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# Influencing the policy environment of cassava seed systems in Rwanda and Burundi

Cassava is an important staple food crop in both Rwanda and Burundi. It ranks first in Burundi followed by banana and sweet potato, and third in Rwanda after banana and sweet potato **ANNEX 1**. It is the cheapest source of calories and is mostly eaten as “ugali” (a stiff porridge made mainly from maize/cassava/millet/sorghum flour – a starch staple food of several African countries) and, to a limited extent, as fresh boiled roots. The leaves are eaten in both countries, supplying vitamins, proteins and minerals to many rural households.

## QUICK FACTS

**PROJECT** Fighting Cassava Brown Streak Disease and Cassava Mosaic Disease through the deployment of new resistant germ plasm and clean seeds

**FOCUS COUNTRIES**  
Burundi and Rwanda

**LEAD IMPLEMENTING INSTITUTION**  
International Institute of Tropical Agriculture (IITA)

**IMPLEMENTING PARTNERS**  
Rwanda Agricultural and Animal Resource Development Board (RAB)  
Institut des Sciences Agronomiques du Burundi (ISABU)

**GOAL** Improve household food and income security of rural cassava farmers in Rwanda and Burundi

**BENEFICIARIES** 20,000 cassava farmers in Burundi and Rwanda, of whom at least 50 per cent women. Two national cassava research teams. All cassava seed value chain actors. Urban consumers of cassava products. Emerging private sector involved in cassava processing

**DATES** April 2017-March 2021

**FINANCING** US\$2 million

At the same time, the commercial potential of cassava is increasingly being realized in the two countries, as evidenced by the growing number of private entrepreneurs who are taking business opportunities in cassava-based food and feed processing industries. This status is well-reflected in the prioritization by both governments of the crop for food security and agricultural commercialization.

- However, the full potential of cassava has remained unrealized, with an average of 8-10 t/ha root yields at the farm level compared with 35-50 t/ha recorded at research stations. This is due to a number of interrelated challenges experienced both at the farm level and throughout the entire sector, including the following:
- Farmers in Rwanda and Burundi predominantly grow local varieties that, despite having good local adaptation and superior consumer attributes, are low-yielding and susceptible to viral diseases.
- There is heavy reliance on informal seed systems that are guided by indigenous knowledge and standards but less regulated by government seed policies. This leads to easy entry and spread of new pests and diseases.
- There are policy challenges with reference to the gaps or weak implementation of the current seed policies, especially for roots, tubers and bananas, given that the seed systems for these crops are not private sector-driven and hence regarded as having low commercial value.

## Project goal and objectives

The project sought to improve household food and income security of rural cassava farmers in Rwanda and Burundi. The overall objective was to increase cassava productivity in Burundi through the development and deployment of Cassava Brown Streak Disease (CBSD) and Cassava Mosaic Disease (CMD) resistant varieties, as well as a system that produces high-quality virus-tested seed and facilitates its dissemination to farmers. The specific objectives were: (a) to introduce and test new varieties with dual resistance to CBSD and CMD; (b) to develop a clean cassava seed delivery system for pre-basic and basic seed; and (c) to build the capacities of national agricultural research systems and other key stakeholders in cassava breeding and seed systems. The first two objectives represented a dual complementary strategy by the project to control CBSD and CMD through improved dual-resistant varieties and clean seeds. The third objective was to ensure sustainability.

However, clean seed delivery systems require complementary technical and government policy

foundations that allow competitive production and marketing of quality seed. The policy framework serves to ensure quality control along the seed delivery systems that operate sustainably.

This brief highlights how the project led to policy improvements and operationalization for the cassava seed sectors in the two countries. It also presents the future actions needed to enable the functionality of the policy as part of the clean seed delivery system.

## Achievements

### Policy achievements:

- A country-based model or structure for clean cassava seed systems was developed [ANNEX 2](#).
- Cassava seed standards were developed, and early efforts to institutionalize and operationalize them were made.

### Other key achievements:

- Seventeen elite clones were introduced and tested in major cassava agroecologies of the two countries. Two varieties have been approved for release in Rwanda and six in Burundi.
- One functional pre-basic multiplication and management unit was established per country based on macropropagation techniques in screen houses and semi-autotrophic hydroponics (Rwanda).
- Six functional basic seed centres were established per country. However, more work is needed to develop these centres and support the next seed category multiplication networks.

## How policy achievements were realized [ANNEX 4](#)

**Problem identification and advocacy:** The convening of all the key stakeholders per country was the entry point of the process to ensure participation and elicit ownership. The key stakeholders included researchers, extension staff (public and private), cassava seed multipliers, farmers, agro-dealers, policymakers and policy enforcers. In both countries, two one-day workshops were conducted with the stakeholders. The first workshop brainstormed on key issues affecting the cassava seed systems in each of the two target countries [ANNEX 5](#). Additional key stakeholders considered critical for the process of policy change also were identified.

