



## **CROP CRISIS CONTROL PROJECT (C3P)**

**Sub-project: Strengthening the capacity of the regional NARS to sustainably manage the outbreak of Banana Xanthomonas Wilt in East and Central Africa**

**Phase 1 Report (July 1 – December 31, 2006)**



INIBAP is a  
network of the  
International Plant  
Genetic Resources  
Institute (IPGRI)

**FUTURE  
HARVEST**

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## Abbreviations and acronyms

<b>ARIs</b>	Agricultural Research Institutes
<b>BARNESA</b>	Banana Research Network for East and Southern Africa
<b>BXW</b>	Banana Xanthomonas Wilt
<b>CBT</b>	Community Based Trainers
<b>CIALCA</b>	Consortium for Improving Agricultural Livelihoods in Central Africa
<b>CRS</b>	Catholic Relief Services
<b>IITA</b>	International Institute of Tropical Agriculture
<b>INIBAP</b>	International Network for the Improvement of Banana and Plantain
<b>PML</b>	participatory monitoring learning
<b>TOT</b>	Training of Trainers
<b>USAID</b>	United States Agency for International Development

## **Background**

Banana Xanthomonas wilt (BXW) is a new devastating disease that is threatening food security and incomes of banana growing communities in East and Central Africa region. The disease, long-known to affect Enset in Ethiopia, was first reported in Uganda in 2001. It has now spread to the D.R. Congo, Tanzania, Rwanda, Kenya and Burundi. In Uganda, the disease incidence reached 70-80% within the space of a year of its first detection and yield losses of 100% were recorded mainly for juice banana (Kayinja = Pisang Awak) in some farms. It has been estimated that, by 2010, losses of up to US\$ 4 billion could be incurred by the banana industry for Uganda alone, if no action is taken to rectify the situation (INIBAP, 2006). The Banana Research Network for Eastern and Southern Africa (BARNESA) has declared the disease priority constraint no. 1 and has facilitated the development of a regional strategy to manage/control the disease. The strategy envisages the empowerment of key stakeholders with skills and knowledge needed to control the disease in a coherent and coordinated regional effort. Low cost BXW management technologies have been developed by research institutions but transferring them to affected and threatened farmers has faced limitations, including insufficient resources, inadequate surveillance, and incorrect application of management tools and the lack of coordination within and between countries, among other factors.

In this regard, the

The Crop Crisis Control Project led by the Catholic Relief Services (CRS) and the International Institute of Tropical Agriculture (IITA) and funded by United States Agency for International Development (USAID) came in handy with an overall objective of empowering country stakeholders to institutionalize coordinated agricultural disaster response mechanisms and to strengthen farmers' capacity to employ effective measures to control BXW. The C3 Project is an 18-month initiative to intensify, and provide coordination to the fight against BXW in six countries of Central and East Africa. The aim is to generate and disseminate robust diagnostic tools that will facilitate recognition, management and control of

BXW. In this regard, a contract was signed between CRS and Bioversity International (then INIBAP) to enable the latter to execute the sub-project: “*Strengthening the capacity of the regional NARS to sustainably manage the outbreak of Banana Xanthomonas Wilt in East and Central Africa*”, aiming at generating and disseminating robust diagnostic tools that will facilitate recognition, management and control of Banana *Xanthomonas* Wilt (BXW) in the field. The sub-project envisioned three tiers at which the training would be carried- the regional level (Tier 1), the country level (Tier 2) and the community level (Tier 3). Tier 1 training would create capacity for training at the national (country) level which would in turn produce trainers for community based training of trainers. The planning and execution of capacity building activities of the project were done in close collaboration with IITA (Dr Francis Maina-Mwangi and ) and where possible the project CPMs were consulted for their input.

## **Sub-project Objectives**

The overall objective was to strengthen the region's capacity to sustainably manage the outbreak of BXW in East and Central Africa, taking into account the needs of the various actors along the production-consumption chain (here defined to include farmers and farmer organizations, processors and traders, extension and research teams, and policy makers at the local, national and regional levels). The course modules targeted those regions ahead of the epidemic (not yet affected), the frontline regions and the endemic regions with, respectively, knowledge/skills/tools for prevention of, management of and coping with the disease, in the quest to minimize the impact of the disease on the livelihoods of banana stakeholders. It also provided an opportunity to test and evaluate BXW management tools and guides at the grass-roots level and was used to prepare the different stakeholder categories participating in the C3 Project to initiate policy dialogue at local, national and regional levels.

The specific objectives include:

- To equip stakeholders with skills/knowledge/tools for sustainable management of BXW at the farm level;
- To raise the awareness of the general public, including policy makers, of the disease threat and measures that need to be taken to combat the epidemic;
- To develop, evaluate, and disseminate information materials to stakeholders;
- To mainstream information on the ecology and management of BXW in field demonstrations;
- To strengthen farmer capacity to introduce and manage clean banana 'seed' (planting material) of farmer-selected varieties;
- To evaluate on-farm the effectiveness of the BXW Diagnostic and Management tools;

- To facilitate the drawing up of national frameworks (Nation Action Plans) for the control and management of BXW and other banana pests and diseases.
- To strengthen NARS linkages with regional (CIALCA, BARNESA) and international platforms (Bioversity International, IITA, ARIs)

With these objectives, an activity work-plan was developed and agreed with CRS/IITA as a basis for executing the sub-project .

