



# Tanzania C3P Work Plan



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**Submitted on behalf of the**  
**Tanzania C3P Country Coordinating Unit (CCU)**

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## LIST OF ACRONYMS

<b>ARDIs</b>	Agriculture Research and Development Institutes
<b>BXW</b>	Banana <i>Xanthomonas</i> Wilt
<b>C3P</b>	Crop Crisis Control Project
<b>CABI</b>	Centre for Agriculture and Biosciences International
<b>CCU</b>	Country Coordinating Unit
<b>CPM</b>	Country Program Manager
<b>CRS</b>	Catholic Relief Services
<b>DADPS</b>	District Agricultural Development Projects
<b>DALDO</b>	District Agriculture and Livestock Development Officer
<b>DED</b>	District Executive Director
<b>EACMV-UG</b>	East African Cassava Mosaic Virus-Uganda
<b>GIS</b>	Geographic Information System
<b>GPS</b>	Global Positioning System
<b>GTZ</b>	German Agency for Technical Cooperation
<b>HoP</b>	Head of Programming
<b>I</b>	Ibadan cassava variety series
<b>IITA</b>	International Institute for Tropical Agriculture
<b>IR</b>	Intermediate Result
<b>MARDI</b>	Maruku Agriculture Research and Development Institute
<b>MDS</b>	Minimum Data Set
<b>MOAFSC</b>	Ministry of Agriculture, Food Security and Cooperatives
<b>MM</b>	Medium Rainfall Medium Altitude cassava varieties
<b>NARIs</b>	National Agricultural Research Institutes
<b>NGOs</b>	Non-Governmental Organizations
<b>NPA</b>	Norwegian People's Aid
<b>NSC</b>	National Steering Committee
<b>OFDA</b>	Office for Foreign Disaster Assistance
<b>OFV</b>	On Farm Voucher
<b>RUDDO</b>	Rulenge Diocesan Development Office
<b>SO</b>	Strategic Objective
<b>SS</b>	Serere Selection
<b>SV&amp;F</b>	Seed Voucher and Fair
<b>TCRS</b>	Tanzania Christian Refugees Services
<b>TMS</b>	Tropical Manihot Species
<b>ToT</b>	Training of Trainers
<b>TPRI</b>	Tropical Pesticide Research Institute

## I. EXECUTIVE SUMMARY

The severe 'pandemic' cassava mosaic disease (CMD), now known to be caused by East African cassava mosaic virus-Uganda (EACMV-UG), was first reported from Uganda in the 1980s. Progressively the disease moved southwards from Uganda to Tanzania. In 1998 the disease was noted for the first time in the areas of Misenyi division of Bukoba district. In Tanzania, the spread of the disease depended much on the cropping system and presence of barriers and it has moved more than 30 km per year. The disease has destroyed many of the existing local preferred cassava varieties leaving people with food insecurity. Recent surveys carried out by the OFDA/CMD project revealed that the disease spread is continuing and threatening more people. It has already covered most parts of the Lake Zones of Tanzania and is increasingly now also affecting Western Zone. Some control efforts have been made since the disease was recognized in Tanzania. These

include: introduction and screening of resistant cassava planting materials, quarantine, multiplication and dissemination of resistant/promising cassava planting material, collection and screening of local cassava varieties for EACMV-UG resistance, annual disease spread monitoring surveys and sensitization and awareness campaigns. A total of 5,600,000 people are now affected by the severe CMD pandemic while a total of 2,200,000 people are affected by BXW in Tanzania

From 1999, CMD-resistant varieties were introduced and some of these materials were directly multiplied and disseminated to farmers (TMS 4(2)1425 and SS4) and some were screened and selected under research procedures. The promising cassava planting materials from research screening trials are now being multiplied and disseminated to farmers. Since 1999, several actors have been involved in the multiplication and dissemination using different approaches. For CMD, C3P will introduce resistant cassava planting materials in areas in which they have not yet been introduced, scaling up multiplication and dissemination and capacity building to both extension staff and farmers.

The current materials which are being multiplied and which are CMD-resistant are: MM96/4619, MM96/4684, MM96/8450, MM96/3075B, MM96/8233, MM96/5725, 00063, I92/0057, I92/0067 and TME 14.

