

Fit-to-Purpose in Agri & Food – Factsheet

Fit-to-Purpose in agri & food means:

- That a company implements a strategy whereby existing high-end products or services are adjusted or redesigned to specific local market situations; and/or
- That a company develops new products or services based on existing knowledge;
- So that the products or services realize a “fit” to the demand in developing countries and that they can be used without specific knowledge and/or (extensive) training;
- And that this results in economic and sustainable growth for business, industry and the countries.

Important starting points and “drivers” for success are:

- A. Demand-driven by markets in development countries;
- B. Focus on new and local markets;
- C. Upscaling instead of downscaling;
- D. New collaborations in the value chain;
- E. Business-driven strategic orientations.

(More information about these drivers can be found in our Position Paper.)

Creating the Cassava Revolution

By DADTCO - Dutch Agricultural Development and Trading Company

The vision of DADTCO is: “We share the belief that economic development comes from private businesses aiming to improve income standards of African Farmers.”

What is the strategy of DADTCO?



DADTCO, the Dutch Agricultural Development and Trading Company, wants to realize a breakthrough in the cassava supply chain regarding the way cassava is perceived, grown and processed into high-quality products. Thereby contributing to the increasing demand for food and local employment in Africa.

There is much inefficiency in the treatment of cassava. Cassava must be processed within 24 hours or the quality of the product reduces significantly. Due to (mostly bad) infrastructure in developing countries, processing the cassavas in this short period is not easy or sometimes not possible. Several projects to process the cassava in a centrally situated factory were initiated but failed due to this poor infrastructure.

So the first strategic focus of DADTCO was to develop a decentralized production and processing approach in rural areas. DADTCO realized this by developing a processing technology called “Autonomous Mobile Processing Units” (AMPU) and two additional techniques of refining and drying the cassavas.

Their second strategic focus point was to create an intensive collaboration between local African smallholders farmers by developing a shared earning model with a common production process and sales to both local food producers for local markets and multinational food producers in Africa.

DADTCO is a social enterprise with profit aims. It wants to achieve a cost-effective business model to realize their ambitions of making impact at socio-economic level in local communities in Africa.

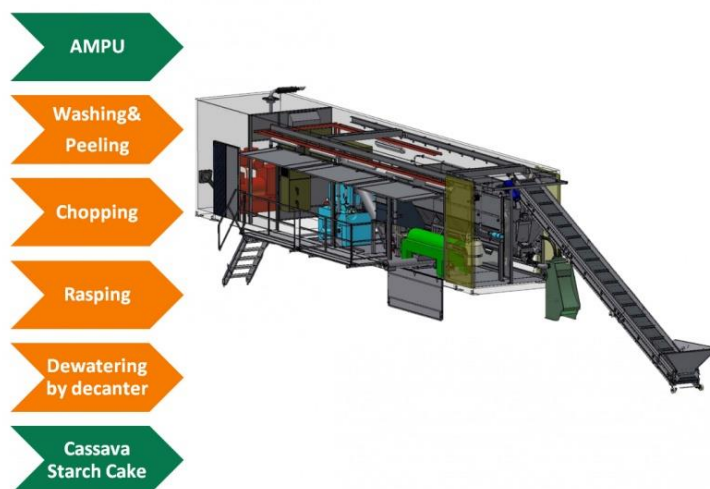
The development of the AMPU-technology and its first applications were mainly funded by grants from Dutch and international organizations. In recent years the business model is fed by structural revenues from sales to producers of beer (SAB Miller), local bakeries and private investors.



Description of the development of DADTCO – Creating the cassava revolution

DADTCO has developed a mobile treatment unit called “Autonomous Mobile Processing Unit” (AMPU, *see image*) where cassava can be processed into a paste or cake on the farm land in rural areas. AMPU is an existing technology from the Dutch potato industry and can easily be operated by local workers. The local farmers are guaranteed of the sale of their yield and DADTCO takes care of the responsibility for further sales in the market.

After harvest, cassava is processed into flour and starch which can be used for brewing beer. SAB Miller in Mozambique is a buyer of these cassava products and uses it to brew beer. DADTCO has the ambition to create new products such as bread with cassava flour. Nestlé’s new food applications are also exploring the use of cassava in “Maggi-blocks”. Arrangements with food multinationals operating in the African food market still needs to be agreed upon.



Although the possibilities of cassava products are huge, companies hardly market and make use of cassava products in their production processes. The hesitation of these companies comes from the unknown application possibilities of cassava products as well as (trade-)system barriers.

