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 are being developed. This has been taking place in West Africa for decades, however, little is understood about how to support such 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 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 Lynem, 2002). 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, & Okori, 1995).

All cassava naturally contains in all its edible parts the toxic compounds linamarin and lotaustralin that liberate hydrogen cyanide. Studies have shown that cassava consuming societies have developed effective strategies, products, product development and understanding of food quality issues.

The described food safety concerns, call for:

i. A detailed knowledge of the influence of different processing methods
ii. An understanding of the nature of the raw materials
iii. More stringent process as well as end product control systems. The latter has been stressed in the first ever published cassava manual for Hazard Analysis Critical Control Point (HACCP), methods that are used for identifying, evaluating and controlling hazards that are significant for food safety.

The investigation
Given the pioneering experiences of cassava transformation in West Africa, Southern Africa would gain immensely from the lessons learned during the West African cassava transformation process.

However, not so much has actually been published concerning e.g. documented effective instruments for the simulation of entrepreneurship within the cassava food processing sector.

Observations and anecdotal reports show that technology transformation concerning primary production, processing for high quality and safe food and feed as well as industrial non-food products are continuously taking place within the Southern African region. In this regard it is crucial to collect and analyze knowledge about what characterizes cassava entrepreneurs in this region and their response to background, strategies, products, product development and understanding of food quality issues.

Using a case study from Malawi, this paper presents the processes that lead a female entrepreneur into investing in the cassava transformation industry. We describe the challenges of producing uniform products of a constant quality level with respect to chemical food safety. Furthermore we illustrate the role of local small-scale enterprise production situations.

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 SARRNET-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.

References: