Market opportunities and entry strategies for cassava and cassava products in Senegal

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International Trade Centre

About the paper

This study was undertaken by the International Trade Centre within the framework of implementing the Sierra Leone West Africa Competitiveness Programme, which is financed by the European Union under the 11th European Development Fund and implemented by the United Nations Industrial Development Organization in partnership with the International Trade Centre

For any questions regarding the contents of this report, please send email to alliances@intracen.org**.**

ITC is the joint agency of the World Trade Organization and the United Nations.

Introduction

The International Trade Centre (ITC), in partnership with the United Nations Industrial Organization (UNIDO), is implementing a technical assistance project in Sierra Leone under the West African Competitiveness Programme (WACOMP). The project aims at increasing Sierra Leone's competitiveness through enhanced productivity and trade compliance in the cocoa, cassava and oil palm value chains with a view to boosting the country's integration into regional and global value chains.

The project has specific objectives of improving the performance, growth and contribution to industry, regional trade and exports of the three value chains, and improving the business climate at the national level. Identification of international market opportunities for Sierra Leone's cassava products and developing a roadmap for product and market development to facilitate access to global markets are important objectives of the project interventions. This study is conducted to respond to these needs by identifying and analyzing opportunities in Senegal market and proposing useful market entry strategies into Senegal for Sierra Leonean producers and exporters.

Acknowledgements

This report is written by ITC consultant, Mr. Lionel Tientega under the direct supervision of Ms. Cristina Reni of the Agri-Business team in the Sector Competitiveness Section of the Division of Enterprises and Institutions in close collaboration with the Office for Africa. It is sponsored by the WACOMP Sierra Leone funded under the 11th European Development Fund of the European Union.

Executive Summary

Boxes, Tables, Figures

Acronyms

Unless otherwise specified, all references to dollars ($) are to United States dollars, and all references to tons are to metric tons.

ADEPME	Agency for the Development and Support of Small and Medium-sized Enterprises
APIX	Agency for the Promotion of Investments and Major Works Senegal
CIRAD	International Center for Agricultural Research for Development
COTECNA	Applied Technical Advice
ECOWAS	Economic Community of West African States
FRA	Authorization for manufacture and sale
GIE	Economic Interest Group
HS	Harmonized System
ITC	International Trade Centre
SME	Small Medium Enterprises
UEMOA	West African Economic and Monetary Union
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar
WACOMP	West Africa Competitiveness Project
WTO	World Trade Organization

Executive summary

The identification of international market opportunities for Sierra Leone's cassava products and developing a roadmap for product and market development to facilitate access to global and regional markets is one of the objectives of the project interventions.
This study is conducted to respond to these needs by identifying and analyzing opportunities in one of the potential regional markets: the Senegalese market. This study offers useful market information and proposes entry strategies into Senegal for Sierra Leonean producers and exporters.

In Senegal, the cassava market is growing with still significant room for improvement in terms of processing and adaptation to local food habits. Local production has increased significantly, reaching over one million tons. Senegal's strategic orientation is to use cassava flour to reduce the balance of trade deficit by reducing the wheat import bill and creating added value and jobs by organizing the value chain. Senegal imports 2,500 tons of wheat per day, including 2,000 tons of flour for bakery needs (Plan Senegal Emergent; 2019). By incorporating only 10 percent of cassava flour in the planning, this would require 200 tons of cassava flour per day, or 600 tons of fresh cassava.

Cassava semolina, commonly known as attieke, is also a niche product among the West African population in Senegal. However, processing industries, bakeries and food industries needs are not totally covered by the cassava locally producted.

There are therefore possibilities and opportunities for cassava products from Sierra Leone because of the potential demand that is growing. However, caution should be exercised, as the information on production in Sierra Leone reveals difficulties in the production route and local processing that need to be resolved. There are many investments to be made in order to resolve them and thus stabilize the quality and quantity of local production. These steps are necessary before considering a highquality market such as the one in Senegal.

The following recommendations have been made to improve the positioning of Sierra Leone cassava products in the Senegalese market, based on the findings and analysis of this report:

Short term recommendation

1. Ensure the quality of cassava products meets market entry standards;

2. Explore the food habits of the Senegalese market to propose products that correspond to them;

3. Invest in packaging solutions: Considering the regulation on plastic in Senegal, it is important to invest in sustainable packaging tools that respect the regulations against plastic in Senegal and allow for transport without altering the quality of the products;

4. Consider subsidies and/or investments that would allow a greater production of products such as flour, pet food, on a large scale, as well as the respect of international standards;

5. Establish strong links with SMEs, industrialists, and informal actors in the Senegalese market through a promotional campaign (including participation in fairs such as Foire Internation de Dakar (FIDAK), Salon International des Produits Agricoles (SIPAL), Salon International de l'Agriculture en Afrique de l'Ouest et du Centre (SIAGRO);

6. Create the promotional campaign with a focus on attieke which is already well consumed and whose market is growing.

Long term recommendation

1. Build a presence in the Senegal market: Include or connect with sales advisors or similar professional experts in the country's sector who can offer information on how to enter the retail and wholesale market. This way, companies of the large distribution as well as small stores of districts, industrial markets, bakeries can commercialize cassava and cassava related products.

2. Consider marketing systems to make Senegal a hub for re-exporting products to the rest of West Africa: Senegal is currently investing in upgrading its cargo airport, road network, and West Africa's largest container port is being built at Ndayane. The objective is to make the country a trade hub for West Africa by concentrating and facilitating trade with other countries.

Methodology

This study aims to:

- Research the Senegalese market and distribution channels for cassava and their derivatives from the perspective of Sierra Leone;
- Create a Senegalese market entry strategy for cassava and cassava value added products that can be deployed or adopted by Sierra Leonean businesses/exporters.

To achieve these objectives, the methodology adopted consists of a combination of quantitative and qualitative approaches, while maintaining a participatory process by including the value chain actors. This approach made it possible to gather the opinions of the stakeholders met, to study all aspects related to the functioning of the system, and to identify actions to be taken in the short and long term. These actions were carried out with a view to identifying strategic orientations for the entry of cassava products from Sierra Leone within the framework of the programme's support.

The methodological approach consists of a combination of documentary studies, analysis and interviews conducted by the author. Information was collected from:

- Literature review (including law and tax documents) for data collection;
- Semi-structured interviews with members of companies and government services active in the cassava value chain;
- A review of international and domestic trade data;

The combination of these collection methods allows to triangulate the results of the study in order to obtain the best information of the value chain at the local level, current and future opportunities, constraints and actors.

PART 1 THE SENEGALESE CASSAVA MARKET & RELEVANT DISTRIBUTION CHANNELS

1.1 Market Overview

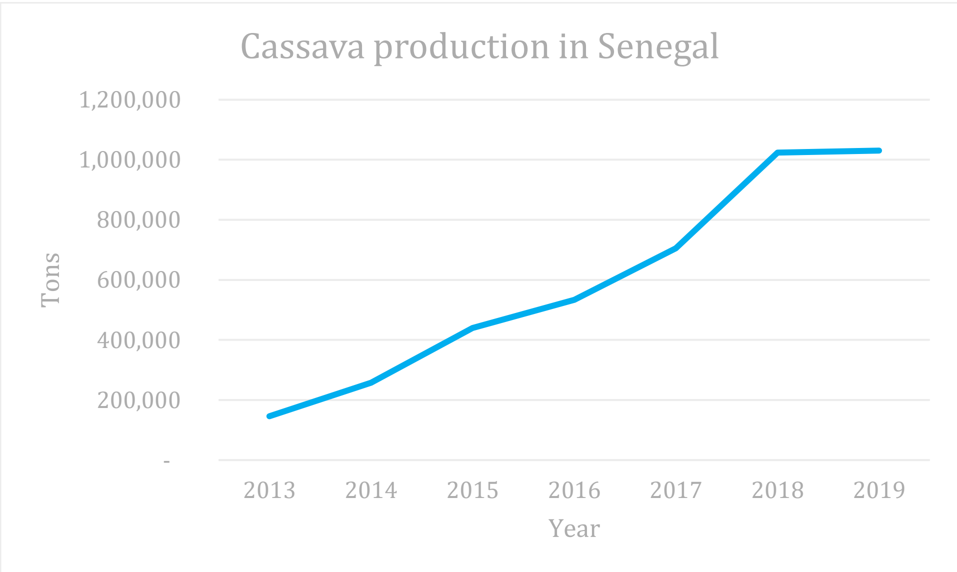
According to the Directorate of Analysis, Forecasting and Agricultural Statistics of Senegal (DAPSA), groundnuts and millet in Senegal are the most common main crops [1](36.5% and 26.9% of plots), followed by maize, cowpea, and rainfed rice with proportions of 8.7%, 7.5%, and 6.9% respectively.

Analysis by main crop groups (cereals, legumes, cash crops) shows that cereals (millet, maize, upland rice, and sorghum) occupy almost half of the plots under main crops (48.4%), followed by legumes (groundnuts and cowpeas), which constitute 44.0% of the plots. Horticultural crops, consisting mainly of vegetables, which represent only 3.2% of the plots under main crops.

Cassava occupies only 0.6% of the cultivated plots, which range in sizes from 0.46 ha to 0.91 ha.