What are the critical success factors?

“Reverse” innovation

To realize a decentralized model in local areas for cassava production, DADTCO (together with Dutch knowledge institutes) innovated existing high-end techniques of the potato production industry into a robust and simpler application. This application can be used near to cassava growing areas and shortly after harvest of the cassava roots.

The three building blocks of processing, refining and drying developed by DADTCO are:

- AMPU – Autonomous Mobile Processing Unit – processing cassava roots into cassava starch paste or cake.
- MRU – Mobile Refinery Unit - takes out 98% of the fibres out of the cassava paste.
- MDU – Mobile Drying Unit - cassava starch paste in to cassava starch flour.

The AMPU and MRU are placed close to the cassava farmers to process the roots in to starch cake. This cake can be kept for a longer period and can easily be transported. If no local drying takes place by the MDU, the cake is transported to another, more central location where the cake is dried and processed into cassava flour for food producers to make several other products.



Image: AMPU on frame in operation

A production platform needs to be made for the usage of the AMPU and MRU in the cassava growing areas with supply of energy, water, a small office building for and efficient operation of the AMPU and MRU. The AMPU and MRU are used in a three months period at one cassava growing area, and then moved to another cassava growing area for operation (three times per year). The cost of building a platform is approximately 400,000.- euro, and the investment in an AMPU and MRU is around 3 million euro for at least ten years of operation.

Processing the cassava roots must take place within 24 hours of harvesting the root to preserve its quality, otherwise cyanide will be released within the root, making it impossible to use for consumption purposes. The high quality of cassava starch is realized by the DADTCO units.

DADTCO strives for a natural cassava cultivation with local strains that are resistant and produce roots that can stay in the ground for a long period. These local strains are more adaptable to drought and non-intensive soil management. This has a fit with the local culture and experiences of smallholder farmers and communities with cassava instead of international initiatives of seed breeding with different properties, which make growing and processing only possible by large-scale decentralized operations.

Collaborate with (local) partners

DADTCO puts a strong focus on local markets and contributes to the local African economy and communities. DADTCO wants to strengthen the local farmers in Africa to become self-sufficient and independent by creating an inclusive self-supporting economical model. This instead of the traditional agribusiness model in which the farmer is the supplier of agricultural products and sells it to (international) processors or traders. In the DADTCO organizational model they use local partnerships with cassava smallholder farmers and create a shared model of returns of the cassava products sales.



Image: Loading of cassava roots into processing.

DADTCO's business model can be described as a small regional or decentralized inclusive cassava production model for African countries. A key feature is the involvement of local farmers and communities in a shared organization and business model. The local farmers are involved by giving them contracts for each coming year of their harvests with guaranteed prices. Farmers are not obliged to deliver a fixed amount, but can decide themselves how much they want to deliver. After several years DADTCO has the experience that farmers will plant and harvest more cassava each year due to the certainty of the price and demand. In the beginning harvest of cassava by farmers was around 150,000 tonnes. In five years this has increased to 400,000 tonnes.

Within the countries where DADTCO is operating or starting to operate (Mozambique, Nigeria, Ghana, Sierra Leone and Kenya) the company works with a local partner who has the knowledge, network and experiences to work with local governments and organizations.

Furthermore DADTCO is working with local and international NGOs that provide added value in terms of knowledge of the cassava cultivation of local varieties. And NGOs that can support in making a match between the areas where proper local cultivation of cassava is possible and where local demand for cassava products exists.

Strategy into new markets and local demand

DADTCO's challenge was to develop a cassava business model in immature markets based on sourcing possibilities for large-scale production. DADTCO developed a decentralized production model for cassava with smallholder farmers who get an equal share of the profits with contracts that give them assurance with guaranteed prices and demand. Furthermore, DADTCO stimulates local markets and demand for cassava products, for instance by motivating local bakeries to change their sourcing strategy and use cassava cake and flour for their baking products.

In Mozambique DADTCO developed a successful model with different cassava farming communities. It sells cassava starch and flour to local food producers and bakeries for local markets, but also to a multinational beer brewery. Unfortunately DADTCO had recently to retrieve its operation from Nigeria although it invested a lot of time and money. Due to low oil prices and (therefore) lack of local investment combined with local authorities with conflicting interests, it was impossible to develop and implement a successful model.

More information

For more information about the lessons learned from developing a Fit-to-Purpose strategy and concept, please contact the Food & Business Knowledge Platform at info@knowledge4food.net or Coen Faber at coenfaber@purebirds.com.



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