

Brief report of C3P-BXW surveillance and partner visit to DR Congo Feb- March 2007

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Background

BXW was reported present in DR Congo since 2004, having started in Kitchaga area of Masisi territory, North Kivu Province. The affected area has continued to expand and in 2006 it was estimated to cover about 50 km radius. In 2006 the disease was reported to have moved beyond Masisi territory into the neighboring Beni territory, with outbreaks in the Watalinga area bordering Uganda. Earlier in 2005 BXW had been reported for the first time beyond North Kivu province in Mahagi territory, Oriental province. Disease was also suspected to be present on the DR Congo/Rwanda border near Goma, where disease is present in Rwanda and management efforts have been underway. Other than in Kitchanga the BXW outbreaks in other places had not been confirmed and surveys done to determine extent of disease spread. This mission was initiated to assess disease incidence in all areas where outbreaks have been reported and develop strategies for its management involving those on the ground.

Kamango/Watalinga areas in Beni territory

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Watalinga area is located in Beni territory at the foot of the Ruwenzori Mountains. The area is most easily accessed through Bundibugyo town in Uganda. The main centre on the DR Congo side is Nobili, with a substantial population and a weekly market attended by many Ugandan traders. Watalinga is a major banana producing area, supplying the weekly market at Nobili from where trucks ferry the roasting banana as far as Kampala. Farmers from Congo also transport their bananas into Uganda at another weekly market held on the Ugandan side. In total, it is estimated almost 20 tons of plantains and cooking bananas are exported into Uganda every week from the DR Congo from Watalinga. The major challenge is transport since roads are not well paved and there is no bridge linking Uganda and DR Congo across the Semliki River, (only large trucks can cross on the river bed). In terms of production plantain (roasting Gonja variety) comes first, followed by cooking bananas, cassava, sweet potato, colocassiae and beans. In terms of consumption, cassava is the most important, followed by sweet potato, banana and colocassiae. In some areas rice features prominently. Plantains are by far the most important source of income followed by cassava and sweet potato. BXW outbreaks thus threaten both income and food security in this area.

BXW has been in the area for the last 3 years, but the disease seems to have spread at a moderate pace, probably due to low use of tools and high density of the plantains with persistent male flowers and bracts, that restrict disease spread by insect vectors. However, significant losses have already been realised on farms with higher densities of cultivar Kisubi (Pisang Awak) which is also popularly grown in some parts of the region for brewing. Another major problem noted in the area is *Fusarium* wilt.

There have so far been no activities in the area on BXW management.

Government extension staffs are present, but they are severely constrained without means and little capacity to respond. Under C3P this area is being targeted for sensitization in partnership with UCG. Watalinga presents a good opportunity for successful intervention because bananas have a high economic value and thus farmers are likely to adopt recommended measures.

Strategies to move forward:

- BXW management coordination structures need to be established as well as strengthening of the extension system at the base, particularly facilitating them with the means to maintain contact with farmers, and provision of training materials. This hopefully will be partly achieved through C3P partnership with UCG, but needs strategies for sustaining beyond C3P..
- Effort should commence to destroy infected mats, which are still not very many and thus less effort would be needed if removal starts early. There are existing farmer groups that could be engaged when organising mat removal.
- Bananas are grown on both sides of the border, thus activities will need to be coordinated in Uganda and DR Congo to reduce cross-infection. The heavy trade in bananas from DR Congo towards Uganda exposes the western districts of Uganda to BXW from DR Congo.



Plantains are the major source of income in Watalinga area (*photo left* shows a truck from Uganda waiting to load plantain at Nobili market, DRC). Transport is a major constraint with no bridge linking Uganda to DR Congo over R. Semliki. Farmers from DR Congo do often take their bananas to sell across the river in Uganda (*middle*). Photo right shows the first training session on BXW to extension staff and data enumerators in Watalinga area.