Demand on the Senegalese market for cassava is slowly increasing. The country is a cassava producer: one million tons of cassava in 2019, twice as much as three years ago; mainly in the Tivaouane region, which is located 100 kilometers north-east from Dakar (DAPSA)

Figure 1: Senegal's cassava production, 2013 - 2020



Source: FAOSTAT

Cassava root is widely used in the cooking of the most popular dish in Senegal, Thiep bou dieune, which is "rice with fish". The average consumption of rice per capita is 116 kg/year[2]. Cassava is used as a vegetable, as shown in Figure 2 below.

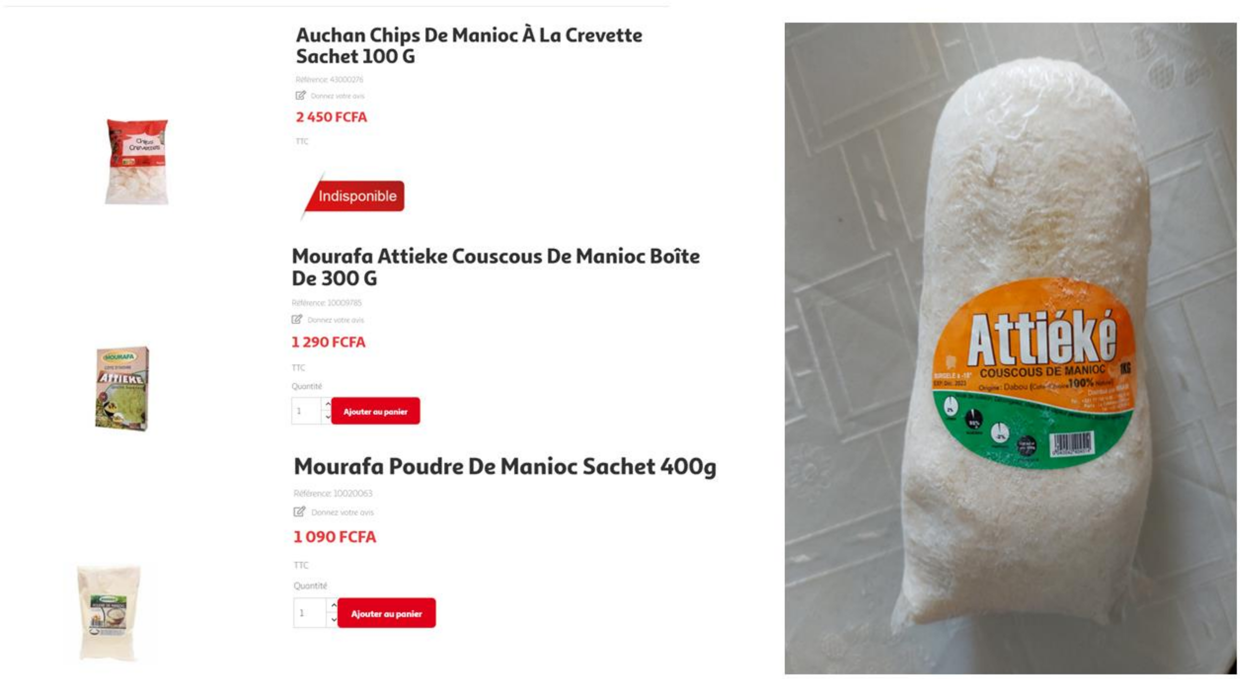
[1] Source : Directorate of Analysis, Forecasting and Agricultural Statistics of Senegal, 2020

[2] FAO Stat; 2019

Figure 2: Example of cassava root sold as vegetable

Source: www.clubtiossane.sn

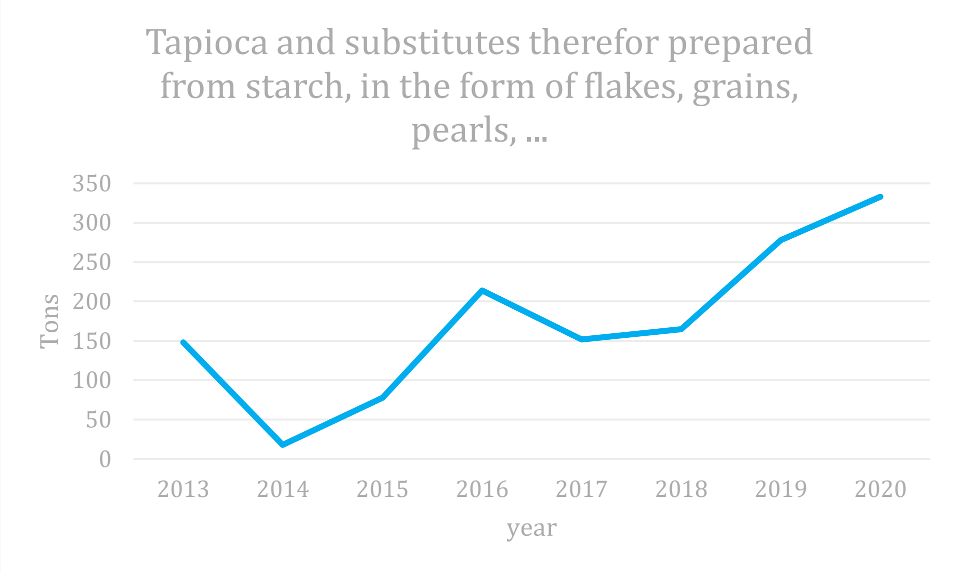
Figure 3: Different types of cassava derivates in the market



Source: www.clubtiossane.sn

Cassava products such as cassava couscous, commonly called attieke, can be found in supermarkets (Auchan, Casino, Carrefour) and in small local markets. This attieke comes mainly from the Ivory Coast.

Figure 4: Senegalese import volumes of cassava goods under HS code 1903, in tons, 2013 - 2020



Source: ITC Trade Map (www.trademap.org)

The country is still importing Cassava flour as there is still a need mostly driven by expatriates living in Dakar's region. As shown in figure 3 below, there are various products available in supermarkets and online shops.

All cassava imported into Senegal is related to:

- HS code 071410: Fresh, chilled, frozen or dried roots and tubers of manioc "cassava", whether or not sliced;
- HS code 1903: Tapioca and substitutes therefore prepared from starch, in the form of flakes, grains, pearls, siftings or similar forms.
- HS code 110620: Flour, meal and powder of sago or of roots or tubers of manioc, arrowroot, salep, sweet potatoes and similar roots and tubers with a high content of starch or inulin of heading 0714
- HS code 110814: Manioc Starch

According to UN COMTRADE, there are no official import records in Senegal from 2013 to 2020 for HS code 071410.

In 2020, Senegal imported 333 tons of cassava under HS code 1903 representing USD 119.000. These imports come mainly from Thailand, China, Vietnam and France. However, in the markets a large quantity of products was found coming from Ivory Coast particularly imported under HS code 110620.

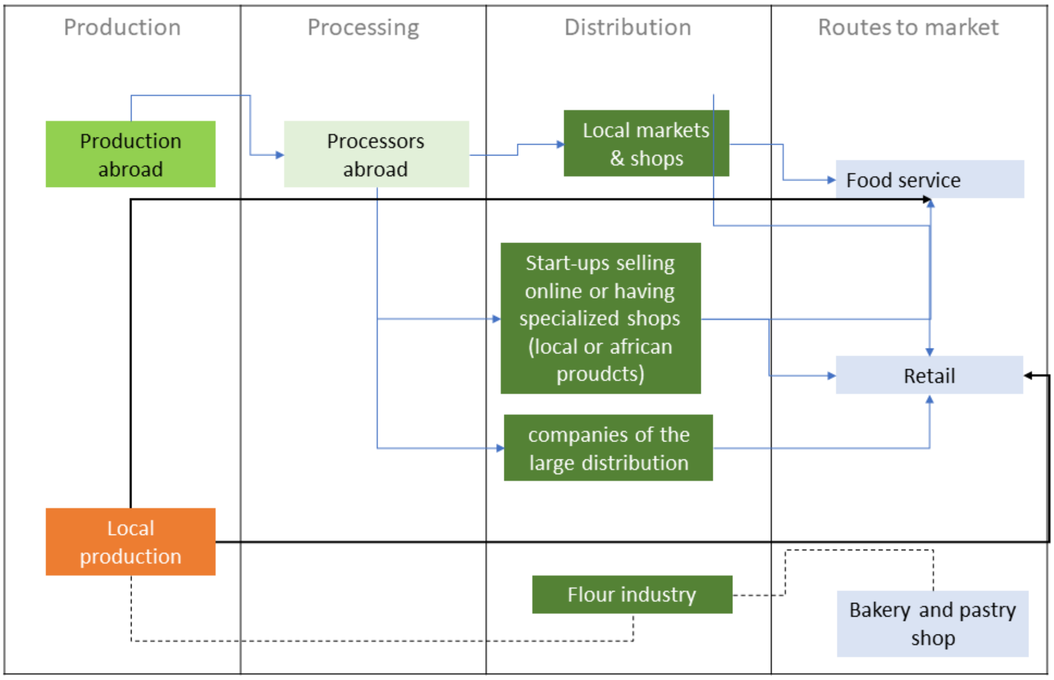
Cassava is a new export market for Sierra Leone generally, as UN COMTRADE statistic indicates, exports data only for 2015 for HS code 071410 and for HS code 1903 for 2020 and for 4 tons (USD7.000)

1.2 Market Structure and Key Players

Senegal's cassava's market structure is related to its origin as the cassava market in Senegal is emerging and just start growing.