## **Activity Reports**

### **1.1 Regional training**

30 participants were selected from the government extensions services, NGOs and policy institutions of Burundi, DR Congo, Kenya, Rwanda, Tanzania and Uganda and trained in BXW diagnostics and management skills, through oral presentations, working group discussions, plenary presentations and discussions, field demonstration of disease recognition and management techniques in different farming and agro-ecological systems in Uganda. Participants had extensive discussions with farmers, extension staff and community leaders on disease symptoms, the corrective measures being undertaken and the strategies being employed to raise public awareness. A number of agro-ecological systems were used to demonstrate the diversity of disease impacts and associated responses. Thus Mukono district was used to demonstrate the ABB-based banana systems where the dominant mode of disease transmission is insect vector-mediated. In Mbarara, the intensively managed Matooke-based production systems were used to demonstrate approaches aimed at combating disease transmission by field tools and infected plant materials.

The BXW diagnosis and management competences of the participants were monitored throughout the workshop, on a range of 1 – 10, 1 being the lowest and

10 the highest. On day 1 of the workshop, the competency levels were assessed at 5 - 6 but this had risen to 9 - 10 by the last day of the workshop. The training/workshop report was submitted to CRS by November 31, 2006 (Annex 1)

## **1.2 Developing and disseminating BXW management and diagnostic tools**

The capacity of participants to design and use assessment tools was also strengthened in order to facilitate surveillance and early detection of the disease in disease-free but threatened regions; eradication of disease pockets in areas newly infected (demonstrated in Mbarara frontline region of Uganda); and management and coping strategies in endemic regions (demonstrated in Mukono district).

2000 hard copy posters were distributed to the participants. All the materials used in Tier 1 training of trainers workshop were put on CDs and distributed to the workshop participants. The electronic copies also included reference literature about disease recognition and management; disease assessment and surveillance tools all of which would be useful for organizing Tier 2 ToT.

## **1.3 Public Awareness (BXW documentary)**

Due to the delayed approval of the sub-project proposal by CRS, the activity was not initiated in phase 1.

### **2.1 Bilingual posters (French/English)**

Posters were developed in collaboration with NARO-Uganda and participation of Community-Based Trainers (CBTs) and Uganda government extension staff and tested in the Caritas sites in Uganda. The use of CBTs was particularly desired because these are trained teams closest to farmers and indeed the all of them

had banana farms of their own and their participatory involvement in the development and testing of the tools would enhance their use and adoption.

Following on the on-farm testing, the posters were translated into English (3000) and French (3000) and both the hard and electronic copies disseminated to the respective language domains in the region (Annex 2). It was expected that the CPMs and their NARS counterparts would use the electronic versions to modify the posters to meet the local needs with regard to language and local circumstances.

An English draft BXW Diagnostic and Management Guide is under development and when completed will be translated in French and tested on farm.

## **2.2 Backstopping support to Tier 2 training**

At the beginning of capacity building activities, the roles and responsibilities of the NARS versus those of Bioversity and IITA had not been clarified (in the CRS-NARS contracts) and probably because of this, NARS planned their training schedules without consultation (or even informing) either IITA or Bioversity. This coupled with the slow pace of negotiations over the contracts, led to a slow start of capacity building activities of the project.

For Phase 1 (July-December 2006), Bioversity facilitated three training activities; the Caritas Lugazi CBTs workshop that combined cassava and banana diseases (Tier3), the Kagera-Tanzania sensitization workshop for policy makers (banana pests and diseases) (Tier 2) and the ToT for extension teams in Kagera-Tanzania (T2). All the workshops were very well attended and the respective reports written up. Bioversity/IITA teams participated in the training and provided training materials in form of posters, leaflets and reference materials about BXW diagnosis and management.

### **3.1 Preparation and testing of BXW Participatory Monitoring and Learning (PML) tools**

The aim of this activity is to ensure that the execution of capacity building activities is enhanced; corrective measures are taken in time; and lessons learnt during the implementation are picked and shared. It is intended to understand if the skills imparted at Tier 1 are sieving through to Tier 3, by checking on the implementation of the control measures executed on farm. In this regard, assessment tools were designed for testing with CBTs in Uganda before translation into English and French for distribution in the six countries. The anticipated procedure will involve two districts/ country; two sites/district; and four farms/site in all the six countries, making a total of 96 farmers to be involved in the evaluation of the effectiveness of the capacity building for the diagnosis and management of BXW.

### **3.2 Developing tools for assessing impact of capacity building on BXW disease distribution and incidence**

The capacity building component of the project will definitely contribute to some measure to the overall impact of the project on BXW distribution and incidence but it within the timeframe of the project, it may not be possible to measure that contribution. The collaborating team (Bioversity and IITA) has therefore suggested that the better way forward would be to do the participatory monitoring learning (PML) tool and use the results to discuss/comment on the potential impact of on the disease. On this basis the PML tool will be modified to capture some information of the control measures and their application on farm.

## **Challenges**

- a) It took a long time (6months) to process the sub-contract and this caused a slow start for field activities.

- b) The NARs- Sub- contracts did not make reference to Bioversity/IITA input and this made collaboration/linkages in developing plans/schedules very difficult.
- c) Within country linkages are sometimes very weak and this makes in-country coordination of activities a sizeable challenge