Banana *Xanthomonas* Wilt (BXW) was reported in Tanzania Kagera region in January 2006. A quick survey carried out recently revealed that the disease is now in four districts of Kagera region. If the disease is not controlled many families in the infected areas will become food insecure. Since the disease was noted in Tanzania the following efforts have been made: carrying out a survey to monitor the extent of spread of the disease, capacity building, uprooting the infected plants and lab identification of the pathogen. Coordinated efforts are required to control the disease. C3P will rapidly sensitize the population in affected districts, do capacity building, establish banana nurseries for the escaping varieties and work on quarantine rules.

At the national level for CMD, there is an OFDA/CMD steering committee. For BXW at national level there is no coordinating body but at the district and village level for the infected districts/villages there are coordinating committees. Since, NARIs and IITA are the organizers of the national OFDA/CMD steering committee the C3P project will propose strengthening the existing committee by adding more members like the national banana research team and CRS.

The C3P partners/sub-award holders have been selected based on criteria such as being engaged fully in agriculture, being active in executing agricultural development programs, having past experience in CMD activities, being financially capable and having well defined financial accounting procedures.

C3P will link with the existing on-going cassava multiplication farms of different agencies and communities, who are already in the field. C3P will execute its activities for CMD in areas where the materials are already in place and available. C3P will act where people are experiencing a high level of food insecurity, in drought prone areas, where drought exacerbates food insecurity, cassava dependent communities, epidemic/post epidemic areas with high demand for planting materials and epidemic areas close to previous interventions. In pre epidemic areas close to the frontline of the disease, C3P will assist ARDIs in sensitization and training of district government and non-government staff as well as threatened communities. BXW activities under C3P will be done where banana is grown and people are highly dependent on banana for food security and particularly in disease-infected areas/districts of the Lake and Western zones of Tanzania.

In executing the project activities 80% of the total funds will be used for CMD and 20% for BXW.

Therefore, CRS and the Country Coordinating Unit (CCU) for Tanzania are requesting **361,974 U.S.\$** for the implementation of the Tanzania C3P work plan for a period of 15 months starting in August 2006 through October 2007.

The Tanzania C3P work plan will be implemented through a Country Coordinating Unit whose responsibilities will be the management of the C3P project, while the overall coordination of CMD and BXW activities will be the responsibility of the existing National Coordinating Committee (NSC). The CCU's responsibility will include selecting sub-grantees to carry out the country work plans, managing and monitoring the work of these sub-grantees and coordinating these with the existing NSC for all on-going CMD and BXW activities such as those funded by OFDA and the Ministry of Agriculture. The CCU will also coordinate the work of these sub-grantees with CRS and IITA with respect to technical, administrative, and financial standards. Proposals for the sub-grants will as much as possible draw up joint programs of activities using all available resources, including C3P resources as well as resources from OFDA, the Ministry of Agriculture and private funds. In this way, the emphasis in the sub-grants will be on coordinated responses to these two diseases. The CCU is headed by the CRS CPM and shall defer to the Head of Programming (HoP) in CRS Tanzania, or their designate, for all administrative, financial, and programmatic issues related to the C3P work plan as listed in the C3P Project Document.

## **II. CRS TANZANIA C3P PROJECT RESULTS FRAMEWORK**

A summary Results Framework is given here and this is discussed in more detail in Section V, Project Design, below.

**Goal: Threats to food security caused by agricultural crisis in Tanzania are reduced.**

**SO 1: Country stakeholders institutionalize coordinated agricultural disaster response mechanisms.**

**IR 1.1:** Country response to CMD and BXW is well coordinated.

**IR 1.2:** GIS technology links data on diseases to data on vulnerability and food insecurity

**IR 1.3:** Existing institutions carry forward proven methods for coordination and knowledge sharing regarding agricultural disasters with specific reference to the food insecurity caused by the CMD and BXW diseases.

**SO 2: Farmers employ effective measures to control CMD and BXW**

**IR2.1:** Effective control of CMD is achieved through multiplication and distribution of CMD resistant varieties and promotion of improved management practices.

**IR 2.2:** Effective control of BXW is achieved through promotion of improved disease management techniques and through multiplication and distribution of wilt-escaping varieties.

## **III. PROBLEM ANALYSIS**

## **Country Level Coordination**

At country level coordination for both CMD and BXW it is expected to have one coordination unit by strengthening the existing national OFDA/CMD steering committee. The current national OFDA/CMD steering committee meets once a year and for C3P this same Steering Committee will continue with the present members representing the MOAFSC, donors, IITA, ARDIs, Regional Agriculture Advisors, NGOs and farmers. Under C3P the CCU will have more members by adding CRS representatives, the Crop Promotion Services of the MOAFSC, extra Regional Agricultural Advisors and the Zonal Director of the ARDI for Western Zone where CMD has now spread, more farmer representatives and BXW members including the Senior Scientist for banana research and the BXW representative in IITA both responsible to oversee BXW activities. For BXW, at the moment, which has recently been observed in Kagera region, there is presently no national unit responsible to coordinate country activities. However, at the village level some BXW committees have been formed for the infected villages but without any coordination at a higher level. While the new CCU will meet once a year, if necessary a smaller committee will be constituted and meet more frequently.

