

DADTCO Mandioca Mocambique Limitada

*National Cassava Congress Angola 26
June 2021*



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CASSAVA PROCESSING

- DADTCO Mandioca Mozambique (DMM) is a cassava processor and a for profit company. DMM produces several cassava derivatives used in commercial industries both nationally and internationally. DMM sources the cassava from small holder farmers. We aim to build strong local value chains and to contribute to the development of the agricultural sector as whole.
- Our mission: Commercialisation of the cassava crop from farm to consumer.
- Our vision: To be the leading cassava starch producer across Africa based on local farming and partnerships.



Manihot Esculante Crantz

Why Cassava? Commercial potential



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- Cassava or Manioc is an essential food crop and is cultivated and consumed by over half a billion people in the developing world.
- Cassava is a robust crop and can be cultivated in difficult growing conditions such as poor soils and dry conditions.
- Cassava is a perennial crop meaning cassava has a wide harvesting window.
- Cassava is predominately grown by small holders who play an essential role in the development of the value chain.
- Cassava tubers consists of starch!
- The Asian experience shows commercial potential of cassava.
- Every continent have industrialized their staple crop except cassava in Africa

Specifics of Cassava

- Easy to grow cassava
- Required little input at farm level
- Relatively easy extraction process of starch and flour.
- Cassava roots are high in carbohydrates. Cassava leaves are high in protein and fats.
- Cassava starch is white and tasteless due to low lipid content.
- Gelatinisation at low temperature and high viscosity
- Gluten free

Uses of Cassava

- Source of food (Security)
- Flour
- Animal feed
- Thickener
- Creamer
- Stabilizer
- Fat reducer
- Binding agent
- Sweetener
- Breader (crums)
- Alcohol
- Energy



