Cassava Diagnostics Project impacts: Malawi

CDP collaborated with NGOs and agricultural projects to distribute clean planting material to farmers across Malawi.

What is CDP?

Funded by the Bill & Melinda Gates Foundation and the UK Department for International Development, the Cassava Diagnostics Project (CDP) has been working with institutes across East Africa since 2009 to diagnose, track and sustainably manage cassava viruses. Cassava is a staple crop for 500 million people in Africa and is currently threatened by two devastating viral diseases: Cassava Mosaic Disease (CMD) and Cassava Brown Streak Disease (CBSD). CDP has therefore been working to combat these diseases and so prevent widespread famine – by ensuring that cassava remains a reliable food source across Africa.

Phase 2 of CDP will close in 2018, and researchers are therefore taking the opportunity to reflect and learn lessons from almost a decade of work.

CDP's work in Malawi

The Cassava Diagnostics Project (CDP) has been working in Malawi since 2015, based at the Department of Agricultural Research Services (DARS). At one of the project's final meetings in 2018, Dr Willard Mbewe, a Principal Agricultural Research Scientist who trained under CDP at DARS, reflects on the impacts of the project and its legacy in the region.

Training Malawi's virologists

When CDP began its work in Malawi the capacity of the laboratories at DARS was very limited. There was only one virologist working at PhD level in the country and the virology department at DARS relied on the basic ELISA method for diagnosing viruses using antibodies. This meant that researchers struggled to accurately characterise viruses and that there was little specialised study of cassava viruses – as the trained virologist had to split their time between several crops.

To increase the capacity of cassava diagnostics in Malawi, CDP established a training program aimed at attracting new researchers to the study of cassava viruses. This program worked directly with several universities in Malawi to train students at the virology laboratory at DARS. This was a great step forward for CDP. As Dr Mbewe comments, "we had never had a student doing research, working towards a degree, in our lab before".

Thanks to this training program, students from across Malawi have been able to train at DARS. There are now five fully trained virologists working in Malawi, three of whom are at PhD level.

Collaborating with other projects

Another key area of CDP's work in Malawi was the production of clean planting material and its distribution to cassava farmers. Many cassava farmers across East Africa take cuttings from already infected plants to create their own planting material, a process that allows cassava viruses to spread and re-occur from year to year.

To ensure that the project reached as many farmers as possible, CDP hosted meetings and provided forums to build new partnerships with non-governmental organisations (NGOs) and agricultural projects that could help with the distribution of clean planting material across Malawi. CDP then worked to produce virus-free planting material and pass it onto these new partners for multiplication and distribution.

A good example of this is CDP's collaboration with Root and Tuber Crops for Agricultural Transformation in Malawi, a project funded by Irish Aid that worked alongside CDP to provide over 10 hectares of clean planting material to local farmers. This cassava could then be multiplied by local farmers – providing over 100 hectares of clean planting material for the next season.

"Everything we do, we are doing for the farmers"

Certifying cassava planting material

In order to safeguard the quality of the clean planting material CDP Malawi produced, researchers from DARS also worked with the Root Crop Trust, a consortium of root crop

CDP provided advanced sequencing equipment that is being used to train students in virology.

stakeholders in Malawi, to create new government guidelines for cassava.

These guidelines ensured that only famers using clean planting material could become certified producers of cassava to help stop the spread of infected material. The guidelines were then submitted to the Malawi government and incorporated into the national seed policy. This policy now protects the small businesses of farmers multiplying clean cassava and will help stop the spread of infected cassava across Malawi.

Working for the farmers

Finally, Dr Mbewe highlights the importance of CDP's work to support cassava farmers in Malawi, emphasising that "everything we do we are doing for the farmers". With over 4.8 million people in Malawi relying on cassava as a staple crop, CDP wanted to ensure that their work to reduce the incidence of infected cassava was sustainable.

This was a key factor in the decision to distribute clean planting material and certify local farmers as official producers of clean cassava. Using cassava multiplication to create small businesses for these farmers means that the production of clean planting material can continue after the project finished while providing economic security for these farmers for years to come.

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