IITA Nutrition Technologies

This category features two technologies that promote improved food quality and value addition. They include high-quality cassava flour and industrial starches, as well as processing innovations that enhance the marketability of bananas and plantains.

2 TECHNOLOGIES | CREATED ON OCT 14, 2025 BY TAAT PROFILING TEAM | LAST UPDATED DEC 10, 2025

TECHNOLOGIES IN THIS TOOLKIT

- **High quality cassava flour and industrial starches**
- **Value-added Processing of Bananas and Plantain**

https://taat.africa/obh

High quality cassava flour and industrial starches

Extend Freshness, Expand Opportunities with Cassava Flour!

High-Quality Cassava Flour (HQCF) is a non-fermented cassava product with an odorless, white/off-white appearance. It addresses the challenge of perishable fresh cassava roots, offering longer shelf life and reduced transport costs. HQCF, produced through specific steps, holds potential for various food.

International Institute of Tropical Agriculture (IITA)
Abass Adebayo

This technology is TAAT1 validated.

8·7 Scaling readiness: idea maturity 8/9; level of use 7/9

Inclusion assessment 4

Climate impact 4 1

Problem

The HQCF technology adressed several problem such as:

- Rapid perishability and molding of fresh cassava roots due to high water content.
- Toxic cyanide compounds in cassava roots, which need to be eliminated for safety.
- Traditional cassava flour production methods that do not provide significant market opportunities for smallholder cassava farmers.

Solution

- Detoxification of cassava roots through the HQCF production process, eliminating bitter taste and toxicity without fermentation.
- Utilization of HQCF for a wide range of food and industrial applications, serving as substitutes for imported wheat.
- Building capacity in remote rural communities for HQCF to enhance the competitiveness and value addition in the cassava value chain.

Key points to design your project

High-Quality Cassava Flour (HQCF) is a non-fermented solution addressing perishability in cassava roots, providing extended shelf life. It supports gender equality, reduces carbon footprint, and aligns with SDGs for poverty reduction and economic growth. Integration considerations involve estimating root quantity, logistics planning, training support, and developing communication materials.

25 %
Reduction of wheat flour in bakeries

1 ton HQCF from 5.5 tons fresh cassava roots
Cassava root to HQCF conversion ratio

IP
Open source / open access

Technology from

ProPAS

Commodities

Cassava

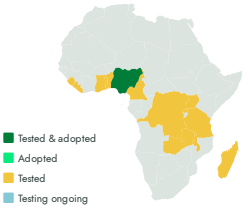
Sustainable Development Goals

2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
8 DECENT WORK AND ECONOMIC GROWTH

Categories

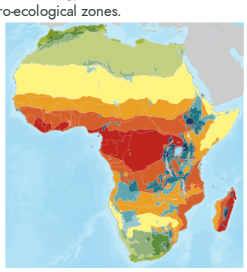
Post-production, Equipment, Agrifood processing

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Processors

Value-added Processing of Bananas and Plantain

Banana and Plantain Processing for a Healthier Diet

This technology involves the processing of bananas (ripe or unripe) into valuable products like flour, purees, and chips. Unripe fruits are dried and ground into flour (good for baking!), while ripe ones are pulped for drinks and snacks. The technology works for small or large-scale production.

Banana flour has a growing demand as a wheat substitute

International Institute of Tropical Agriculture (IITA)
Lungaho Mercy

This technology is TAAT1 validated.

7·7 Scaling readiness: idea maturity 7/9; level of use 7/9

Inclusion assessment 4

Climate impact 7

Problem

- **Postharvest Losses**: Bananas and plantains are perishable crops, prone to rapid deterioration after harvest, resulting in significant losses.
- **Unattractive Appearance**: Traditional flour processing can yield a brownish color, which may not be appealing to consumers.

Solution

- **Extended Shelf Life:** Processing like flour production and pulping creates longer-lasting banana and plantain products, reducing waste.
- **Enhanced Flour Quality:** Blanching and special soaking techniques improve flour color and functionality for baking and food production.

