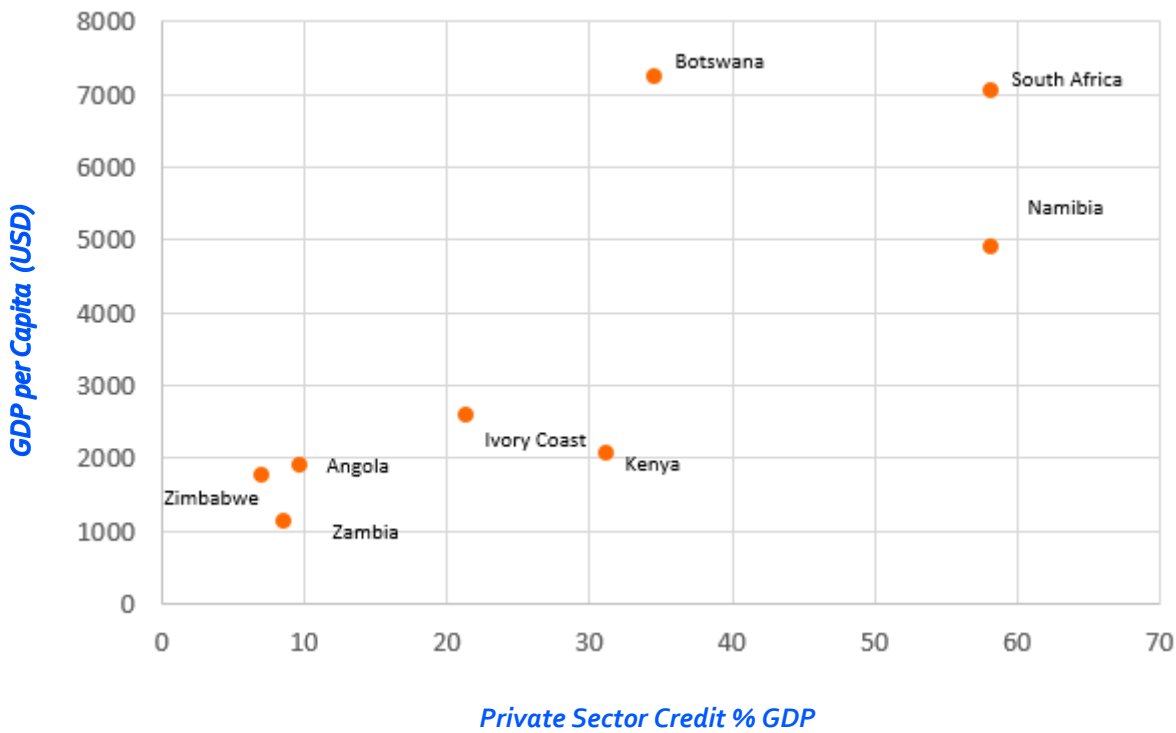


Figure 70: GDP per capital versus private sector credit % GDP. Source: World Bank (2023)

It can be concluded that the higher GDP per capita, the more private sector credit % GDP.

Credit to the private sector in Angola seems to have largely followed the demand-following theory.⁴³ Following the civil war, private credit grew rapidly in 2002-2008. After a period of relative stagnation private credit decelerated sharply after

⁴³ International Monetary Fund: IMF country report No. 23/101 March 2023

2013. Despite recent signs of economic recovery, as oil prices increased and non-oil GDP growth picked up, credit to the private sector in Angola remains subdued.

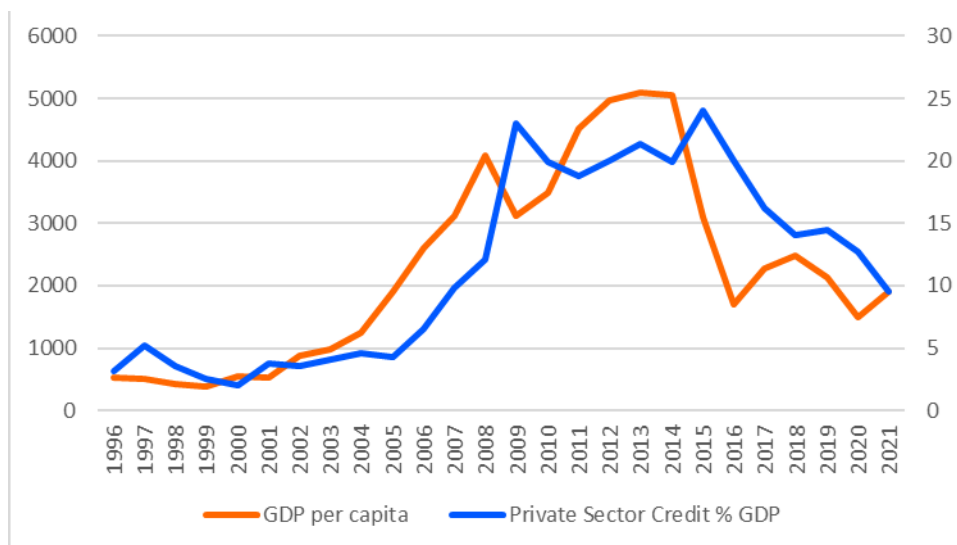


Figure 71: GDP per capita versus private sector credit % GDP Angola . Source: World Bank (2023)

Some rules may have contributed to the decline in credit, such as that BNA in 2014 prohibited foreign currency credit, except to exporters and the state, which led to a decline in the share of banks’ credit in foreign currency. Likewise, in 2019, the BNA prohibited kwanza credit indexed to a foreign currency.