Before the intervention of cassava production intensification programs, cultivated local cassava varieties were not suitable for processing into cassava derivates such as Attieke, Fufu and Tapioca. Another cause of the low processing initiatives is the low processing capability (technical knowledge and machines). Fresh cassava roots of local varieties are highly perishable, with a maximum shelf life of 3 days.However, cassava has not yet made a real impact on the basic diet of the population. Indeed, the potential of cassava for food use is not well known.

Figure 5: Supply chain for cassava entering in Senegal



Source Author

Local production of cassava

The department of Tivaouane is the leading cassava producing area and granary in Senegal. In 2018, actors in the sector reach their objective to produce one million tons of cassava during 2018's rainy season. Their final purpose is to meet the international market where annual world production amounts to 250 million tons.

To increase cassava production in the country, new varieties of cassava had been imported from Ghana. These varieties have been introduced by the Fonds national de développement agro-sylvo-pastoral (FNDASP), the implementing agency of the West African Agricultural Productivity Program (WAAPP) in Senegal. The varieties are "Sika", "Banki" and "Broni"and their yields are three times higher than the local varieties.

Local processing of cassava

There are two mains procedures of processing cassava into its derivatives in Senegal:

Artisanal processing

It is essentially carried out by units owned by Economic Interest Group (GIE). At least eight transformations units are identified in the country. The 'Soya' variety is the most processed, followed by the 'Kombo 1' variety.

The most frequently produced cassava products are attiéké, gari, starch and cossettes. Only a few units produce doughnuts or pastry products on demand.

- ***Attiéké:*** In Senegal, the description of how attiéké is prepared does not correspond to other countries' traditional ways of preparing it, especially in Ivory Coast. While authentic attiéké is made from fermented, rolled, dried and steamed cassava grating, cassava flour is dried and then steamed without undergoing prior fermentation, a fundamental step that greatly influences organoleptic characteristics.

- ***Gari***: The cassava pods are ground to obtain a coarse flour that is sieved, and the product obtained after cooking is called gari. Traditional gari is obtained after grating, pressing the grating, fermenting and then dry cooking and drying.

- ***Starch:*** The starch produced in the processing units is described as a slurry prepared from cossette flour, whereas authentic starch is obtained directly after decanting the cassava root grating, which is then dried and packaged.

- ***Cossettes and cossette flour***. The most widely used processing is peeling, followed by rough cutting, then washing and sun-drying for 3 to 7 days. These pods are then milled into flour that will be used for the manufacture of secondary products, such as fritters and cakes, which are obtained by frying a dough made with the flour mixed with wheat flour in proportions ranging from 30 to 75 % respectively.

Cassava products from artisanal processing are generally packaged in plastic bags of various sizes, in jars or in bowls and sometimes stored for three to six months.

Semi-industrial processing

Semi-industrial processing of cassava is very little developed and they are focused on the local market. One of the main companies is SOPROKA (Société des Produits Kaftan) based in Dakar and specialized in the manufacture of "Gum - Kaftan" used for starching clothes.

SOPROKA exists since 1990 and its activities started with the starch trade in Dakar. It operates mainly in the transformation and packaging of starch and products derived from manioc: Attieke, Gari, Tapioca and cassava Flour. In recent years, the company has diversified its activities by creating two new structures: a cassava exploitation domain (AGROPAL) in Louga in northern Senegal; a processing and repackaging unit for cassava products (MAADAS) in Keur Gallo Kébé (Pire department).

Routes to market

Wholesale

The majority of retailers are also wholesalers. The routing is done through traders such as Jvagro and Senefel. These traders take care of all the procedures related to the arrival of the load at the wholesaler.

The following transportation routes are known:

- by road, mostly in refrigerated containers. However, a large number of traders transport in bulk in trucks without respecting rules that guarantee quality of the products;

- by air or sea, the volume transported remains a minority because it is costly.

The Autonomous Port of Dakar occupies a privileged position in the maritime traffic of West Africa. It is the central point of the country's traffic but also of the region, with Mali in particular. It is mostly used for non-fresh products.

Senegal has three airports open to international traffic: Blaise Diagne Airport (Diass), Cap Skirring and Saint-Louis and 12 other airports open to domestic traffic.

Senegal's railway network includes two main lines:

- Dakar - Thies - Louga - Saint-Louis;
- Dakar - Thies - Diourbel - Tambacounda - Bamako, with a branch line to Kaolack.

These railroad lines are at a standstill and the initiatives planned for their revival are not yet operational.

Retail

Over the past 15 years, the Senegalese retail sector has undergone major strategic changes linked to the evolution of consumer behavior and the emergence of new middle classes in emerging and less developed countries. Today, there is a growing presence of Western retail chains. The country's distribution sector has undergone significant changes in recent years, with the introduction of foreign brands (e.g. ATAC, Casino, Auchan, Carrefour, Hypermarché Exclusive), the launch of mini-markets by local groups (e.g. Senchan, Senterranga), and the development of stores in service stations (e.g. Select at Shell, Bonjour at Total, My Shop at Oil Lybia, Kheweul Boutique at Touba Oil, low price at EDK, etc.). In addition, the public authorities are becoming aware of the importance of having an attractive business environment, notably with the creation of agencies dedicated to the promotion of investment and entrepreneurship (APIX, ADEPME, etc.). However, modern retailing must compete with traditional retailing (stalls, neighborhood stores, open-air markets, street vendors, etc.), which still dominates the Senegalese market. In this rapidly changing Senegalese retail sector, different types of actors, traditional and modern sales techniques, a formal economy and an informal economy coexist.

After opening its first supermarket in Senegal in 2015, Auchan has become the leading retail network in the Senegalese market (32 stores and one drive-through) following the purchase in late September 2017, of Citydia Dakar, one of its main competitors. It has come to be the leader of retailing in Senegal as they target all income classes, such as high, middle and low-income classes.

Concerning the shelving of products by the companies of the large distribution, it is different from one sign to another. Globally, access to information on the rules for putting products on the shelves is difficult to obtain because there is always a deliberate lack of transparency on the part of these companies.

The Carrefour retail chain, for example, has defined a 15% margin for its products. For chains like Auchan, the shelf listing costs between 150,000 CFA and 300,000 CFA (about USD 262 to USD 524) to which must be added a 7% rebate on the annual turnover to be paid to Auchan. Auchan also sets margins between 20 and 45%, which does not always allow them to be accessible to a large number of consumers.

Food service & hospitality

According to people from the department in charge of agriculture in Senegal, cassava is also used in the restaurant industry. There is no real restaurant industry, but chains such as the EDK Group (fuel stations with supermarkets and restaurants) or Brioche Dorée (a retail restaurant and pastry group) sometimes offer dishes on their menus that use cassava as an ingredient. Cassava is mainly use as a vegetable that is in the most popular rice dish called “thiebou djeun” (literally rice and fish).

There are also a few numbers of small restaurants that offer dishes using cassava flour commonly called “attieke”. These restaurants are mostly located in Dakar and clients are mostly expatriates from other west African countries.

1.3 Points of entry

This section analyzes trends of cassava using relevant Harmonized System (HS) codes.

HS 071410: Fresh, chilled, frozen or dried roots and tubers of manioc "cassava"

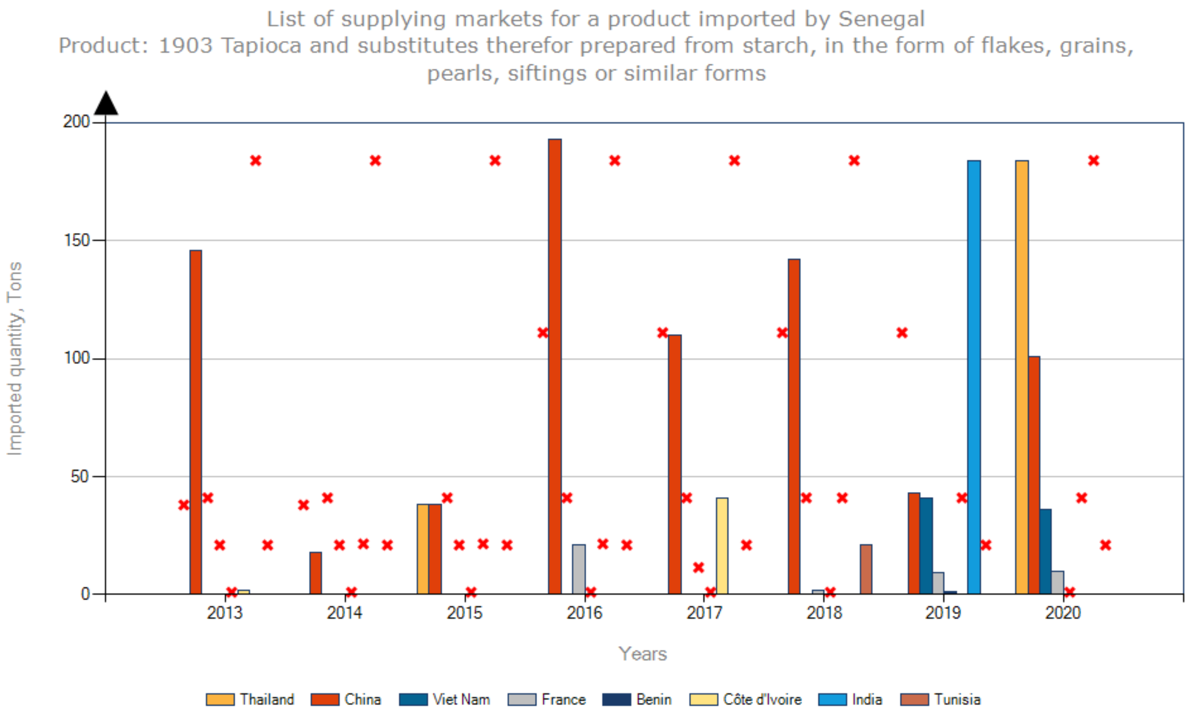
Data related to Cassava under HS code 071410 importation were not found.