The second workshop further discussed and prioritized the issues raised for action. In both countries, the need to have a more organized structure

### Sustainable access to clean seed of improved resistant varieties in Rwanda and Burundi

The outbreak and eventual spread of viral diseases have thrived on a lack of clean seed systems in many countries, including Rwanda and Burundi, where cassava productivity was disrupted. The project's intervention to influence policy changes or reviews on the seed value chain structure and seed quality standards was a key cornerstone for clean seed delivery. The policy achievements will contribute to the development of market-led cassava seed value chain, hence ensuring sustainability. This will also contribute to control further disease outbreaks or minimize their effects after spread into the target countries.

of seed multiplication and dissemination was ranked number one while the seed standards were number two. During the same meeting, a streamlined cassava seed structure or model was discussed and proposed for each country.

In Rwanda, the independent agency Rwanda Standards Board (RSB) is mandated to develop and maintain all standards for commercially viable products, including agriculture inputs and products. Fortunately, RSB agreed to take the lead on developing cassava seed standards for Rwanda and specified the road map.

To further facilitate learning on the need for seed quality regulation frameworks within an entire private sector-led but public sector-supported clean seed system in each of the target countries, a study visit was conducted to Tanzania. The main objective of the study tour was to show a regulated commercial "clean seed system".

**Proposal and decision step:** The key officers who attended the meetings and study visit made a case to their authorities for the development or review of cassava seed standards in their respective countries. In Rwanda, RSB agreed to the development of the standards and specified the road map. In Burundi, the Ministry of Environment, Agriculture and Livestock, through the National Seed Advisory Council (NSAC), tasked ONCCS (l'Office National de Contrôle et de Certification de Semences) with reviewing the cassava seed standards. However, unlike Rwanda, Burundi took this decision after a delegation visited Tanzania and reported back to the ministry.

**Drafting the seed standards:** To draft seed standards that address and reflect the local context in the seed multiplication and delivery systems, a team of technical persons from research, legal, ministry (policy), extension and the mandate institutions was constituted. In Rwanda, the RSB set up and led the working group meeting and process, while ONCCS did the same in

Burundi. The Tanzanian cassava seed standards, as well as previous standards from national seed laws and the Common Market for Eastern and Southern Africa (COMESA), were referred to during drafting. In Rwanda, a draft of sweet potato seed standards was also useful as reference material.

**Review process:** To allow input from all the stakeholders, the draft standards were made available for review. In Rwanda, the process was done in two steps. In the first step, the draft standards were uploaded to the RSB website for an entire month and viewed by different stakeholders. The website is also accessible to World Trade Organization (WTO) members, who could also provide input to the process. In the second step, RSB set up and conducted a technical committee meeting, which further reviewed the draft and considered the inputs from the public sector and WTO members. Unlike Rwanda, Burundi's review process was combined with the NSAC approval phase.

**Approval process:** In Rwanda, the draft standards went through further review and approval by the Board of Directors of RSB. In Burundi, the NSAC conducted a full review of the draft standards and approved them. The approving authorities checked the technical validity and the appropriateness of the seed standards to the country's needs.

**Publication and launch:** In Rwanda, the standards were published as a fully developed independent document: RS 275-7 Seeds — Requirements for certification — Part 7: Cassava Seeds. The document was uploaded on the RSB website (<https://www.rsb.gov.rw>) and can be accessed after payment. To raise awareness among other stakeholders and the general public, RSB, in collaboration with RAB, launched the standards on in February 2019, at a colourful event at Lemegio Hotel in Kigali. The event attracted attention from print, electronic and digital media platforms. In Burundi, the standards were integrated into the main national seed law document for reproduction.



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## From research to impact

The project developed seed certification process and seed standards that are prerequisites for the delivery of clean cassava seed [ANNEX 2](#) [ANNEX 3](#). The seed standards define the allowable minimums and maximums of the different quality parameters of cassava seed considering the local context of the target countries.

Elite, promising clones were tested for CBSD/CMD dual resistance, and best varieties have been approved for official release (six in Burundi and two in Rwanda). The project has adapted multiplication methods of pre-basic and basic seeds to produce the first set of early generation seed derived from tissue culture indexed plants in the two countries.

## Innovations

The formal cassava seed model developed was based on a clear road map and the interacting functions of different actors in the value chain. The underlying principle of the model was to facilitate seed quality control and access by different actors and end-users through a competitive marketing system involving public and private sectors. The objective was to replace the inefficient informal systems with structured formal value chains to minimize farmers' access to seed from their neighbours that is of unknown health status and of poor-yielding varieties and, at the same time, increase access to improved resistant varieties from research. Indeed, the seed system model complements the seed certification systems very well to achieve competitive marketing of cassava seed in both countries.

## Future directions

- More awareness of the standards among different key stakeholders and farmers
- More capacity-building of national seed inspectors and infrastructure
- Involvement of local authorities in enforcement of the standard
- Adopting information and communications technology tools for seed inspection, certification and marketing
- Supporting continued emergency of private sector-led seed multiplication and delivery network.