The domestic credit as a % of GDP is Angola with ~10% very low compared to other Sub-Saharan countries as can be concluded from the graph below.⁴⁴

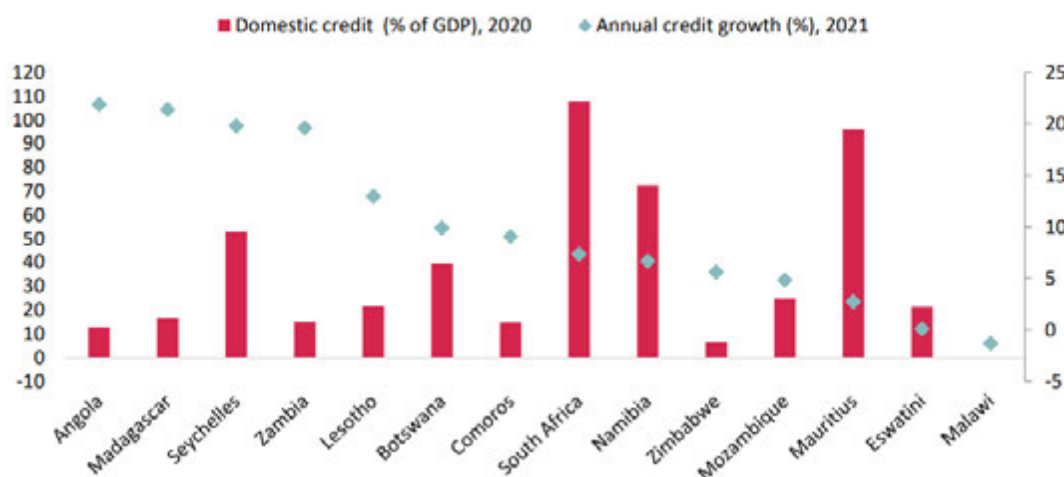


Figure 72: Credit Depth and Credit Growth Southern Africa (%). Source: World Bank and Moody’s Analytics Bank Focus (2020)

⁴⁴ Finance in Africa: navigating the financial landscape in turbulent times.

Credit to the private sector in Sub-Saharan Africa is on average 38.9% of GDP, which is, in turn, low compared to, for instance, 59.6% in Latin America. The reasons for the small size of the banking sector in Sub-Saharan Africa are the following:

- Low-income levels curtail the amount of credit that can be extended to the economy
- Financial integration with the rest of the world and trade flow in Sub-Saharan Africa are relatively low compared to other developing countries
- Weak institutional quality is restricting financial sector development.

It can be concluded from the analysis above that the banking sector in Angola is very small, while increased credit as a % to GDP contributes to the economic growth of a country. The growth rate would depend on multiple variables, however in a very simplified, linear model, it can be concluded that a growth of USD 0.5 billion would lead to a growth in GDP of USD 5.25 billion. This is based on the following starting points:

- GDP per capita in 2021 was ~USD 1,900
- Total GDP was ~USD 67.5 billion
- Private sector credit as a % of GDP was ~9.5%
- Private sector credit was ~6.4 billion

This means a leverage of private sector credit to GDP of ~10.5% (USD 67.5 billion/ 6.4 billion). In absolute amounts, an increase of USD 0.5 billion private sector credit might lead to an increase of USD 5.1 billion GDP growth.

13.1.1 Banking Sector in Southern Africa

The overview below presents the banking landscape in Southern Africa. It can be concluded that Angola has a low loans to deposits ratio, which means that banks do not invest much in the real economy. A key profit driver is the investments in bonds. This results in a high return on equity. The nonperforming loan ratio is with 18 % too high, which makes banks cautious to finance more in the real economy.

Country	Number of banks **	Total assets \$ **	Banking concentration (top 3 banks)**	Domestic credit (% of GDP) 2020 ¹	Annual credit growth (%) ¹	Loans to deposits (%) ¹	Financial Soundness Indicators: Latest available	Capital to risk-weighted assets (%) ²	Return on equity (%) ²	Non-performing loans (% of total loans) ²
Angola	24	31 895 698	57	13	22	40	2018	26	34	18
Botswana	11	11 857 159	48	39	10	76	2021	17	6	4
Comoros	1	46 024	100	15	9	65	2020	25	-8	24
Eswatini	5	1 744 179	79	21	0	75	Q2 2020	17	8	9
Lesotho	4	1 367 737	91	22	13	57	2021	22	5	4
Madagascar	8	3 430 595	74	16	21	74	2021	11	30	8
Mauritius	21	45 809 024	55	96	3	67	2021	21	11	6
Malawi	10	3 711 419	73		-1	52	2020	21	25	5
Mozambique	17	10 184 540	73	25	5	47	2021	26	17	11
Namibia	15	10 863 596	78	73	7	86	2021	16	13	6
Seychelles	4	1 265 796	93	53	20	41	2021	23	17	5
South Africa	48	363 097 106	62	108	7	98	Q1 2021	17	12	5
Zambia	22	14 508 644	65	15	20	42	2021	25	31	6
Zimbabwe	14	4 183 927	46	6	340	37				22
Southern Africa*	204	503 965 444	62	80	26	81		19	16	8

Figure 73: Key Banking Indicators. Source: Moody's Analytics Bank Focus, World Bank (2020)

One of the challenges banks face is the large informal non-oil sector that lacks technical- & financial knowledge. To tackle these issues and to create a sustainable supply of bankable projects, cooperation will be needed amongst private-,

public- partners, knowledge institutes and the civil society. At the same time, banks have to transition from an Angola sovereign debt model to a model that supports the real economy. This requires strengthening the bank's governance and knowledge base.