HS 1903: Tapioca and substitutes therefore prepared from starch, in the form of flakes, grains, pearls, siftings or similar forms

Import under HS code 1903 has slowly increased over the past years. During this study, ITC met with an importer who managed to sell 5 tons in less than two months. It is therefore a relatively important market, but one that does not totally appear in Senegal's official transactions. 2020 COMTRADE data from Ivory Coast shows 136 tons exported to Senegal in 2019 under code 1903 while importation by Senegal market from Ivory Coast is 0 for the same year.

China remains a constant and important supplier of quantities for Senegal and Thailand is the main supplier for 2020. Exports from Thailand have increased considerably in 2020,from 0 since 2016 to 184 tons in 2020.

Figure 6: List of supplying markets for 1903 Tapioca and substitutes

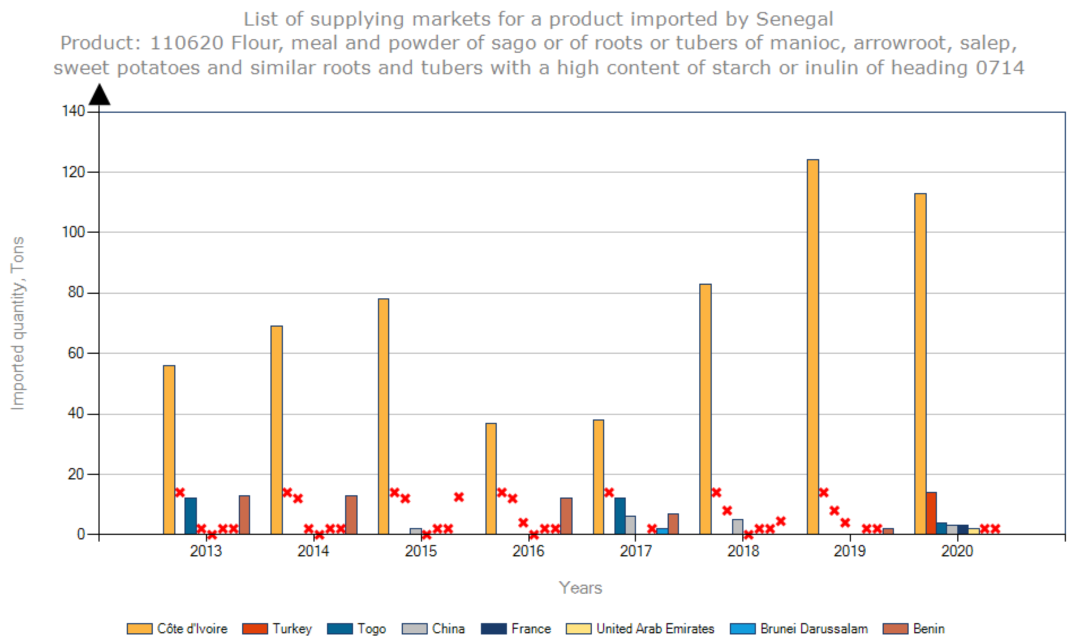


Source: ITC Trade Map (www.trademap.org)

HS 110620: Flour, meal and powder of sago or of roots or tubers of manioc, arrowroot, salep, sweet potatoes and similar roots and tubers with a high content of starch or inulin of heading 0714

Import under this code has been growing since 2017 with a decline in 2016 and 2020. They are almost entirely from Ivory Coast. Consumption of cassava flour products is mainly by the foreign population from West Africa based mainly in the Dakar region, which isabout 130,000 households according to ANSD in 2018.

Figure 7: List of supplying markets for 110620 in tons (2013-2020)



Source: ITC Trade Map (www.trademap.org)

HS 110814: Manioc Starch

Total import decreased by 65% in 2020, however Thailand remains the main importing country. This decrease is partly explained by the growth of domestic production and the processing of cassava into starch at the local level.

Figure 8: List of supplying markets for 110814 in tons (2013-2020)

Source: ITC Trade Map (www.trademap.org)

1.4 Consumer Preferences

Cassava is consumed in smaller amounts in Senegal than rice and millet, which remain the food base of most of the population. On average 116 kg of rice per capita per year (FAO Stat; 2019) and 30 kg per capita per year for millet. Consumption of cassava products is mainly by foreigners, mainly from West Africa (about 130,000 households according to ANSD in 2018), who have cassava products such as attieké and tapioca in their diet.

Two other food consumption segments exist but remain minor:

- Infant porridge: more and more GIEs (Economic Interest Group) are processing infant flours enriched with cassava flour and making them available in health centers for infants and young children.
- The bread flour that has been tested in some local bakeries. This sector has an important market potential because wheat flour can be replaced by 10 to 20% of high-quality cassava flour while keeping an almost identical taste for the consumers.

Wheat represents 2.5% of Senegal's total imports in 2019. Imports in this area amounted to 107.8 billion CFA in 2019. In volume, they reached 702.8 thousand tons in 2019, compared to 604.5 thousand tons in 2018.

On the non-food side, the clothing habits of rural and urban populations lead to starch consumption in laundry and clothing care. This makes it a relatively stable and growing market.

1.5 Market trends and positioning

Senegal is a country with a moderately developed and growing agribusiness industry. Cassava market is growing and is many derivates are potentially growing. Food habits are changing with the great openness of the country and the cultural diversity of the country through the presence of foreigners is an interesting but demanding niche in quality. The following recommendations are based on current information and existing knowledge of the Senegalese retail market.

Local Dishes

Considering the numerous possibilities of food transformation of the cassava's roots, the development of new products based on cassava and answering the culinary habits of the Senegalese such as the "Cere", the "ciakry", the "Arraw", the "Mbouraké" among others, constitute ways to optimize the consumption of this commodity. Indeed, these products which are usually based on cereals (millet and maize) are very popular with the Senegalese, but they could be incorporated with cassava. This would make it possible to increase the consumption of cassava while respecting local culinary habits.

Made in Senegal, Local Flour Mills and Artisanal Bakeries

Local consumption is on the rise, with consumers preferring products made in Senegal. This also includes products whose finishing or formulation is done in Senegal even if the ingredients are imported.

The production of flour for breadmaking, supported by technological and sensory aptitude studies, should be considered in order to promote the production of breads made from mixed wheat-cassava flour.

Cookies

The cookie market in Senegal is growing. The rate is between four to six percent linked to the demography, and the purchasing power which decreases, (they use to consume food rich in sugar that is allowing them give up on one meal in a day). A bag of cookies costs 25 to 50 francs CFA (about USD.0.044 to USD 0.087) For example, if the Senegalese consumer takes a breakfast at the local shop including a coffee with milk, a piece of bread with spread, it costs 250 CFA (USD 0.44), while with a bag of cookies and coffee with milk, it costs 125 CFA (USD 0.22).

The biggest constraint for the cookie is the problem of inputs. A cookie is made of 80% soft wheat flour, given the market price, between the mercurial and reference values, Senegal producers cannot import, the only choice is to source locally. For the past five years, making cookies has meant losing money because of the GMDS (Grands Moulins du Senegal) monopoly. Since 2015, OLAM Group, SEDIMA (Sénégalaise de Distribution de Matériel Avicole) , NMA (Nouvelle Minoterie Africaine) entered the market for making cookie flour, which created a price war amongst manufacturers. This has led the price of cookie flour to drop by 35%.

1.6 Packaging recommendations

Most of the cassava is marketed in retail (0.5 kg or 1 kg plastic or paper bags). In December 2020, the Senegalese National Assembly adopted the law on the prevention and reduction of the environmental impact of plastic products, which prohibits "the production, import, holding for sale, sale, making available to the user, use, in any form, of single-use plastic products or disposable plastic products". However, given the absence of accessible alternatives to replace plastic, the application of this law is not yet done in practice.

1.7 Labelling considerations

Containers or packages containing products intended for human or animal consumption and held for sale, offered for sale or sold, must be permanently marked either by labelling or by direct printing with the following information, which must be written in French in a visible and legible manner:

- the name of the product;
- the nature of the product;
- the composition of the product;
- the name and address of the manufacturer or the company name;
- the weight or volume;
- the brand of the product;
- net weight (or gross weight with tare indication) or capacity of the container;
- the date of manufacture and expiration;
- FRA (Authorization for manufacture and sale) authorization number (e.g.: Aut.___/2007/FRA);

1.8 Certification analysis and recommended standards

Senegal is a member of the West Africa Economic and Monetary Union (UEMOA), which is a supra-national and regional organisation of Francophone West African Countries that have a common currency and seek to promote harmonised SPS regulations for its members. A supra-national UEMOA regulation (Regulation N° 0072007/CM/UEMOA) requires the verification of all plant material and any product likely to carry harmful organisms upon entry into the WAEMU area. This regulation therefore requires:

- a phytosanitary control at the point of entry of the regulated product

- the presentation of a phytosanitary certificate issued by the official services in charge of plant protection in the country of origin.

