CATHOLIC RELIEF SERVICES

# Innovations in Agriculture

## Combating cassava diseases to reduce food insecurity and increase incomes in the Great Lakes Region

### The problem

Cassava roots account for more than one third of all kilocalories consumed in many parts of the Great Lakes Region of sub-Saharan Africa. The normally dependable staple crop, particularly of poor small holder farmers, has been compromised by the combined effects of Cassava Mosaic Disease (CMD) and Cassava Brown Streak Disease (CBSD), which have been devastating to the food security and income of millions of cassava-dependent farm families.

### The CRS approach

The Great Lakes Cassava Initiative (GLCI), managed by CRS and supported by the Bill & Melinda Gates Foundation, was developed to respond to the crisis.

GLCI operated in Burundi, the Democratic Republic of Congo, Kenya, Rwanda, Tanzania and Uganda and have distributed healthy cassava planting material of farmer-accepted disease-tolerant varieties to 1.3 million farm families to alleviate food insecurity and increase incomes. The initiative was a multi-dimensional project that included a combination of research and development activities. Research activities included studies to improve disease control through improved varieties and quality management, as well as the development of a diagnostic tool for CBSD. Other activities included building capacity among national agriculture research and development partners, strengthening farmer group development, and conducting multiplication and dissemination of planting material.

Cassava roots with cassava brown streak disease. Carl Walsh/CRS

A GLCI savings group gathers for a meeting. Carl Walsh/CRS

### Results

The project has produced four major products:

1. **A fully integrated research and development model to address all aspects of cassava production issues.** GLCI has streamlined the delivery and development of research products to better meet the needs of farmers by building a network of international and national researchers, development practitioners and farmers. The prevalence of CMD has been greatly reduced, largely due to the aggressive promotion of CMD-resistant varieties achieved through this network. Research on CBSD has led to genome sequencing of the disease, improved diagnostic accuracy, and a greater understanding of its epidemiology.

2. **A model for clean seed systems for vegetative propagated crops, including cassava, sweet potato, banana and yam.** While cassava diseases have reduced productivity overall, the identification, multiplication and dissemination of disease-tolerant, healthy cassava varieties have thus far enabled 1.3 million farm families to recover their cassava productivity.

3. **An extensive partnership network for other large-scale research and development projects.** The scale achieved in GLCI is unprecedented. The project has worked successfully with more than 55 local NGO partners and ten agriculture research institutes in six countries. It has empowered 3,044 farmer groups, consisting of 109,532 members, of which 68% are female. The project is also conducting Savings and Internal Lending Community (SILC) training in all countries, and has established 1,083 savings groups. Sixty-six percent of the savings group members are female.

4. **The use of ruggedized mini laptop computers for field-based training and monitoring and evaluation (M&E) in large research and development projects.** GLCI has equipped 200 local NGO partner staff with mini-laptops and tailored training. The majority of trainees were field agents who had never used computers before. Computer-based training courses, called "Go Courses", were used in conjunction with the traditional face-to-face training to strengthen partner capacity. Staff have been taking courses on how to work with adult learners, how to use GPS, farmer group management, as well as courses focused on cassava pests and diseases, and planting material multiplication and dissemination. Feedback has indicated that participating staff feel the courses have increased their knowledge and skills and have ensured consistency of project messaging across the large project implementation area.

A GLCI field agent records data by using a mini-laptop. Carl Walsh/CRS

GLCI partners deliver services to farmer groups and monitor all activities. They use an on and off-line M&E system to monitor quality control as well as the planning and dissemination of planting materials to vulnerable farm families. Each of the 1.3 million farmers GLCI has served to date is registered in this system.

## Looking Ahead

**The GLCI project cannot meet the needs of all farmers with cassava crops suffering from CMD and CBSD in the region, but the GLCI network of partners is providing and developing processes at meaningful scale to manage these diseases.**

**Before the close of the project, GLCI will:**

- **complete the dissemination of remaining planting material,**
- **document case studies articulating and evaluating the approaches taken in the project,**
- **document and disseminate all training materials to cassava stakeholders, and**
- **develop exit/ transition strategies and hold national and regional meetings to share the project results.**

**Unfortunately, CBSD has spread to Burundi, the eastern Democratic Republic of Congo, and Rwanda, where it had not previously been confirmed. Additional funding is being sought to implement disaster risk reduction activities to mitigate the potential impact of this outbreak, as well as to support a full cassava value chain approach that would address planting material issues, processing and marketing.**