Another challenge that has to be addressed is the large disparities in access to finance across regions and gender. According to the World Bank, the percentage of adults with a transaction account in a financial institution is less than 30%. Women and adults in rural areas have even more restricted access; only 22 and 18%, respectively. Luanda, with 27% percent of the population, accounts for 90% of total credit and 95% of total deposits in the country⁴⁵.

Access to finance is limited, amongst others, due to lack of collateral. Land ownership is exceedingly difficult and time-consuming. The process can take several years, providing the availability of third-party services that can carry out services such as appraisal, title search, and registration.

13.1.2 Access to Finance in the Food & Agribusiness Sector

It can already be concluded that access to finance to the private sector is already very low and especially in rural areas. Access to finance to the food & agribusiness sector is even worse.

The lack of access to finance in the food & agribusiness sector is considered as a key constraint in the market. The key reasons behind the financing gap in the food & agribusiness sector are the higher perceived risks and the lower returns. According to Aceli Africa, the risks in the food & agribusiness sector are twice as high to other sectors, while the transactional costs are higher as well. This results in a 4 to 5% lower return on investment.

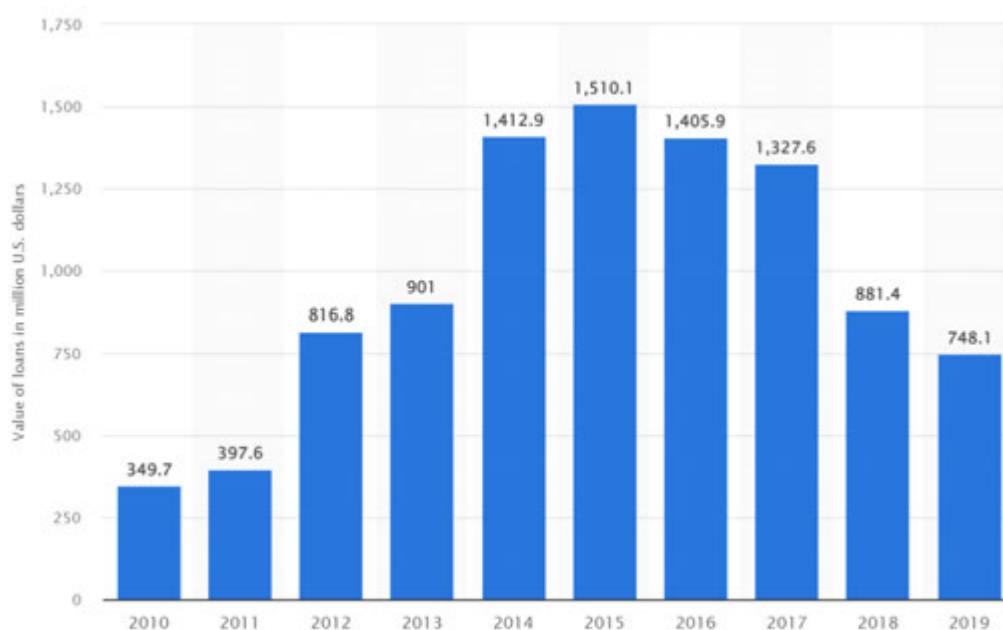


Figure 74: Value of bank loans granted to agriculture, forestry, and fishing in Angola from 2010 to 2019. Source: Statista.com (2023)

The involvement of banks in the food & agribusiness sector has even decreased over time as can be concluded from the table above.

⁴⁵ Country private sector: creating markets in Angola

13.1.3 Summary: the Role in Finance in Boosting the Development of the F&A Sector in Angola

It can be concluded that the banking sector in Angola is relatively small compared to other Sub-Saharan countries with a low private sector credit to GDP ratio, a low loan/deposit ratio and even lower lending ratio to the food & agribusiness sector with a declining trend. Needless to say, that a transition is needed as banks are the avenue to a climate-resilient food & agribusiness sector.

In our opinion, involvement of banks in the development of the F&A sector is critical. Banks can and should be active to play a catalyst role in the development of the F&A sector and rely less on the quasi-rentier economy. Nonetheless, there is still a need for support to guide financial institutions in this journey, because providing access to finance to value chain partners, especially when looking at the primary producers, is perceived as high risk.

14 Entry Points for Financial Institutions in the market

14.1 Food & Agribusiness in Angola is Nascent

Angola is well positioned to become a food & agribusiness powerhouse in Africa. Angola has perfect climate-, water & soil circumstances. Massive agricultural land and cheap labour are available and with five deep-sea ports it has a good infrastructure to serve international markets.