In addition, any product marketed on the Senegalese territory must have a manufacturing and marketing authorization called FRA.

The authorization of manufacture and marketing commonly called FRA code allows the manufacture, processing and packaging for sale of all products intended for human or animal consumption in Senegal. This authorization is the responsibility of the Ministry of Commerce and more precisely of the Directorate of Internal Trade through the Division of Consumption and Consumer Safety.

In order to obtain it, it is necessary to submit to the administration of commerce an application for authorization of manufacture and release for consumption addressed to the head of the division. It must be specified in the request the name and the address of the interested party, the place of production, the nature of the products objects of the request, the type of packing used as well as the various conditionings.

The application must be accompanied by:

- Four samples of the product for analysis;
- The model of the label and/or the packaging (in paper);
- The certificate of analysis of the product;
- The certificate of registration in the Trade and Personal Property Credit Register;
- The status of the company (legal entity);
- The manufacturing process.

The authorization is issued only when:

- The product meets the safety criteria (microbiological and chemical quality satisfactory or in compliance with standards)
- The labelling of the product and the packaging comply with the regulatory requirements
- The manufacturing premises and the employees meet the hygiene and sanitation standards
- The authorization is issued according to a code. Example: 999/2009/FRA

The definitively granted FRA (Authorization for manufacture and sale) authorization remains valid as long as the production activity is carried out. It constitutes, if necessary, a document of admissibility for obtaining a certificate of origin for export.

It is called into question in case the product is found to be harmful or not in conformity with the registered specimen.

Any change in the composition of the product requires the formulation of a new request for authorization.

The administration must be informed of any change in the labelling or packaging of the product. It is the same in case of change of address, of the place of manufacture or of transfer of the production unit to a new owner, and in case of final stop of the product, or of withdrawal of manufacture by the interested party.

To guarantee an acceptable level of hygiene and healthiness, the company must focus on six elements (General principles of food hygiene. CAC/RCP 1-1969, Rev.4- 2003):

- The conditions of conservation of the raw material (respect of the scales of conservation, storage of the products, etc.)
- The working methods which must respect the food standards (respect of the forward march, respect of the scales of preparation, etc.)
- Good hygiene of the workforce (work clothes, hand washing, good health, etc.)
- Equipment adequate to the activity (nature and state of maintenance, etc.)
- The work environment, which must meet standards (spacious, water supply, free of contaminants)
- The respect of labelling standards (Decree 68-507 of May 7, 1968 and Codex Standard for the labelling of pre-packaged foodstuffs CODEX STAN 1-1985 - Rev. 1-1991)

The FRA (Authorization for manufacture and sale) concerns products intended for consumption and processed on the Senegalese market. All imported products must show:

- The equivalent of the FRA of their country of origin;
- Have a certificate of sanitary analysis issued by the country from which it is imported;
- Be imported by a physical or legal person with an importer card.

1.9 Recommended customer targets

Cassava products, especially flour, have great potential in Senegal because the country is a major consumer of wheat flour.

Short term

In the short term, the retail market is easier to penetrate. It has the advantage of being for middle class, upper middle-class people who can pay a little more for a product they want. It is also generally people who are open to the world and are familiar with these products, which are not very common in Senegalese food.

Table 1 Potential customers in the short term

Company	Sector
Auchan Retail Senegal	Wholesaler and retailer
Casino supermarkets	Wholesaler and retailer
Carrefour	Wholesaler and retailer
Club Thiossane	Retailer
Soreetul	Retailer
Carrefour	Wholesaler and retailer
Hypermarché exclusive	Wholesaler and retailer
Senchan	Wholesaler and retailer
Bonjour - Total	Retailer
Low Price	Retailer

Mburu	Local bakery and pastry shop

Source: Author

Long term

In the long term, it would be particularly interesting to reach out to large and medium-sized mills in order to integrate a percentage of cassava flour in the bags sold.

Table 2 Potential customers in the long term

Company	Sector
Féderation Nationale des Boulangers du Senegal (FNBS)	Local bakery
Fédération des organisations non gouvernementales du Senegal	Local bakery
Amicale des Meuniers industriels du Senegal (AMIS)	Refiner
Touba Agro-Industrial Complex	Refiner
Oleosen	Refiner
Auchan Retail Senegal	Wholesaler and retailer
Casino supermarkets	Wholesaler and retailer
Club Thiossane	Retailer
Soreetul	Retailer
Carrefour	Wholesaler and retailer
Patisen	Industrial processor and importer
Saprolait	Industrial processor and importer
Finamark	Industrial processor and importer
Kirene	Industrial processor and importer
Sofiex	Industrial processor and importer
Chocosen	Industrial processor and importer

Source: Author

Notes on Bread and Wheat Flour: The maximum price of wheat flour is determined by Order No. 008261 of May 19, 2014 (18,000 FCFA per 50 kg bag) and that of bread by Order No. 8262, which sets the maximum price of bread in Dakar (example: the 190 gr baguette at 150 FCFA). Since wheat flour is imported, its price is highly dependent on world prices. The licensing mechanism allows prices to be adjusted to take these fluctuations into account, even though it is felt that price freedom should allow for a downward adjustment of the selling price of bread in the event of a drop in world prices.

Below we present the main players in the food industry and their production capacities. They represent a market for offering flours blended in part (10-20%) with cassava to bakeries and pastry shops.

Table 3 Main flour mills and large mills producing flour

Company	Sector	Economic information
Les grands moulins de Dakar (GMDS) acquired by Seaboard cooperation in 2017	Flour milling, wheat flour, wheat bran and animal feed	Founded in 1946 Historical leader, capacity of 365 000 T / year Produces bread flour (90%), flour for pastry, cookies and households. It covers 65% of the Senegalese market
FKS (Groupe Basturkler)	Food and feed manufacturing plant	Creation in 2007, production started in 2009 Capacity 350 000 T / year. 2nd most efficient plant in the country.
Moulin de SENTENAC acquired by NMA Sanders (Nouvelles minoteries Africaines)	Flour milling, wheat, corn and millet flour, pasta and feed for livestock and poultry	NMA created in 1996. Capacity of 400 T/ Day
SEDIMA Group	Flour mill	2014: production of soft wheat flour with production of bakery, pastry and biscuit flour. Capacity 70 000 T / year
Olam Group Agri (Singaporean OLAM Group)	Flour milling, cookie and bread flour, pasta, semolina and confectionery	Wheat, corn, barley, rye, sorghum, flaxseed, chickpea, and soybean meal. Capacity 500 T/ Day

Source: Author

PART 2 CASSAVA MARKET ENTRY STRATEGIES

2.1 Senegal imports of cassava from Sierra Leone

Many general considerations regarding Sierra Leone's economy were discussed in Section 2.2, and are equally relevant here.

Understanding how cassava fits into the overall economy of the country is, however, an important consideration when discussing entry into the export market.

In 2020, Sierra Leone's total exports were USD 559,218,000 and exports to Senegal represents 0;78% of it (USD 4,373,000). In 2020 Senegal imports from the world were USD 7,820,339,000. Senegal is a large importer in the region and the Sierra Leone’s geographic proximity present untapped potential for increasing exports.

There are no sources of imports of cassava products from Sierra Leone to Senegal under the various codes. Senegal imports significant quantities from the rest of the world. A significant figure is for cassava imported under code 110814 with 708 tons imported in 2020,and 2000 tons in 2019.

2.2 SWOT Analysis

This analysis is based on capacity considerations identified during initial calls with stakeholders and their relation to the recommendations in the previous pages.

PRODUCTION (STRENGHTS VS WEAKNESSES)	
STRENGHTS	WEAKNESSES
▪ **Existing history**: buyers are already familiar with Sierra Leonean products that are sometimes sold as Senegalese products	▪ **Variable quality:** product concerns were evident in preliminary conversations and these pose a significant barrier to trade. Only one processor mentioned taking steps to achieve standards required to reach the international market. ▪ **Production bottlenecks**: traditional farming methods and a lack of machinery prevent production of cassava products at scale.

PRODUCTION (OPPORTUNITIES VS THREATS)	
OPPORTUNITIES	THREATS
▪ **Flour**: investment into air-dryers in cassava processing establishment in Sierra Leone could result in the export of cassava flour from Sierra Leone to various markets, including Senegal which is an important flour customer. ▪ **Attieke**: while limited to diasporas and niche markets, this product is being produced in large volumes.	▪ **Quality:** Ability of Sierra Leonan producers to meet customers quality requirements.

▪ **Baby food**: It's an emerging market and enriched flour market is growing and spread all over the country ▪ **Pet food**: is a very growing market	

MARKET (STRENGHTS VS WEAKNESSES)	
STRENGHTS	WEAKNESSES
▪ **Quality requirements**: The Senegalese consumer is the most demanding in the sub-region, the quality must be impeccable. ▪ **Provenance**: Sierra Leone is a neighboring country with a shared history with Senegal. ▪ **Importance of the market**: Even if there is a decrease in the volume of sales, due to the crisis, Senegal is less affected and still attracts investors.	▪ **Competition**: Exports from Thailand, China, Togo, Ivory Coast dominate the market. ▪ **Established** supply chains: would need a strategy using key players to put them in favor of Sierra Leonean product. ▪ **Bread flour** is not used on an industrial scale, 100% wheat is always preferred ▪ **Domestic Supply**: Sierra Leone currently has a considerable deficit on derivates that have a market potential. ▪ **Price fluctuation**: its low-cost market and customers are really sensitive to fluctuations.

