



# Cassava entrepreneurship in Malawi: developing novel products and cassava food safety

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## Abstract

A cassava transformation process is ongoing in Southern Africa, industrial production of food and non-food products from cassava tubers are being developed. This has been going on in West Africa for decades, however, little is understood about how to support such a development. We interviewed a successful entrepreneur and conducted site visits to her industry "Alongolele". Products were characterized and investigated with regards to chemical food safety. Conclusion: her life story points to a "born" entrepreneur. Her basic food processing knowledge and participation in international courses stimulated initiatives; including farmer to farmer planting material exchange to ensure a stable root production. Technical support of researchers and the support of the Southern African Regional Root Tuber Network played a role. The entrepreneur invested time and effort on product safety as confirmed by chemical analysis. Governments, policy-makers, development actors and NGO's can facilitate the transformation process by promoting local small-medium scale enterprises.

**This investigation is part of the CATISA (Cassava Transformation in Southern Africa) research Project\*.**

## Introduction

Certain regions of Southern Africa are undergoing rapid development in the emergent, processing and marketing of food, animal feed and non-food industrial products from cassava (*Manihot esculenta* Crantz) tubers and leaves (Gabre-Madhin and Hagblade, 2004).

This trend follows a development in West Africa where a stream of new varietal releases from the International Institute for Tropical Agriculture (IITA) based in Nigeria called Tropical Manioc Selection (TMS) triggered a surge in cassava production, trade and commercialization in West Africa (Nweke, Spencer, & Lynem, 2002). As a result, real prices of fresh cassava and its most popular processed convenience food, gari, have fallen over nearly three decades, specifically in Nigeria (Nweke, 2004). This has consequently improved the food security of both the urban and rural poor and provided growing employment in farming, processing and trade as already shown by (Enete, Nweke, & Okorji, 1995).

All cassava naturally contains in all its edible parts the toxic compounds linamarin and lotaustrolin that liberate hydrogen cyanide. Studies have shown that cassava consuming societies have developed effective methods for reducing the toxic content to a safe level for consumption (Dufour 1994; Onabolu, Oluwole, Rosling, & Bokanga, 2002; Brimer, 2001).

Generally cultivars are classified as sweet (cool) or bitter depending on whether the tubers may be eaten without any prior processing or not. Studies have shown that bitter taste of the tubers often corresponds to higher levels of linamarin (Chiwona-Karlton *et al.*, 2004). One of cassava's characteristics is that it is the only domesticated staple crop for which a significant part of the production is of the bitter (i.e.toxic) type.

In some geographical regions the production, proportion and importance of the bitter varieties are increasing and out number the non-toxic varieties (Chiwona Karlton, Mkumbira, Saka, Bovin, Mahungu, & Rosling, 1998; Chiwona-Karlton *et al.*, 2004). This fact renders it of utmost importance that the commercialisation of food and feed products from cassava **emphasizes chemical food safety.**

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Chrissie Akuilila Katundu

## Methods

The methods were:

- Three semi-structured interviews with entrepreneur Chrissie Akuilila Katundu from Domasi, Malawi
- Observations at production facilities (3 in total)
- Product sampling and characterisation (including total cyanogenic potential of products).

## Results and Conclusion

- The range of cassava products developed and marketed by this company has **successfully branded the company as a cassava based company.**
- The female entrepreneur studied here has demonstrated entrepreneurship throughout her life.** She has a background both through her education and her earlier activities as owner/manager of restaurants within a professional food production environment
- Participation in an international workshop** on income generating activities and in particular a personal contact inspired the entrepreneur to investigate the possibilities in using cassava tubers as an alternative raw material first in the baking industry and later incorporated as a range of novel products in the branding of cassava products.
- Farmer to farmer exchange visits of cassava planting material** as supported/facilitated by among others researchers; extension and SARNET-Malawi together with the formation of local cassava farmer clubs and establishment of local common "research- and multiplication gardens" strengthened the local cassava production and productivity.
- The stable availability of local cassava tuber surplus made "Alongolele" invest** in this crop as a raw material, and to embark on a genuine product development programme.
- Within a few years the **product repertoire comprised around ten different products**, a fact that we ascribe to personal characteristics of the entrepreneur as a "developer".
- The entrepreneur demonstrated a focus on product safety and that our investigation of products samples supported this effort; in that **all samples analysed were chemically safe from the point of view of cyanogenic residues.**
- The product repertoire incorporates a number of very innovative cassava based products which to our knowledge are not known or described anywhere; such as "cassava juice" and "cassava jam"**. This indicates that governments and institutions could stimulate the ongoing cassava transformation process further by strongly supporting the development of brand new (yet unknown) food and non-food products.