At the same time, food & agribusiness is nascent in Angola. For instance, there is a lack of technical- and financial knowledge and many sectors are not well structured. High quality starting material such as parent chicks in the poultry sector, AI in the beef sector or seed potato in the potato sector are lacking.

The Government is providing a lot of support to the sector, however mainly to provide market price support. Mainly large-scale farmers and companies benefit from the support measures from the Government. The support programs for smallholder farmers and producer cooperatives do not result in sustainable development of this farmer segment, rather than in dependency of more subsidies.

This result in the valley of death as presented below.

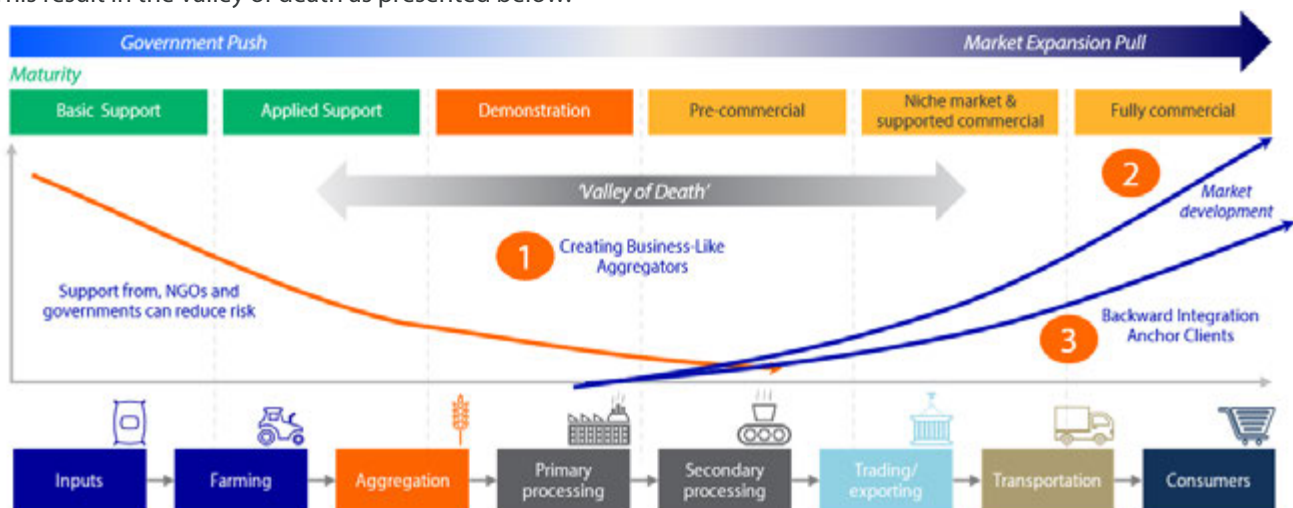


Figure 75: Valley of Death. Source. Rabo Partnerships (2023)

The blue bar at the top of the graph shows the support from the Government, which do not result in long-term, sustainable impact (the orange line). Commercial farmers and businesses benefit from the support and are able to create a business with positive financial returns. However, this does not result in the development of the sector as a whole, because most of the companies visited are focussing on their own business without involving other partners across the sector. This is represented in the blue line below.

The current situation results in a polarized situation which is called the ‘valley of death.’ Most value chains are underdeveloped and may not be competitive unless constraints are systematically addressed.

Rabo Partnerships identified the following three opportunities to overcome the challenges pertaining to the ‘valley of death’:

14.1.1 Creating Business-Like Aggregators

Aggregators play an important role in strengthening value chains and involving smallholder farmers. As producer cooperatives have a bad image in Angola a new business-like, farm-based aggregation concept has to be developed that creates sufficient added value with a minimum size to become a strong partner in a food system. This new concept should be based on the following starting points:

- Commercialization alone is not enough anymore to create a strong position in current food systems. The development of a strong aggregator starts with putting consumers at the centre. This means that aggregators have to think about the client of the client of their client! To create a strong position in a food system, aggregators have to understand the consumers, not only today, but also even more important in 10 years from now.
- Secondly, an assessment of a particular food system has to be performed that includes the target consumers. What are the relevant dynamics and forces in this system? What is the position of intermediary traders? How to reduce information asymmetry?
- Finally, an aggregator has to define which value it can create in this food system.

14.1.2 Market Development

Because food & agribusiness is nascent, new markets have to be developed. This has to be done in close cooperation with innovative partners and enablers to de-risk the bank's portfolio. This concept is called the 'cluster-approach,' which will be explained in the next paragraph. In most cases, producers are positioned very early in the value chain where there is little added value for them while the key to prosperous development is usually in transformation, processing and international distribution.

14.1.3 Backward Integration with Anchor Clients

Angola's distribution sector has started to integrate backwards to engage in agriculture production and processing. Some food and beverage processors are also considering agriculture production to secure inputs. The rationale is to seek a reliable supply of quality products, capturing higher margins compared to imports. Examples include the Newaco Group and Pomobel. Beer producers like Refriango and Castel are also investing in cereal production.

To develop the entire sector, it is important to select an anchor client that is willing to include other value chain partners, such as smallholder farmers as well, such as Fazenda Vissolela. This creates a more transparent sector and can overcome the distrust amongst partners.