Masisi and Rutshuru areas

Partners & others visited:

- **Caritas Goma:** Cordinator: Mr. Ladislas, +243 (0)811832516; Field technical staff Mr. Jean Marie Vianney, BDD coordinator Mr. Celestin Tuyisenge +243 994080770.
- **CEDERU:** Director Mr. Paluku Mughubirwa, +243 997674002 & Field technical staff Ir. Kambale Muhasa +243 810394282
- **Ministry of Agriculture,** Nord Kivu Provincial Head: Dr. Gilbert Ndabagera +243813142189.
- **FAO:** Representative and various staff in Goma office
- **CRS:** Mr. Joseph Lusambo, C3P CPM

The largest area by far affected by BXW in East DR Congo is in Masisi and Rutshuru territories of North Kivu Province. These areas are more easily accessed through Goma town. Before the arrival of BXW bananas were the single most important crop in these areas, but are now being replaced by sorghum, cassava, beans, sweet potato and coco yam. These crops provide both food and income, but none could possibly replace banana with all its numerous positive attributes. Compared to the other crops the most valued attribute of banana is that it can be harvested all year round, thus assuring continuous source of income. The major proportion of bananas in this areas are for brewing, though the cultivars preference may vary with region, some preferring Yangabi Km5 while others prefer cultivar Pisang Awak. There used to be a good local market for banana beer as well as n export market in neighbouring Rwanda.

BXW was reported in 2004, though the disease is reckoned to have been present in Masisi since 2001. Successive surveys show the affected area has been increasing over the years, but there has not been a matching effort to reduce its spread. FAO has had a substantial program in the area in the past, providing tools and food to support mat removal and cassava stems to replace destroyed bananas. More institutions are now getting involved (through C3P) and other initiatives (e.g. there was mention of Red Cross intending to carry out some work on BXW in Masisi). While all these are expected to significantly boost efforts to contain spread of the disease, they will not be sufficient to address and reverse the great misfortune caused by BXW. More resources than presently availed through C3P, a longer period of engagement, and a wider network of partners will be required to achieve lasting positive impact in these vast territories.

During the four day long field visit, the team included representatives of CARITAS Goma and CEDERU (C3P partners on BXW management) and FAO. The BXW situation was assessed in different areas where partners have proposed to locate their activities. These included the Kitshanga-Nyakabingu-Muhanga-Muheto-Masisi axis targeted by CARITAS and Kitshanga – Mweso-Nyanzale-Kibirize axis targeted by CEDERU. A visit was also made to the sites where FAO has been implementing activities, including a trial on herbicide use for mat removal. On Bwere hill which was the original site of BXW infection, and

the surrounding areas, where FAO supported farmers to destroy infected mats, almost all banana mats have been removed and farmers have been growing sorghum, sugarcane, beans, sweet potato and maize over the last 2 years. Farmers could replant bananas in these fields, if they are trained to remove the few re-sprouts that have sprung up and take measures to prevent re-infection.

In areas on the BXW frontline, particularly along the Nyakabingu-Muhanga - Masisi axis farmers are making great effort to remove infected banana mats so that they can utilise their farms for other enterprises. It is however quite a difficult task and assistance with appropriate tools, and support to compensate for labour spent uprooting, will be needed, in addition to seeds of appropriate crops to replace bananas. Assistance could be through Food for Work and vouchers to be used in seed fairs. It was noted there are still significant acreages where bananas have not yet been attacked by BXW especially along the Mweso – Nyanzale - Kibirizi axis. These areas need to be urgently targeted with sensitization to prevent disease entry, which might be accelerated by refugees returning to their farms as security improves.

After the field visit a meeting was held at the FAO office in Goma with representatives of FAO, CRS, CARITAS, CEDERU, UCG and the ministry of Agriculture. The findings of the field visit, proposed partner intervention areas and activities and strategies were discussed. The presentation with some of the recommendations given is attached.

Strategies to move forward:

- In areas where the pandemic is expanding an assessment is needed of the actual number of people/farms affected and acreage that needs to be uprooted; as well as number of people needing various types of aid (e.g. a large part of where CARITAS will operate). Food for Work linkages could be explored and funds availed to provide tools and seed of other crops.
- More organisations are entering the BXW arena in East DR Congo, yet coordination remains extremely weak. A strategy is needed to boost the capacity of the provincial Ministry of Agriculture at Goma so that it assumes more responsibility in coordinating activities. The office could be the depository of information (database) on disease spread and control, as well as guiding partitioning of operation areas to avoid overlaps in the field.
- Although there is substantial awareness regarding BXW, there is a serious lack of information on how to prevent its spread. The training program for BXW recognition and management should commence without further delay. A poster that will be used for publicity was developed and this, if strategically placed, should help to somewhat raise awareness and knowledge.
- Importantly, sensitization should also aim to reach areas that are not yet affected by the pandemic, and where the existing plantations can be saved.
- Replanting of bananas could start on pilot basis on Bwere and neighbouring hills where bananas were uprooted earliest. If demonstrated to be successful,

this will encourage others to remove their mats as they anticipate replanting in future. Macropropagation sites could be placed strategically in the area.