MARKET (OPPORTUNITIES VS THREATS)	
OPPORTUNITIES	THREATS
▪ **Accessibility**: access to the sea, for the port, for import and export. ▪ An open door to export in the sub-region: Mauritania, Guinea Conakry, Mali, Gambia, Guinea Bissau. These countries import from Senegal. Other traders from these countries travel themselves to buy the food products and take care of the transport. ▪ A country at the crossroads of air and sea routes: the opening of a new container port in Ndayane. ▪ **Regulation:** African Continental Free Trade Area that will take place is an opportunity to reduce barreers for Senegalese market	▪ **Informal sector**: Unregulated and uncontrolled imports. Importation of products from Asia are cheaper than other manufactured products. ▪ **Complicated legal code** and high customs duties. ▪ **A local production** growing very fast. ▪ **Senegal market competition**: stakeholders are now trying to invest in cassava processing to address the market needs. ▪ A very powerful informal sector that is becoming structured: the city of Touba is becoming a hub where many informal wholesalers set up shop and distribute to neighboring regions. The city of Kaolack, too, is organized in the same way.

▪ **Proximity** and possibility for low transportation cost ▪ Growing demographics, and real estate development in new neighborhoods resulting in an emerging need for new small food markets. ▪ A stable and open country - modern infrastructure ▪ **Political orientation**: To make of the geographical situation and the political stability of the country, a regional HUB for the export in the West African zone, because the demography is increasing, the regional integration is favored, in terms of exemption of customs duties and VAT within the UEMOA region. ▪ **The Senegalese consumer evolves** in his mode of feeding: it is a question there of directing itself towards the products mass market because it is the target. ▪ **The development of supermarkets** is not (yet) based on a "price war", but rather on a strategy of product ranges and services (comfortable shopping conditions, product quality, easy parking)	

2.3 Market Threats

Size of the informal sector

The importance of the informal sector in African economies is directly linked to the consumption pattern of African households and their low purchasing power. They generally prefer to buy the cheapest basic food, distributed with a minimum of added value, quality and diversity. In addition, households are poorly equipped with cars and refrigerators or freezers, and therefore they must do their groceries and purchases in places close to home on a daily basis. The best offer adapted to this mode of consumption, for most of food products including cassava, is informal, with many points of sale, or even itinerant, against which the supermarket industry is generally not competitive. The mass retail industry is more adapted to middle- and high-income consumers who consumers who want to buy a diverse range of products.

Regulation

There are very heavy tax and customs administration. Many industries and other companies are periodically controlled by the customs, tax authorities, economic control, hygiene, etc. This allows the country to compensate for its shortfall in revenue due to the predominant informal sector, which is poorly taxed.

On average, customs duties and import duties and taxes amount to 44.48% on the value of the cost and Fret/Dakar (except for alcohol). Depending on the product, the gross margin varies from 3 to 35%.

Increased Domestic Production

Cassava production in Senegal has increased considerably over the last five years. The sector has benefited of State and Development Cooperation projects designed to boost is structured with the establishment of a cassava interprofessional organization. The objective of reaching 1 million tons of production in 2018 has been achieved.

Cassava is the basis of many products used and consumed in Senegal: flour, tapioca, gum, starch, and atiéké, for example. It has proven organoleptic and nutritional qualities, such asenergy, vitamin C, potassium, fiber, and gluten-free amongst others. Its cultivation is simple, very easy and profitable. Yields of local varieties in rainfed conditions are 10-15t/ha and can double with selected imported varieties and can even increase four times more with irrigation. Cassava production is a good alternative to groundnut production, which is becoming increasingly complex (production and marketing). Its development potential offers Senegal job opportunities for young people (production) and women (processing). The Cassava Interprofessional organization promotes and revitalizes the sector and includes 30,000 producers, for example, by disseminating selected varieties that are more resistant, more productive and of better quality.

The Cassava Interprofessional Organization is a legal organization in Senegal. It was created by the Ministry of Agriculture, Livestock and Hydraulics through a program called "Programme de Recherche de la Filière Manioc au Senegal". This program was set up in 2004 with the aim to:

- enable the country to have a quality production: in the short term, the production objective is 1,000,000 tons, with the use of an intensive technological package;
- produce quickly cuttings of quality and in sufficient quantity for the technique of accelerated multiplication (ex: vitro plant);
- set up an interprofession of the Cassava Sector in Senegal;
- increase by diversifying the exports of agricultural products;
- create the conditions for the establishment of processing units likely to create sufficient added value for cassava.

Cassava is mostly marketed fresh on local markets. Fresh cassava must be sold within 48 to 72 hours after harvesting, because of its high-water content, which favors the proliferation of micro-organisms. In the usual practice, fresh cassava roots are marketed in two forms:

- direct sale at the production field;
- sale of fresh roots in rural markets and large urban centers near the production areas.

Market competition

The marketing of cassava products is still underdeveloped because of the low production capacity of processing units. There is no real competition (production / processing) on the Senegalese market.

There are many constraints that have prevented the development of processing. These include the lack of specialized processing units, the absence of adequate processing equipment, the development of various products from cassava, knowledge of the food value of cassava, the short post-harvest shelf life of the roots and the lack of domestic technological know-how.

As a solution, actions are being taken by the department on charge of the agriculture of Senegal. These actions, such as sensitization and training of processors, increasing the capacity of production units through the availability of adequate equipment, selection of improved cultivars both genetically and chemically. Also, the development of new products based on cassava and responding to the culinary habits of the Senegalese such as "Cere", "Ciakry", "Arraw", "Mbouraké" among others, are ways to optimize the consumption of this commodity.

2.4 Market access considerations

Class D products

Cassava is considered by Senegalese regulations as a class D [3]product. Class "D" products and materials can only be introduced into Senegal through the seaports of Dakar, Kaolack and Ziguinchor and through the air port of Diass (see ANNEX I). However, according to importers of fruits, vegetables and flours (JVAGRO, SENEFEL), this regulation is not respected because many products enter the market through the Guinean and Gambian corridors without respecting customs regulations.

The cumulative rate of duties and taxes applicable to this kind of products is 44.48%, for which the tax base is being determined by the CIF value.

About the ECOWAS Common External Tariff (CET)

The Common External Tariff (CET) applies the same duties and taxes to goods entering the Community of West African States (ECOWAS).

Since January 1, 2000, the CET has been in force within the West African Economic and Monetary Union (WAEMU). In addition to the eight WAEMU countries, the CET has been extended to the ECOWAS region since January 2015. However, the States have given themselves five years before its effective application.

One of the key elements to be highlighted is the following: "the customs duties levied on several agri-food products will be 35%, from the date of entry into force of a common external tariff concerning 15 countries"[4]. For example, cassava sold under codes 071040, 110620, and 1903 should be subject to a 20% tariff; cassava sold under code 110814 should be subject to a 10% tariff

The CET was designed so that the population could benefit from the reduced prices of imported products for which tariffs were lowered for essential products. Obviously, the high tariffs are to protect industrial products, especially agricultural products. Therefore, some rates are 35% to protect sensitive products.

Unfortunately, its application is not yet effective.

Import process requirements

Destination Inspection is a requirement and is carried out in Senegal by COTECNA. So the following steps are involved in the import of goods into Senegal:

- DPI (Declaration Provisoire D'importation) issued for all shipment with a total FOB value between CFA 1000.000 and CFA 2.999.999
- A.V. (Attestation de Vérification) issued for all shipment with a total FOB value exceeding CFA 3 000.000. This value makes it compulsory to have the goods inspected at the port of loading by the COTECNA (Applied Technical Advice) office. Two kinds of inspection can be done: Physical and / or documentary (depending on the sole decision of COTECNA office). Issued for all FCL (Full Containers Load) containers with a total value exceeding CFA 3 000.000

[3] Class D products: it is a classification of products issued from the Decree n°60-121 SG of the State of Senegal which sets the conditions of import and export of plant products.

[4] collection of the main regulatory texts on regional trade in west africa in west Africa by WAEMU, 2020

(INSPECTION become compulsory in addition to the DPI) Document required: Commercial invoice, Bill of lading, packing list.

- ARA (Avis de Refus d'Attestation) issued for inconsistencies including quantity, eligibility, and/or quality and when final documents are not received within 2 months following inspection date.

Most food products are subject to inspection, by COTECNA, before loading the containers. loading of containers.

After obtaining the IPR, COTECNA Senegal contacts the supplier through its representative abroad to load the container.

If, on the final invoice, the CIF/DAKAR value exceeds 3 million FCFA, it is necessary after loading the container, to send the final invoice, the packing list and the bill of lading to the department representing COTECNA in the country of loading, who will transmit its information to COTECNA Senegal. Afterwards, the forwarder in Senegal goes to COTECNA with all the documents to obtain the verification certificate.