14.2 Sweet Spots

The sweet spot selection process (or sweet spot analysis) is a decision-making process used to determine and rank the competitiveness potential of a select group of F&A sectors (or F&A subsectors). It is conducted to identify those F&A sectors/subsectors that will maximize/optimize the realisation of financial institution's objectives. The selection process occurs through prioritization of a short-list of F&A sectors weighted and ranked against a number of selection criteria. The criteria should have a link to the vision/mission of Ecobank and help to create a focussed/planned and successful roll out of an F&A Strategy that will (1) *realize growth/ strengthen the bank's competitiveness on African continent*, (2) *achieve the desired impact of the bank on African economy /society*, (3) *have a positive impact on the environment*, (4) *add to the bank's profitability targets/risk-return requirements*.

The following general selection criteria to prioritize a short list of F&A sectors to focus on are used:

1. Size/growth potential/competitiveness of the sector.

Significant increases in clients, portfolio and income for financial institutions occur as a result of size and growth of a sector. It is therefore important to select those sectors which have growth potential with many interesting clients to choose from. The potential for competitiveness (domestic markets, regional markets, global markets) will often be an important criterion in sector selection as well. If a sector is very large with lots of competitors, it can provide a big client base for financial institutions. An international sector will provide financial institutions with higher FX influx, although international market trends may be more difficult for local actors to tap into. The maturity/quality of the whole value chain in the sector is also something to consider.

2. Impact of the sector on African economy / society.

To contribute to the economic development and financial integration of the African continent, it is important to select those sectors which have highest impact on economic growth and financial well-being of Africa. E.g., growth in industries with high employment and high rates of SME participation will impact/reduce poverty more than growth in industries with low employment and minimal SME participation. We therefore e.g., also focus on analysing how many farm households are involved in a sector and how food security may be improved by growing the access to finance possibilities for the players involved. The more households are active in this sector and for which the sector plays an important role in their diet and livelihood, the bigger the development impact may be. USD inflow can have a strong impact on the development status by opening up the country for more (international) trade but can also shape itself in the form of financial support from donor agencies or NGOs.

3. Environmental (sustainability) impact of the sector.

Although economic growth is an important goal for financial institutions, sustainably managed environmental resources is also an important strategic objective. The sustainability level of a sector is determined by the impact/potential of the sector to improve on GHG emissions, water quality, soil quality and biodiversity ([de-]forestation). The potential impact is related to what area of Africa’s agricultural land is attributed to this sector, as the impact may be bigger if the land size of the sector is larger. In addition, certification can help to improve value chain actors’ performances in terms of climate impact and may provide a financial incentive for them to become more sustainable (carbon trade).

4. Potential of the sector to add to the financial institution’s profitability and risk/return levels.

The higher the profitability potential of a sector the higher the possible return on investment for financial institutions if growing their exposure in this sector. This potential is determined by the number of possible client (segments) and their margins, the possible ticket sizes to these clients as well as the potential USD inflow for financial institutions. A strong FX position for the financial institution can strongly contribute to growth of the financial institution and becoming a stronger competitor for other financial institutions servicing multinational corporates.

The risk profile of a sector is determined by several aspects, such as the structure of a sector, the price risk, environmental risk, weather risk, product risk and market risk of the sector. The better the risk profile of a sector, the higher the appetite of the bank may be to grow its exposure in this sector. New or upcoming sectors in a country often have a higher risk profile than mature sectors and mature sectors are often easier to be assessed by the bank as they have well-known track records.

Also, the starting positions of the financial institution in a certain sector have to be considered, since it is easier and more cost efficient to build on available knowledge and position than to start from scratch.

Based on the high-level market analysis, we recommend selecting the following sweet spots for financial institutions.



Figure 76: Sweet Spot Selection. Source: Rabo Partnerships (2023)

14.2.1 Fruits & Vegetable Sector

We consider the fruits & vegetables sector interesting for financial institutions for the following reasons:

- The sector consists of professional farmers with access to the international markets.
- The sector is partly structured looking at the large-scale farmers and the integration with processors and international markets. The unstructured part of the sector, small-holder farmers delivering to the informal market, is considered as too risky for the moment.
- The sector generates FX inflow.
- The infrastructure is improving.
- Angola has a competitive advantage in terms of climate, land, labour.

14.2.2 Livestock

The livestock sector might be interesting for financial institutions for the following reasons:

- It is quite a significant sector in Angola.
- Poultry is an important sector to feed the world sustainably.
- An opportunity is to shift from importing hatching eggs and day-old-chicks to parent stocks.
- Animal Protein is strongly intertwined with other F&A sectors (commodities, dairy, consumer foods).
- Pork & Poultry: farming transitioning to regional circularity where possible (by-products feed, waste) and improved animal welfare practices.
- Interesting sector to diversity the portfolio of financial institutions.

