

ENHANCING BANANA JUICE AND BEER PRODUCTION & MARKETING IN UGANDA: A PROPOSED BUSINESS CASE

A.M. Rietveld¹, S. Ajambo¹, K. Nowakuna², L. Khakasa², M. Batte³, D. Jakana⁴, M.K. Bwengye², E. Kikulwe¹, D. Stoian⁵



¹Bioversity International, Uganda; ²National Agricultural Research Organization (NARO), Uganda ;
³International Institute for Tropical Africa (IITA), Uganda; ⁴Jakana Foods limited, ⁵Bioversity International France



Introduction

Beer and juice made from banana, traditional products in Uganda, offer high potential for income generation among farmers and rural entrepreneurs. Both products are mainly processed by men and women at the homestead of smallholder banana growers, often under very basic conditions. Banana juice and beer are both characterized by a short shelf-life and poor product presentation and are therefore mainly sold in low-end markets. There are few semi-industrial processors and they struggle with high costs, inconsistent supply of raw materials and low capital for product promotion. The main cause for inconsistent supply is the high disease incidence which significantly affects banana yields. Five main bottlenecks were identified in the production and post-harvest stages of the value chain:

1. Ugandan production of beer-banana varieties is characterized by low productivity, poor agricultural management of traditional cultivars and high disease incidence resulting in low and inconsistent supply of raw materials
2. Lack of standardized artisanal processing practices, reflected for instance in poor hygienic measures and labour-intensive processing, limiting both the volume and quality of finished juice and beer products and, hence, consumer acceptability.
3. Inappropriate packaging and presentation of the products compromise shelf-life, marketability and traceability, translating into low returns to farmers and high risks to entrepreneurs.
4. Poor dissemination of improved processing methods among men and women in rural areas due to low access to knowledge and capital.
5. Limited public investment in beer banana due to its association with alcohol abuse and general preference of cooking-banana.

Research Questions

1. How and to what extent can smallholder banana growers increase beer-banana production through better varieties, improved farm management and post-harvest handling (time of harvesting, storage, transport, and ripening)?
2. How and to what extent do upgrading of processing methods, better access to raw materials, product promotion, and waste utilisation increase market access and profitability for artisanal and semi-industrial processors?
3. How does improved product presentation and differentiation (organoleptic properties, packaging, pricing, distribution channels) promote market acceptability for artisanal processed banana juice and beer?
4. What are critical success factors for the establishment of small-scale enterprises for banana beer and/or juice during and after incubation?

Focus group discussions (2014) revealed that alcohol abuse is not linked to locally processed beer as different kinds of other, inexpensive alcoholic beverages are readily available in rural Uganda. Those who excessively consume alcohol prefer cheap, high-percentage alcohol (e.g., banana gin).



Development Goal

We envisage that in 10 years banana juice and beer are popular products in different market segments in Uganda and the Great Lakes region with total volume output from artisanal and semi-industrial production growing by 10% per annum. In addition:

- Poor women and youth in rural areas improve their livelihoods by running small-scale enterprises producing safe banana beverages. Incomes for owners/members of these rural enterprises will increase by 100%. At least 200 individuals are engaged in sustainable production and marketing of banana beer and juice.
- The local population is informed on health risks of alcohol and knowledgeable of what constitutes responsible alcohol consumption.
- Semi-industrial processors increase profit margins translating into increased employment and higher returns to about 50,000 smallholder banana growers in Central Uganda who improve farm management and post-harvest handling for consistent supply of high quality raw materials.
- Artisanal and semi-industrial processors increase juice and beer yields by 15%, and their products meet national standards and consumer preferences.

Approach

Participatory Market Chain Analysis (PMCA) will provide the framework for implementing five key elements of the project in two pilot sites in Central Uganda and on-site with semi-industrial processors:

- 1) Upgrading of raw material supplies at farm level through improved varieties and post-harvest handling: The project will promote alternative beer-banana varieties that have previously been tested. Producers will be trained on agronomic management, optimal time of harvesting and macro-propagation techniques.
- 2) Upgrading of artisanal processing of banana juice and beer: Constraints and critical control points in artisanal beer and juice processing will be identified, and proposed improvements will be tested and assessed in relation to drudgery, hygiene, quality and cost-effectiveness.
- 3) Upgrading of industrial processing of banana juice and beer and use of waste (by-products): Bottlenecks in the production processes of beer and juice will be identified and recommendations made for improving the quality of end-products, increasing the use and value of by-products, and achieving cost-effectiveness.
- 4) Incubation of women and youth-run banana juice and beer businesses: In each pilot site, two small-scale businesses will be supported to graduate as self-sustaining enterprises by the end of the second year. The project will target entrepreneurs with no or limited access to land, particularly women and youth.
- 5) Market linkages for banana juice and beer in line with consumer demand: To ensure market access for differentiated banana juice and beer, the project will interact with value chain actors for a thorough understanding of market dynamics and consumer preferences, and for orienting supply towards demand.

Banana juice and beer are traditional products with high cultural value, especially for the Baganda. During the Scoping Study (2014) many stakeholders expressed their interest in high-quality banana juice and beer and some (e.g., BUCADEF – Buganda Cultural and Development Foundation) have committed to be partners in the proposed project.

Feasibility / Demand

Project Partners (Bioversity, NARO, IITA, Jakana LTD, and BUCADEF) have experience in all domains in which the project proposes to engage.

Beer-banana cultivars (Kayinja/Pisang awak and Mbidde) are seriously threatened by Banana Xanthomonas Wilt (BXW) which, along with limited plantation management and cultivar choice, leads to very low bunch weight. **Beer-Banana producers** have expressed interest in technical innovations that address these two constraints (Scoping Study 2014).

Artisanal processing is one of the few economic activities in the rural areas of Central Uganda that generates significant income and has the potential for wealth creation. Both artisanal and semi-industrial **processors** will produce more juice and beer, if raw material supply becomes consistent in terms of quality and quantity, drudgery is reduced, and quality (shelf-life of products) improves (Scoping Study 2014).

Bar and restaurant owners expressed great interest in selling banana beer and juice, if quality and proper packaging are secured (Scoping Study 2014).

In **consumer tests** banana beer receives high scores, safe for appearance, indicating that consumers appreciate the taste of traditional banana beer but presentation is the main priority for improvement. Artisanal banana juice is less appreciated by consumers than industrial banana juice, implying that processing methods, along with shelf-life (currently one day for juice), are main areas for technical improvements.

References

Scoping Study 2014 by RTB banana team
Rietveld et al., 2013. The Beer Banana Value Chain in Central Uganda. In: Blomme, G., van Asten, P. & Vanlauwe, B. (eds): Banana Systems in the Humid Highlands of Sub-Saharan Africa: Enhancing Resilience and Productivity. CAB International, Wallingford, pp. 191-201.

Acknowledgement

We thank RTB and EC/IFAD for funding the scoping study and the team involved in preparing this business case: S. Ajambo; J. Barigye; M. Batte; G. Flidel; D. Jakana; J. Kansime; L. Khakasa; E. Kikulwe; J. Mugisha; K. Nowakuna; A. Rietveld; D. Stoian; G. Tauliya; J. Wesiga