In conclusion the following are asked:

- Certificate of verification
- Final invoice
- Packing list
- A phytosanitary certificate from the country of loading and a Senegalese phytosanitary certificate
- A certificate of origin
- A DIPA (declaration of import of food product): to obtain the DIPA, the products must have mentions in French, mentioning the date of manufacture date of manufacture and expiration.

If the COTECNA procedure is not respected, a fine of 20% of the CIF value is charged by the customs.

2.5 Market entry and distribution

Local stores continue to be the dominant distribution method, not because their prices are lower than in supermarkets, but because they offer services to consumers (proximity, opening hours, etc.) that supermarkets cannot offer. In fact, the arrival of Auchan on the market reduces the importance of neighborhood stores, but they remain the leaders.

It is important for this reason to have a sales agent on site because too many distributors are difficult to manage remotely.

In line with other players in the sector and because of the operating costs and the cumbersome of the organizational structure, it is important to have an individual person acting as a sales agent.

- Initially, this agent could act as an intermediary/broker to be paid part time, which is the case of many people active in the sector in Senegal. Thus, he/she will be in contact with companies active in distribution, bakeries, industries.
- Depending on the volume of activity, establish a full-time contract as consultant for this agent;
- Finally, when the volume of business is too high for an individual person, a small business can be set up while recruiting additional staff.

2.6 Sales considerations

The proximity and long-standing links between Sierra Leone and Senegal are assets for the actors of the cassava value chain in Sierra Leone. In any case, it is recommended that a Senegalese sales agent be recruited on a part-time or full-time basis to facilitate exchanges.

From Club Tiossane[5]'s perspective, in order to have fruitful relationships with Senegalese intermediaries, it is important to consider the following aspects:

- Transport: The problem of transport is real and is generally the responsibility of the importer. It is therefore necessary to find a reliable logistician in Sierra Leone. This must allow to have a transport which respects the basic rules of hygiene, uses the good practices of transport in order not to alter the product.
- Favor the first contact by phone: it is important to have a first contact by phone, and then to set up a physical meeting between a sales agent and the Senegalese partners. Senegalese partners prefer to conduct business informally even when the business activities are formalized.
- Provide samples: In general, before a first order, samples are always requested to test the products.
- Pay attention to the conditions of sale: Even when the company is a branch of a multinational enterprise, the conditions of sale are not always explicit. The information is not officially posted, only those who are willing to establish a business relationship can access it
- Make sure to always have a legally valid contract: This is an essential condition; the contract must also define in case of deterioration of the products who is responsible and/or how to establish the responsibilities.

2.7 Trade shows

There are many international trade fairs held in Senegal. They are sometimes multi-sectoral or dedicated to only one sector. The trade fairs offers a opportunities to network, to communicate on the offers of services and products, and to create business linkage. Below are listed the major events as well as their periodicity and organizers.

- **SIPAL:** SIPAL is and international food fair, organized annually by the company Sisemi and Hage Group. The food fair is usually held at the CICES (International Center for Foreign Trade of Senegal in Dakar). It includes exhibitions and meetings between African producers and industrialists in the fields of biotechnology, distribution, machinery and mechanical equipment, transport and logistics, raw materials, etc.
- **SIAGRO:** International Exhibition of Food Processing Industries and Techniques, organized at the CICES Dakar. It contributes to the promotion and reinforcement of the development of agriculture in general and of the agri-food industry in the West, Central and East African regions.
- **FIDAK:** International Fair of Dakar is organized every 2 years (odd numbered years). It includes exhibitions, meetings, scientific forum for the commercial and economic promotion. Fidak is organized by the CICES, in collaboration with the Ministry of Trade. FIDAK is also a member of the UFI (Union of International Fairs) since 1978.

[5] Clubtiossane.sn

- **FIKA:** Kaolack International Fair is held under the same model as IFADK and is organized by the Kaolack Chamber of Commerce.

- **FIARA** (International Fair of Agriculture and Animal Resources): It is organized every year by the National Council for Consultation and Cooperation of Rural People (CNCR) and the Senegalese Association for the Promotion of Development at the Base (APRODEB).

- **SALORA** (Food, Catering and Hotel Exhibition in West Africa): It is a culinary exhibition that offers participants the chance to show their knowledge in front of an audience of professionals. In general, it is a three-day international exhibition, which also includes a culinary salon competition to identify the best professional and amateur chefs in the region. It offers specialized workshops on agribusiness, hospitality management, new technologies in hotel and restaurant equipment.

2.8 Conclusions and final recommendations

Cassava is a product whose derivates are consumed daily by the populations of West African countries, particularly in the Gulf of Benin.

However, in Senegal, cassava is mostly consumed fresh while is derivates, such asflour, attieke and gari are not yet in the basic diet of the population. In fact, the potential food use of cassava is not well known. There is an emerging market for attieke and gari, which is mostly driven by expatriates living in Senegal.

There is a huge potential market for cassava flour coming from Sierra Leone that can be used in bakeries, food such as cookies and pet food, but also products like gari and attieke. Moreover, cassava processors in Sierra Leone can take the opportunity to innovate on cassava derivates to have products that meet the culinary habits of the Senegalese such as the "Cere", the "ciakry", the "Arraw", and the "Mbouraké", whichare initially prepared with Millet.

AMIS- Association des Meuniers Industriels du Senegal (which gathers GMD, FKS, OLAM, NMA SANDERS, SEDIMA, LA MINOTERIE DU SENEGAL, LA MNINOTERIE BASMALAH) is a gateway to a growing market for bread-making flours. It is possible to enter this market initially and then to increase one's presence thanks to a strategy that allows for the creation of products that are adapted to the local culture and eating habits.

Niche products such as gari, tapioca, attieke are important growth markets in areas with greater urbanization and openness of local populations. They are already offered in more and more restaurants and in almost all large distribution companies, mini shops offering authentic African products or online stores.

Offering low-cost pet food products is also a promising prospect. Indeed, it is a market in full explosion. It is driven by the urban populations of the Dakar region and the many expatriates living in the tourist areas of the Petite Cote and the Sine Saloum.

At the same time there are many constraints as well to take these opportunities as the capacity of Sierre Leone producers, and the innovations processors can make.

Short term recommendations:

1. Upgrade in terms of quality to meet market entry standards;

2. To explore the food habits of the Senegalese market in order to propose products that correspond to them;

3. Invest in packaging solutions that respect the regulations against plastic in Senegal and allow for transport without altering the quality of the products;

4. To consider subsidies and/or investments that will allow a greater production of products such as flour, pet food, on a large scale, as well as the respect of international standards;

5. Establish strong links with SMEs, industrialists, and informal actors in the Senegalese market through a promotional campaign (including participation in fairs such as FIDAK, SIPAL, SIAGRO);

6. Begin the sales campaign by focusing on attieke, which is already well consumed and whose market is growing.

Long-term recommendations:

1. Build a presence in the Senegal market: Sales advisors or similar professional experts in the country's sector, that can provide ways of penetrating the retail and wholesale market. This way, companies of the large distribution as well as small stores of districts, industrial markets, bakeries could commercialize cassava or cassava related products.

2. Consider marketing systems to make Senegal a hub for re-exporting products to the rest of West Africa: Senegal is currently investing in upgrading its cargo airport, road network and West Africa's largest container port is being built at Ndayane. The objective is to make the country a trade hub for West Africa by concentrating and facilitating trade with other countries.

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ANNEXES

ANNEX 1 : Contrôle Phytosanitaire des importations et des exportations des végétaux au Sénégal

Class D products (Extrait du Décret n°60-121 SG – portant institution d'un contrôle Phytosanitaire des importations et des exportations des végétaux, Parties de végétaux et produits entrant au Sénégal ou en sortant)