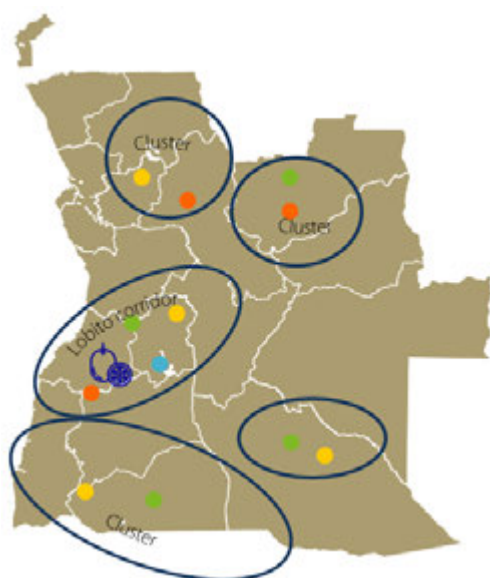
14.2.3 Coffee

We consider the coffee sector interesting for financial institutions for the following reasons:

- The coffee sector is small, however with a huge upward potential.
- It is an interesting sector to boost FX inflow.
- Angola has some unique selling points that gives the country a good starting point.
- A number of anchor clients can be used as an entry-point for financial institutions to enter the sector and to diversity the credit portfolio of financial institutions.

14.3 Cluster of Clients

The cluster approach has to be applied for the sweet spot sectors and to enter into new markets.



Focus on a cluster that comprises of sector(s) and a region. For instance, in Malange, Cuanza Sul grains & oilseeds are important crops.

Clusters are geographic concentrations of interconnected companies in related industries, but also encompass specialized suppliers, financial institutions, universities, and trade associations (Source: Porter's cluster strategy and industrial targeting (2013)).

Working in a cluster can give the bank a competitive advantage over other peers. Collaborating with leading partners in the region/sector gives good insight in the local dynamics, which is a mitigation factor for experienced risks, creates an interesting deal flow which is driving profit and positions the bank as the leading bank in the food & agribusiness sector, which attracts other clients in other sectors as well.

Figure 77: Cluster Approach. Source. Rabo Partnerships (2023)

The Dutch Embassy is creating a new cluster in the Lobito Corridor for the fruits sector. This might be an interesting starting point for the bank to get familiar with this concept.

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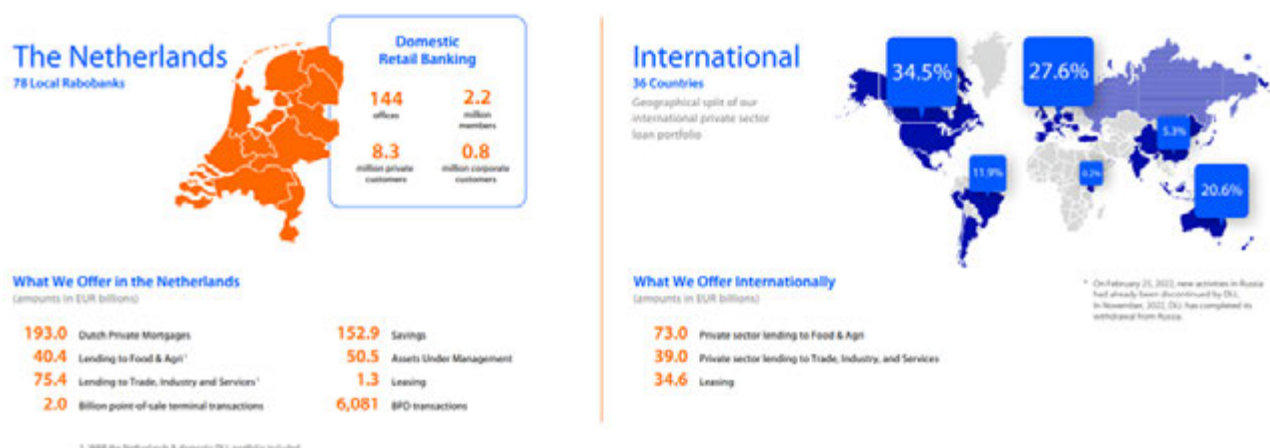
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16 Appendix – Rabobank Company Profile

16.1 The Rabobank Group

Rabobank was established more than 125 years ago with the main objective to provide access to financial services for the rural and entrepreneurial and less privileged population who hardly had access to the financial and capital markets. Even today, the ambition of the Rabobank group is to enable people and enterprises to participate in an independent and mature way in the economy. Our starting point for doing business is to add value for the client by offering the best financial services acceptable for our clients. We aim for continuity in providing services focusing on the long-term interests of the client and engagement with the client, environment, and society.



The Rabobank Group embraces the so-called “All-Finance” concept, by offering the widest range of banking services to a remarkably diverse group of clients. The bank is a major financial partner in the agri-business sector, engages in lending activities to small and medium sized enterprises (SMEs), operates a corporate finance division and services the needs of all types of private individuals. Furthermore, the group has a number of subsidiaries specialised in different segments of the financial market, including insurance and pension plans, factoring and leasing, asset management, venture capital and private banking services.

Today Rabobank has in the Netherlands an 86 percent market share in the agricultural and agribusiness lending market. Rabobank is by far the market leader in the MSME segment in The Netherlands, with a market share of 41 percent. In the Netherlands, Rabobank Group provides all the financial products and services required by its nine million private individuals and business clients. All Group units work on the principle of delivering customer value. In the Netherlands, Rabobank is the market leader for most retail banking products. About 34 percent of all private savings are entrusted to Rabobank Group and the Group executes one third of all payment transactions in the Netherlands.