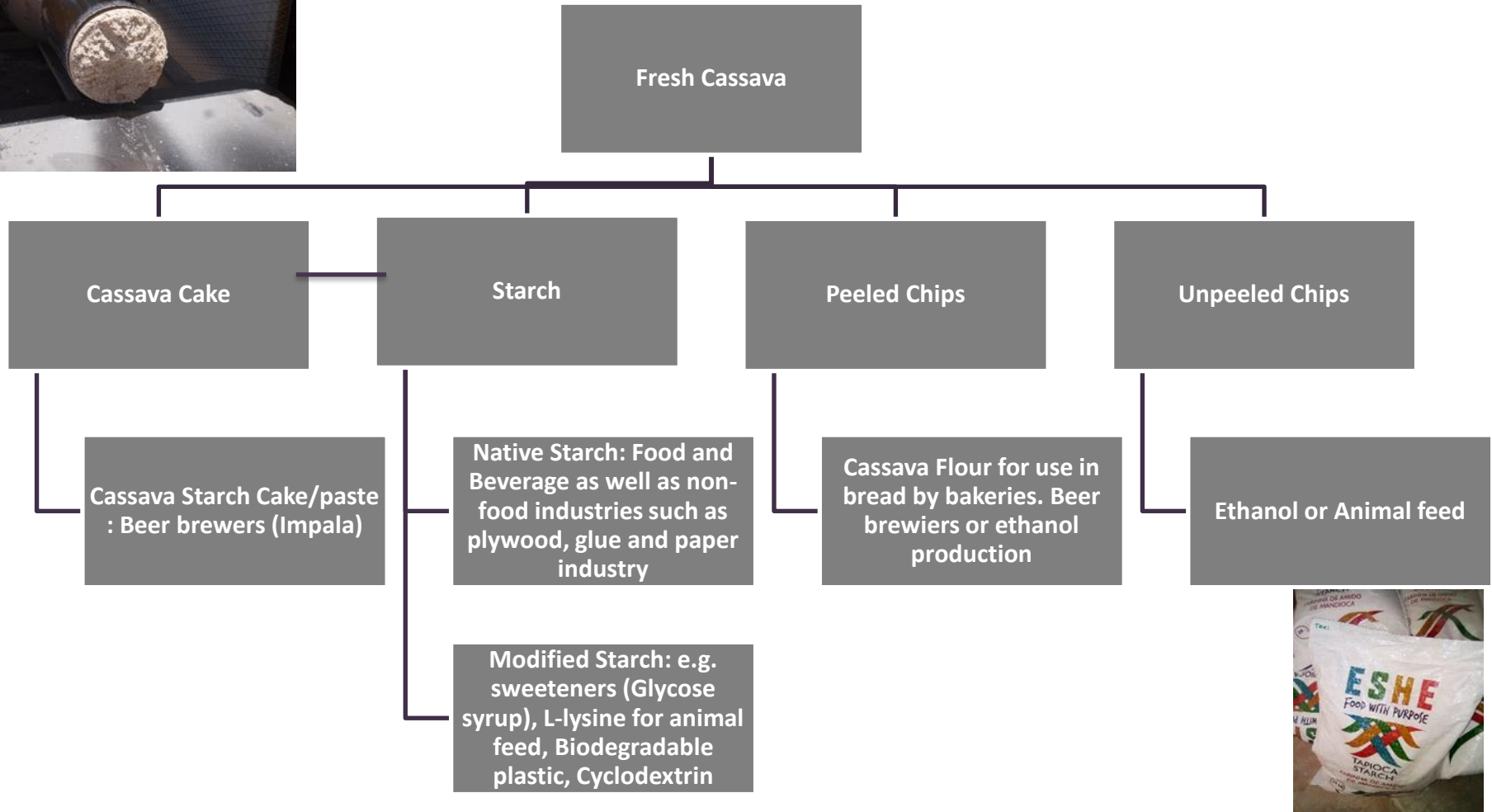
MARKET DEVELOPMENT & SALES PLAN

Where does it start? Market Development



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Commercial Market for Processed Cassava



Mozambique

- Beer brewers
- Inclusion and substitution of wheat by cassava derivatives in the recipe of bread.
- Animal feed by using fibre waste and cassava leaves

SADC Region

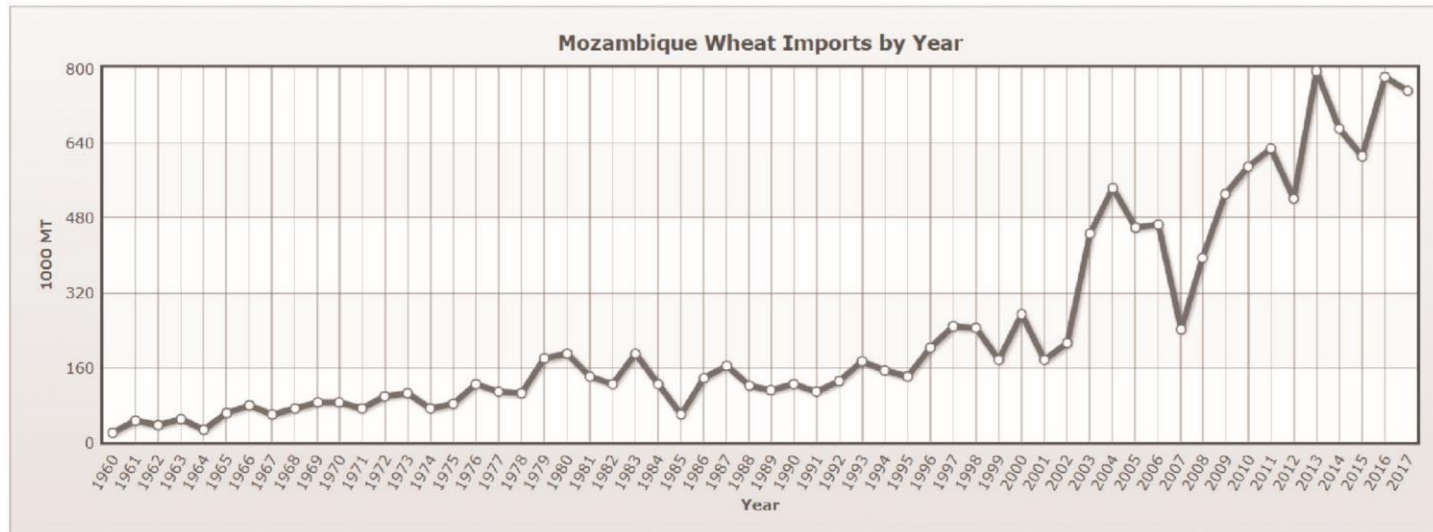
- Starch industry for usage in stock cubes, powdered soups
- Meat industry: binding agent for sausages and poloni
- Opportunity: gluten free market is growing extremely fast in South Africa. More research is needed on market potential. TS at premium price

Europe and USA – TS target

- Gluten free market: TS at premium price for gluten free baking

Potential of cassava!

Up to today Mozambique imports a large share of their food. Not only does this by-pass the huge agricultural potential Mozambique, it also makes the country dependable on imports. The country dependency on the import of wheat grains is particularly large:



Initial talks around the production of cassava flour with the government started in 2017 with MIC and was followed up with MASA during a meeting held with the Minister and the Vice Minister in which it was agreed to start a task force to look into how the government could support the cassava bread initiative and create the best possible circumstances for the project to succeed.

Bread Baking Trials:

Internationally:

- UK based company AB Mauri: did a successful trial with 20% Cassava Starch inclusion
- Dow Wolff Cellulosic GmbH & co: did a trial with 40% inclusion

Nationally (Mozambique):

- Bitonga Bakery Inhambane did a trial with 10%, 15% and 20% cassava cake.
- Padaria online Maxixe did trials with 10%, 15% and 20% CSF substitution. All bread was sold out within the hour!