Produit et matières "sans mention spécifique" dont l'importation au Sénégal avec un certificat phytosanitaire n'est pas soumise à l'obtention du permis préalable d'importation. Le Service de la Protection des Végétaux conserve le droit d'inspection au point d'entée. Si nécessaire, le traitement ou la destruction peut être imposé. 1. Aleurites spp : 1° Matériel végétatif en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire ; 2° Semences en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire (voir aussi C. 2). 2. Alium spp. (aulx, échalotes, poireaux, oignons, etc). 1° Semences. Certificat phytosanitaire ; 2° Matériel végétatif pour la consommation en provenance des régions où le charbon (urocystis cepulae) n'existe pas. Certificat phytosanitaire (voir aussi A.2, C.3). 3. Ananas comosus.- Matériel végétatif en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire (voir aussi B.1). 4. Arachide (arachis hypogea et arachis spp.) – Graines pour la consommation. Inspection à l'arrivée et traitement si nécessaire (voir A. 3, C. 4). 5. Avocatier (persea spp). – Semences (voir aussi B. 3). 6. Bananiers et plantains (musa spp). – Fruit frais (voir aussi A. 4 ,B. 4, C.6). 7. Bois d'œuvre. – bois d'œuvre sans écorce , en grumes , déroulage, sciage. fumigation au bromure de méthyle. 8. Bulbes, tubercules, rhizomes et autres organes souterrains de multiplication des plantes ornementales ou autres (sauf pommes de terre et patate douce). – Certificat phytosanitaire et déclaration additionnelle d'inspection en cours de croissance constatant, quand cela est possible, l'absence de nématodes dangereux. Introduction sans terre obligatoire. 9. Cacaoyer (theobroma spp.). – Matériel végétatif, semences et fruits entiers en provenance des pays de l'Afrique au sud du Sahara (voir aussi A.6, B. 5, C. 7).10. Caféier (coffea spp.). – Café de consommation. Inspection et traitement si nécessaire (voir aussi A. 7, B. 6). 11. Céréales (hordeum spp., triticum spp., avena spp., secale spp.). – Importations commerciales : inspection à l'arrivée et fumigation si nécessaire (voir aussi A. 10, C. 10). 12. Chanvre de Nouvelle Zélande (phormium tenax) : 1° Semences. Certificat phytosanitaire ; 2° Importations commerciales (fibres) (voir aussi C. 11). 13. Châtaignier (castenea vulgaris): 1° Matériel végétatif en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire ; 2° Semences pour plantation en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire ; 3° Fruit pour la consommation (voir aussi C. 12). 14. Choux (Brassica spp). – Semences. Certificat phytosanitaire et déclaration additionnelle constatant plante-mère a été inspectée en cours de croissance et trouvée indemne de black-rot des crucifères ou que les semences ont été traitées contre la bactérie du black-rot (Xanthomonas campestris). Dans ce dernier cas, le traitement sera décrit. 15. Citrus et autres agrumes (rutacées). – Fruits (importations commerciales). Sans restriction des pays où n'existe pas le "citrus canker" (Xanthomonas citri). Inspection à l'arrivée et traitement si nécessaire (voir aussi A. 11, B. 9, C. 13). 16. Cocotier (y compris les cocotiers "nains"). – Cocos nucifera : 1° Semences (noix non germées). Sans restriction de pays autres que ceux mentionnés en A. 12. Certificat phytosanitaire ; 2° Importations commerciales (voir aussi A. 12, B. 10) 17. Conifères : 1° Matériel végétatif en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire (voir aussi A. 13, C. 14). 18. Cotonnier (Gossypium spp.). – Coton non manufacturé en provenance des pays autres que ceux de l'Afrique au Sud Sahara. Inspection et traitement si nécessaire (voir aussi A. 14, B. 11, C. 15). 19. Dattier (Phoenix dactylifera). – Semences. Certificat phytosanitaire (voir aussi B. 12). 20. Fraisier (Fragaria spp.) : 1° Semence, Certificat phytosanitaire ; 2° Fruit frais en provenance des pays autres que ceux de l'Asie du Sud-Est, de l'Est (à l'est du 60° longitude) des îles du Pacifique et de tout pays où la mouche orientale des fruits (Dacus dorsalis) est connue. Certificat phytosanitaire et déclaration additionnelle constatant que la mouche orientale des fruits n'est pas connue dans le pays d'origine. Inspection à l'arrivée (voir aussi A. 16, C. 17). 21. Fruits frais (sauf citrus et rosacées) en provenance des pays autres que ceux de l'Asie, des îles du Pacifique, de l'île Maurice et de Ceylan, sauf si une information était reçue indiquant que la mouche orientale des fruits (Dacus dorsalis) a été trouvée dans l'un de ces pays (voir aussi A. 17). 22. Gingembre (ziiziber officinale). – Semences et matériel de consommation (voir aussi C. 18). 23. Graminées (mil, sorghos et autres que celles mentionnées ailleurs). – Semences et graines de consommation. Certificat phytosanitaire. Inspection obligatoire à l'arrivée et traitement si nécessaire. 24. Helianthus spp. (y compris tournesol et topinambour). Importations commerciales en provenance des pays où les viroses du tournesol et du topinambour n'existent pas (voir aussi A. 16, C. 19). 25. Igname (dioscorea spp) : 1° Semence. Certificat photosanitaire; 2° Importations commerciales. Inspection à l'arrivée et fumigation et si nécessaire (voir aussi A. 21). 26. Kola (cola spp.). – Semences en provenance des pays de l'Afrique au Sud du Sahara (voir aussi A. 21) : 27. Luzerne (medicago sativa et medicago spp.). – Semences. Certificat phytosanitaire et déclaration additionnelle d'inspection en cours de croissance constatant que les plantes- parents sont indemnes de crown- wart (urophlyctis alfalfae), de alfalfaedwart virus et de cusculte. (voir aussi A. 22). 28. Maïs (zea spp.) et autres espèces de la sous-famille des maydacées. – Grains pour la consommation en provenance des pays autre que ceux de l'Asie. Inspection à l'arrivée et traitement si nécessaire (voir aussi A. 23, B. 13, C. 21). 29. Malvacées (autre que cotonnier) et bombacacées (ceiba spp., etc.). – Semences. Certificat phytosanitaire. Inspection à l'arrivée et traitement si nécessaire. (voir aussi A. 24, C. 22). 30. Manioc (manihot spp). 1° Produits de commercialisation; 2° Matériel végétatif en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire (voir aussi B. 15, C. 24). 31. Olivier (olea spp). – Semences. Certificat phytosanitaire (voir aussi B. 16, C. 25).

32. Palmier à huile (elaeis spp.) : 1° Matériel végétatif. Certificat phytosanitaire et déclaration additionnelle d'inspection en cours de croissance constatant l'absence de toute maladie vasculaire ; 2° Semences. Certificat phytosanitaire. Inspection et traitement si nécessaire. 33. Passiflores (passiflora spp et tacsonia spp). – Semences. Certificat phytosanitaire (voir aussi B. 17). 34. Patates douces (ipomea batatas et ipomea spp.) : 1° Tubercules pour la consommation en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire. Aucune trace de terre. 2° Semences. Certificat phytosanitaire. Inspection et traitement si nécessaire (voir aussi A. 27, B. 18). 35. Phaseolus spp. – Semences. Certificat phytosanitaire et déclaration d'inspection en cours de croissance constatant : 1° Soit que le bactériel wilt (corynebacterium flaccum faciens) est inconnu dans la région d'origine ; 2° Soit que les plants-parents et le champ d'origine inspectés en cours de croissance en étaient indemnes (voir aussi A. 28) 36. Piments et poivrons (capsicum spp.) : 1° Semences en provenance des pays où phytophthora capsici n'existe pas. Certificat phytosanitaire et déclaration additionnelle constatant l'absence de cette maladie dans le pays d'origine ; 2° Importations commerciales (voir aussi A. 29, C. 27). 37. Plantes ornementales, arbres et arbustes (sauf rosacées). – Semences (voir aussi C. 28). 38. Pois et légumineuses voisines (pisum spp., dolichos, lablab, lathyrus spp., vicia spp, vigna spp.) excepté phaseolus spp. – Grains de cosommation ,inspection et fugation si nécessaire (voir aussi A. 30, C. 30). 39. Pommes de terre et espèces de solanum voisines. Tubercules de consommation. Certificat phytosanitaire et déclaration additionnelle constatant l'absence dans la région de nématodes provoquant des nodules de galle verruqueuse, de galle poudreuse et de bactérial ring-rot. inspection obligatoire à l'arrivée. Les tubercules devront être dépourvus de toute trace de terre (voir aussi A. 32, C. 32). 40. Pyrèthre (chrysanthemum cinerariaofolium et autres chrysanthemum spp.) .- Semences en provenance des pays de l'Afrique au Sud du Sahara. Traitement à l'arrivée. 41. Riz (oryza spp). – Riz de consommation. inspection à l'arrivée (voir aussi A. 33, B. 20, C. 34). 42. Rosa spp. (Roses) :

1° Semences. Certificat phytosanitaire ; 2° Fleurs coupées. Certificat phytosanitaire (voir aussi A. 34, C. 35). 43. Rosacées fruitières : 1° Semences. Certificat phytosanitaire ; 2° Fruits frais en provenance des pays autres que ceux de l'Asie de l'Est, des îles du Pacifique et de tout pays où existe la mouche orientale des fruits. Certificat phytosanitaire et déclaration additionnelle constatant l'absence de la mouche orientale des fruits (dacus dorsalis) dans la région d'origine. Inspection à l'arrivée et traitement si nécessaire (voir aussi A.35, C. 36). 44. Rosacées ornementales : 1° Semences. Certificat phytosanitaire ; 2° Importations commerciales. Certificat (voir A. 36, C. 37). 45. Sisal (agave spp et fourcroya spp.) : 1° Semences. Certificat phytosanitaire ; 2° Importations commerciales (fibres) (voir aussi B. 21, C. 38). 46. Soja (glycine maxima ou glycine soja). – Importations commerciales (graines sèches). Inspection à l'arrivée et fumigation si nécessaire. 47. Terres et terreaux et autres organismes, - Compost spéciaux (sphagnum, tourbes). Certificat phytosanitaire avec déclaration additionnelle constatant que la stérilisation a été effectuée avant l'envoi (voir aussi A. 39, B. 22, C. 41) 48. Thé (thé sinensis et thea spp.). - Importations commerciales (voir aussi A. 40, B. 23). 49. Tomate (solaum lycopersicum et espèces voisines). – Semences. Certificat phytosanitaire et déclaration additionnelle d'inspection en cours de croissance constatant que le champ d'origine est exempt de chancre de la tomate (corynebacterium michiganensis) et que les plants sont exempts de toute maladie bactérienne et de toute virose (voir aussi A. 41). 50. Trèfle (trifolium spp.) 1° Semences. Certificat phytosanitaire; 2° Fourrages et divers en provenance des pays de l'Afrique au Sud du Sahara. Certificat phytosanitaire (voir aussi A. 42).