- A plan and resources will be needed to maintain momentum after C3P ends.



Farmers are taking initiative to remove infected mats (*photo left*) but they need support to ensure they do it appropriately (uprooting) to avoid re-growth. On Bwere hills (*middle photo*) bananas were systematically uprooted and replaced with other crops for more than 18 months, farmers could soon replant bananas. Loss of banana to BXW has adverse consequences on environment through erosion and felling of trees as people seek alternative income sources (*right*).



Refugees resettling back as security improves need sensitization as they could spread BXW to as yet unaffected areas e.g. (Mweso-Nyanzale areas in *photo left*). Sensitization could be effected through partnership with others, e.g. religious gatherings (*middle photo*). Partners need to regularly meet to plan and develop strategy (*photo right* shows meeting of Min. of Agriculture, CARITAS, CEDERU, IITA, CRS, Graben University and FAO at Goma).

Mahagi territory, Ituri district

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Mahagi region, which is located in Ituri district of Oriental province, was visited between 20 -23 February 2007. From Uganda Mahagi town is more easily accessed through Nebbi town in North Western Uganda. The area is emerging from past civil instabilities and some areas remain unsafe to date. The Eastern part of the territory (bordering Uganda) is dry and largely unsuitable for banana production, except in the valleys where water is available from streams. Bananas are increasingly cultivated beyond the valleys as one moves further westwards into the interior of DR Congo.

By far the most important crop for food security is cassava but this crop has also suffered serious attacks by CMD in the past. Most people still grow the local landraces that are highly susceptible. In the past there have been efforts to introduce improved cultivars that are tolerant to CMD and adapted to the drier conditions, but the efforts have been disrupted by war and communities moving often, which has led to loss of the introduced germplasm. Presently FAO has a program for multiplication and distribution of improved cassava. After cassava, the most important crops for food are beans, followed by maize and sweet potato. In terms of income generation cassava is ranked 3rd after beans and maize, closely followed by banana, Arachide and sorghum. Although not as widely grown, bananas have their importance as part of the household food basket and in income generation. There is a good market for banana beer from the neighbouring areas of Uganda. BXW was noted in the area about 3 years ago, appearing first on farms on the shores of L. Albert. The area around the lake provides better soils and more water, thus a better environment for banana production and many people, even those living in distant places, have plots there and travel down to work every day or for a few days and then return to their villages or closer to town where security has been considerably better during the period of instability. Fishing also provides a major source of food and income. BXW spread in the area has been accelerated through human activities, particularly contaminated tools with few incidences of insect spread.

The major organisation involved in agricultural development is FAO. Current activities include provision of seed of improved varieties of various crops (cassava, beans, and vegetables) and extension services. The ministry of agriculture has very few extension staff on the ground and very limited capacity to intervene, but they are working closely with FAO. Since the first report on BXW outbreak in 2005 (through FAO), there have not been any activities for its management. A major problem is lack of information on all aspects of BXW (diagnostics, prevention and management). There are a number of NGOs in the area but none is presently involved in BXW management.

Strategy to move forward:

- A sensitization program needs to be implemented to train people on disease prevention and encourage removal of infected mats. An effective strategy needs to be identified e.g. identify lead farmers in each village and use their farms as demonstration points.
- Sensitization should urgently be extended to the threatened areas further west and north of Mahagi into Oriental province. The disease in Mahagi is likely to provide a base for the pandemic to spread westwards into the Oriental province where banana and plantain have more importance.
- Assuming farmers might want to re-plant bananas in future in Mahagi, it might be helpful to begin putting in place a macropropagation system.
- Partnerships could be established with FAO and the Ministry of Agriculture extension staff who are already on the ground to create a mechanism to implement a low budget sensitization campaign.



Bananas in Mahagi have various uses and prominently feature in markets. They are sold ripened (*photo left*), used for brewing (*woman peeling in middle photo*) while leaves are used to wrap vegetables to maintain freshness (*right*).



Cassava is the most important crop for food in Mahagi. In addition to CMD, poor processing and storage methods are major constraints (*photo left shows dried cassava heavily contaminated with fungal molds*). Bananas are mostly grown in valleys (*middle photo shows Kakoi valley with bananas*). Information on BXW spread, prevention and management methods is lacking (*photo right shows the first training session conducted in the area for extension staff and data enumerators at the FAO office, Mahagi*)