Further national research regarding substitution of wheat flour with cassava starch will be done in collaboration with University Edward Mondlane.





INVESTMENT APPROACH

Research, Supply Chain and Technology



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Agronomy – Supply Chain – Technology

Agronomy

- Invest in research, development and distribution of improved cassava varieties
- Provide access to best agronomic practices
- In field demonstrations
- Availability of stem material

Challenges:

- Starch content is low due to quality of cassava
- Availability of stem material.
- Cost of research

Supply Chain:

- Organise the small holder farmers
- Access to contracted services by farmers.
- Build strong partnerships throughout the value chain.

Challenges:

- Continuous availability of raw material
- Cost of logistics
- Middleman/Traders

Technology :

- Production process to be situated close the cassava fields.
- Reach capacity production and build capacity
- Ensure FSSC food certification.
- Expand product range

Challenges:

- Without scale no Profitability
- How to compete with 'low' prices of imports?

- Introduction of different category farmer based on size and potential.
- The annual volumes fresh cassava shall be divided over the 3 farmer categories
- Reduce risk of relying on small holders alone
- Attract commercial farmers and farm practices
- Roll-out Emerging farmer model

Large (Cat 1)

- > 50 hectare (ha)
- Yield 20 tons per Ha
- 30% of the total supply
- Contract farming
- each Large farmer to include 200 SHF

Medium (Cat 2)

- Between 5 and 20 hectares
- Yield 15 tons per Ha
- 40% of the total supply
- Contract farming
- Each 'Lead' or 'Emerging' Farmer to connect to 20 SHF

Small (Cat 3)

- Minimum of 1 ha
- Yield 10 tons per Ha
- 30% of the total supply
- Free market
- To be managed by the Lead Farmers

MOBILE REFINING UNIT



45 ft Hi-cube container which houses the Mobile Refining Unit (MRU)



Mobile Refinery Unit (MRU)

- 2 units for Mozambique
- Machines were manufactured in Thailand
- MRU has 3 extractors and 2 hydrocyclones



Mobile Drying Unit in Inhambane, Mozambique:

- The Fluid bed dryer is situated in a 45ft container.
- The cyclone can be lifted and fist together with the packaging container on one single trailer.



Benefits to development

Building strong local value chains leads to development



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- Front runner in the commercialisation of cassava
- Less dependency on imports and increased forex saving (See below)
- Improved trade balance – export to regional/overseas markets
- Development of agricultural value chain – example to follow
- Job and skill development

MT of wheat grains imported (2016)	MT 725.000
Equivalent MT of wheat flour (75% extraction)	MT 544.000
10% substitution:	MT 54.400 Tapioca Starch (TS)
15% substitution:	MT 81,600 TS
20% substitution:	MT 108,800 TS
FOREX SAVINGS (\$450/MT wheat import)	
FOREX saving with 10% substitution with CSF®:	\$ 25.000.000
FOREX saving with 20% substitution with CSF®:	\$ 37,500,000
FOREX saving with 30% substitution with CSF®:	\$ 50,000,000

Example: Wheat substitution by Local produced cassava

- Mozambique imports 750,000 MT of wheat grains per year. Converted into flour equals 544,000 MT of wheat flour (Ratio 1:1.4)
- Ratio between Cassava Starch Flour (TS) and fresh cassava is 1:4,5
- Average output per farmer 20 MT cassava per ha (upward potential to 30 Ha)

*10% SUBSTITUTION amounts to 54.400 MT TS/year
 MT 54.400 TS amounts to 244,800 MT of cassava roots/year
 244,800 MT of cassava roots involves 12,240 Farm Households.*

*15% SUBSTITUTION amounts to 81,600 MT TS/year
 81,600 Mt TS amounts to 367,200 MT cassava roots /year
 367,200 Mt of cassava roots involves 18,360 Farm Households.*

*20% SUBSTITUTION amounts to 108,800 MT TS/year
 108,800 MT TS amounts to 489,600 MT of cassava roots/year
 489,600 MT of cassava roots involves 24,480 Farm Households*



Increase the changes of success

Proposed initiatives



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Proposed Initiatives to Increase Competitiveness of TS

Government policy:

- Finance Research and Development of new cassava varieties.
- Support private sector initiatives to commercialise value chains.
- Protect local industry from cheap imports
- Draft and support legislation promoting the use of local produce

Financial support:

- Tax Holiday during expansion period for private sector
- Reduction of IRPC payment
- Priority access to forex
- Financial support during times of national crisis.
- Guarantee price for cassava to farmers through government subsidy.

Cooperation and support:

- Support external funding application towards agricultural program.
- Joint effort to increase existing and new markets for cassava derivatives.
- Assist with new processing sites and access to land.

Legal:

- Assign agriculture status to agroprocessors
- One APIEX Investment Center registration to cover entire country
- Promote Free Industrial or Agricultural Zones



THANK YOU