Key points to design your project

The Value-added Processing of Bananas and Plantain technology offers numerous benefits, including job creation and waste reduction, aligning with Sustainable Development Goals such as zero hunger and decent work.

To ensure its adoption by farmers, key activities include:

- Awareness campaigns
- Technology demonstrations
- Access to inputs and markets
- Financial support
- Monitoring and evaluation
- Capacity building

Prioritizing gender-inclusive training and sustainable practices in government projects can amplify its positive impact.

10000—60000 USD
Equipment for the automatic production of fried banana chips (100-500 kg/hour)

1,500 USD
Commercial presses for producing banana pulp (0,5 ton/hour)

IP
Open source / open access

Technology from

ProPAS

Commodities

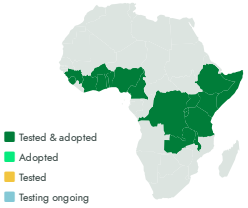
Bananas & plantains

Sustainable Development Goals

Categories

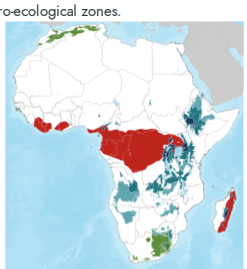
Postharvest, Equipment, Post-harvest handling, Agrifood processing

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Processors

IITA Nutrition Technologies

https://taat.africa/obh

ABOUT US

TAAT

TAAT, Technologies for African Agricultural Transformation, is an African Development Bank initiative to boost agricultural productivity by rapidly rolling out proven technologies to more than 40 million smallholder farmers.

TAAT aims to double crop, livestock, and fish productivity by 2025 by engaging both public and private sectors to expand access to productivity-increasing technologies across the continent.TAAT advises African government who receive funding from international financial institutions such as the African Development Bank to help them integrate the best agricultural technologies in their development projects. TAAT also offers technical assistance for the integration of these technologies, when needed.

TAAT Technologies

TAAT definition of agricultural technologies is very broad: they include improved varieties, inputs, equipment, agricultural infrastructure, practices and agricultural policies. In short, any solution to an agricultural constraint. TAAT technologies have been developed by a wide variety of organizations: the CGIAR, other international research institutions, national research organizations, or the private sector.

TAAT Clearinghouse

Within TAAT, the Clearinghouse has the remit to select, profile and validate agricultural technologies, and showcase them in online catalogs to support the advisory role that the Clearinghouse offers to governments and the private sector. The Clearinghouse strives to be an 'honest broker' of technologies through its selection, profiling, validation and advice.

TAAT e-catalogs

The e-catalogs are designed to be used by decision-makers within governments, private sector companies or development organizations. They facilitate the search for appropriate solutions that are adapted to local conditions and requirements, and provide all necessary information, presented in jargon-free and easy to analyze technology profiles. Once a decision-maker has selected a technology of interest, the e-catalogs facilitate their direct contact with those who can help them implement the technology, whether they are a research group or a private company.

TAAT Technology Toolkits

Technology toolkits are hand-picked selections of technologies from the TAAT e-catalogs. We offer some curated toolkits for specific cases, and registered users can create their own toolkits, showcasing their selection of technologies. Toolkits can be used online and shared as links, as mini e-catalogs, they can also be downloaded, saved, shared or printed as collections of technology pitches in PDF format (pitches are one-page summaries of technology profiles, available for all technologies on the e-catalogs).

CONTACT

Chrys Akem – TAAT Program Coordinator: +234 8169020531
Dr Solomon Gizaw – Head, TAAT Clearinghouse: +251 900461992
taat-africa@cgiar.org | https://e-catalogs.taat-africa.org

TAAT is funded by the African Development Bank, the TAAT Clearinghouse is co-funded by the Bill and Melinda Gates Foundation and the African Development Bank.