To serve the international market, Rabobank Group operates in thirty-eight countries outside the Netherlands. Rabobank has a branch in Kenya and Rabo Partnerships cooperate closely with this office when carrying out assignments in South & East Africa.

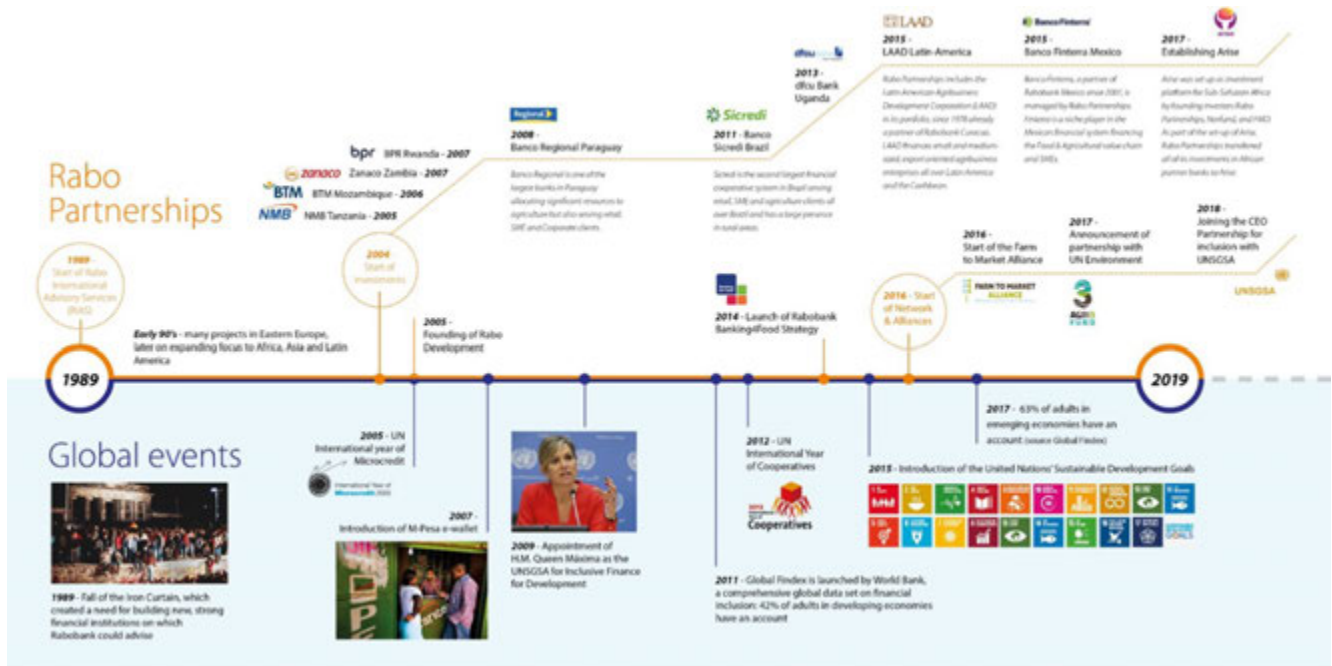
The Rabobank Group is one of the world’s largest and most successful co-operative banks, its strength evidenced by a strong rating by all major international credit rating institutions.

16.2 Rabo Partnerships

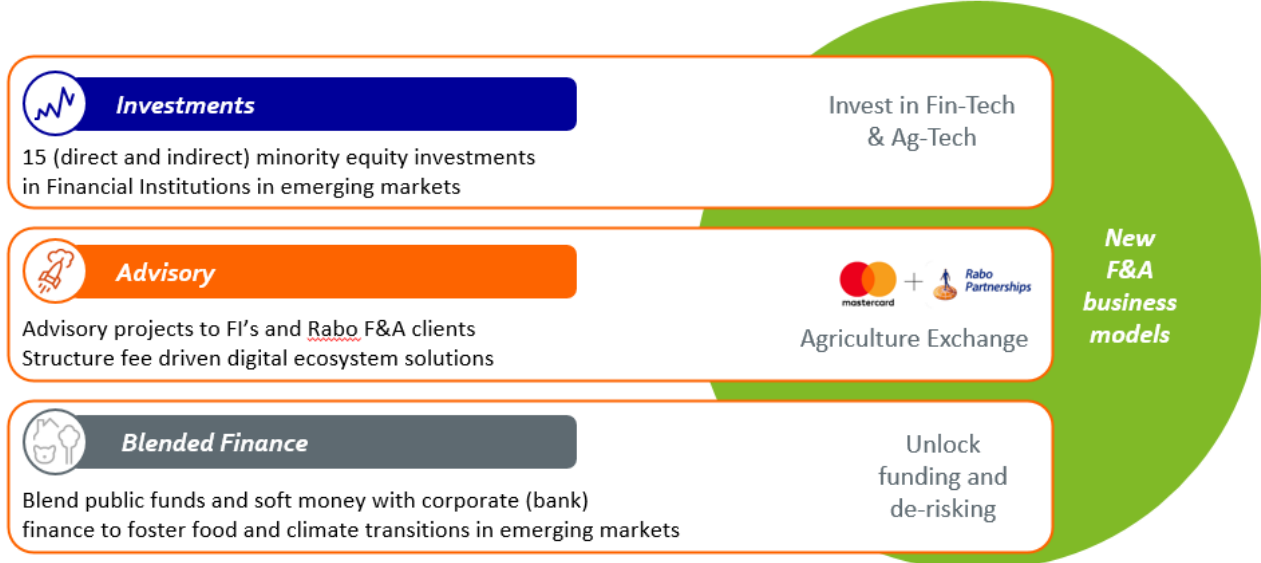
16.2.1 Rabo Partnerships – building on 30 years of successful venturing

Rabo Partnerships successfully boosted financial inclusion, rural development, and sustainable food security in emerging markets with a high F&A potential and low financial inclusion, generating sustainable returns. Rabo Partnerships carries over 30 years of experience in achieving impact & return in emerging markets. Often Rabo

Partnerships has been Rabobank’s first step into new markets, through our advisory services. The overview shows how our advisory activities grew across the globe and led to development of our investment portfolio.



Rabo Partnerships nowadays has three focus areas: Investments, Advisory and Blended/ Impact Finance. All activities undertaken at Rabo Partnerships are aimed to create impact on Financial Inclusion, Rural Development and Food Security. Rabo Partnerships (and Rabobank) have seen digitalization as a key for future transformation of the agri value chains. Tapping into the opportunities that digital data can provide, unlocking credit scoring from non-financial information, digitalizing procurement data within value chains, will not only create more transparency in value chains, but will enable access to finance to the agri value chain against reduced transaction costs. Agriculture Exchange, our joint venture with Mastercard is the flagship of this digital journey.



16.2.1.1 Investments - Networks

Rabo Partnerships creates alliances and coalitions with renowned parties, including the World Bank and the UN on financial inclusion. This results in various technical assistance programs, e.g., the set-up of the Farm to Market Alliance, founding of the AGR13 Fund and investment in the FarmFit Fund.

In addition, Rabo Partnerships selectively invests in financial institutions (minority stakes) and fintech companies. Build on proven successful business model of combining investments in fintech with providing technical assistance. Thus, accelerating our impact on financial and food system (e.g., scalable value chain solutions) with positive outlook for partner banks and F&A clients by connecting millions of farmers in emerging markets to suppliers/off-takers and (agri and financial) service providers. This will also improve the livelihood of farmers and increases food security.

16.2.2 Advisory Services

We partner with and professionalize financial institutions to grow access to financial services and we improve value chains in emerging markets together with F&A clients and other stakeholders. With financial institutions, Rabo Partnerships often works with multiyear programs,

Rabo Partnerships provides technical assistance to financial institutions covering the following main areas:

- Strategy:
 - Preparing strategic positioning papers for financial institutions in developing countries. This includes designing F&A strategies for financial institutions.
 - Formulating (F&A) policies and procedures aimed at improving the credit operations of banks focused on F&A/SME lending, coupled with the introduction of state-of-the-art risk management systems.
 - Devising policy instruments to stimulate the optimal functioning of financial markets.
 - Advising public authorities (central banks, government ministries) responsible for creating and/or maintaining a healthy banking infrastructure.
- Business Planning:
 - Facilitating ‘twinning’ programs between Rabobank and selected partner banks in developing countries.
 - Setting up organisational structures, management information systems and planning processes aimed at improving overall operational efficiency.
- Implementation:
 - Implementing programs aimed at the restructuring and/or rehabilitation of public sector banks in developing countries with a view to their ultimate functioning at arm’s length of the government or privatization.
 - Implementing programs aimed at the institutional strengthening of private sector banks in developing countries.
 - Putting in place effective internal control systems and KPI setting.
 - Transferring knowledge in specific areas such as marketing, product development, ICT, accounting systems and financial engineering techniques.
 - Organizing training programs.
 - Implementing F&A strategies, which comprises F&A credit training, tailored finance solutions across the value chain, from ‘farm to fork’, credit assessment tools and templates and on the job training.

Rabo Partnerships provides consulting services to F&A clients that covers the following key activities:

- Cooperative Capacity Building: organising capacity building for cooperatives in the field of governance, financial management, digitalization, member commitment, capitalization, and access to finance.
- Design of new ‘last-mile-service-delivery’ concepts, aiming to streamline value chains, to provide more services to farmers and to make landscapes more climate resilient.
- Value Chain Finance: advisory on viable financing structures in the value chain. This can be indirectly through tri-partite agreements between financial institutions, farmers, and off-takers or directly

through digital value chain finance solutions. Rabo Partnerships can guide banks in discussion with farmers, aggregators, processors, and off-takers.

As part of the Rabobank Group, Rabo Partnerships enjoys the full support and back up of the Rabobank. Rabo Partnerships builds on a vast experience of consultancy and change management to banks in developing countries and emerging markets, as well as the banking experience of the Rabobank Group. As a result, Rabo Partnerships can tap from a database of over 1,000 Rabobank experts that are able to work as consultant on short-term missions. Next, various departments within Rabobank are willing to perform services in support of consultancy services.

16.2.2.1 Blended Finance

Rabo Partnerships has extensive knowledge on and experience in making agricultural value chains more efficient, more sustainable, and more attractive to finance. By developing strategic partnerships with external funding partners, amongst other AGR13 fund and Farmfit Fund, innovative blended finance solutions for F&A clients are developed.

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