At country regional level , C3P will strengthen existing CMD committees to deal with both CMD and BXW pandemics according to their incidence in the region. CRS, participating NGOs, the DEDs and farmer representatives of infected districts in the region will be represented. These district committees will meet every six months at the country regional level to discuss progress of the project and way forward.

At the moment the coordination at national and particularly at regional and district levels is weak for the existing OFDA-funded CMD project, the CMD distribution program funded by the Ministry of Agriculture and the Ministry of Home Affairs through the District Agricultural Development Projects (DADPS) and various efforts by NGOs, most prominent of which is the Rulenge Diocesan Development Office (RUDDO).

The national CCU will also relate with the C3P inter-country Regional Steering Committee as indicated in the C3P Technical Proposal.

## **The Cassava Mosaic Disease Pandemic**

Since 1998 when the disease was identified for the first time in Tanzania it has spread by about 40-73km per year according to the annual monitoring survey reports by the OFDA/CMD project. Multiplication and dissemination of CMD resistant materials should have been able to cope with the advance of the disease. But this has not been the case because the diffusion of the CMD resistant planting has not kept pace with the spread of the disease. The result is the spread of the disease to many parts of the Lake Zone (Mara, Mwanza, Shinyanga and Kagera regions) and Western Zone (presently restricted to the Kigoma region).

In the Lake zone of Tanzania cassava ranks second in production in Tanzania after the Southern zone (Mtwara and Lindi regions). It is used by many households as staple food in the Lake and Western Zones. Cassava production has decreased tremendously due to the severe CMD pandemic in the Lake Zone resulting in many suffering from hunger. Some strategies have been in place since the disease was reported in Tanzania but the strategies need to be strengthened, scaled up and the coordination improved. The strategies that have been employed include:

- Multiplication and dissemination of CMD-resistant materials by different actors
- Sensitization and awareness creation on the EACMV-UG

- Monitoring the spread of the disease
- Introducing and screening of resistant cassava materials
- All areas that are found to be infected with the disease are put under quarantine

Inappropriate approaches to multiplying and disseminating CMD-resistant planting materials by many stakeholders has resulted in losses, especially between the secondary and tertiary or farmer levels of seed multiplication. Many approaches used are not sustainable because farmers do not understand the importance of the resistant cuttings and use their crop for food production rather than a dual production of food and CMD-resistant cuttings. Some partners measure impact through the number of cassava cuttings distributed free to farmers and not the number of cuttings survived and distributed onto others. A sustainable system is the one that makes the beneficiaries feel ownership of the cassava planting materials by contributing to labor costs or part of the cost of production of planting materials. In this way beneficiaries will feel ownership and be serious about keeping the cuttings alive. The use of the model of primary, secondary and tertiary level of seed distribution is one way of bringing the materials close to the beneficiaries but from one stage to another there will be someone to monitor the materials. Therefore before establishing materials at any stage, the C3P project will consider how to monitor the materials in the distribution process. Experience has shown that a model involving groups of farmers given materials free or at a subsidized price and contributing labor and cuttings cultivated in a block farm under a contract of one to three years of a ratooning crop works effectively. In this model, the farmers' group harvests cuttings and some food and retains part of the planting materials to establish his/her own tertiary field while the other part is passed onto other farmers or groups of farmers. An alternative approach that has also worked well is the individual contract farmer using the same approach as the block farmers.

Each approach is appropriate depending on the circumstances. For example the block farm approach applies to where land availability is not a problem. The contract farmer approach can apply in all circumstances regardless of whether there is enough land or not. A Seed Voucher and Fair system is also applicable where CMD materials are available but some farmers lack access because of price or distance constraints.

Another constraint is the loss of materials through a delay in preparing the cuttings and transporting them to the beneficiaries which normally results in losing viability. Therefore there is a need to reduce the period from preparing to planting cuttings, by trying to ensure the fields of the beneficiaries are ready for planting before providing them the cuttings. Where a seed voucher approach is possible, this difficulty should be avoided, as farmers will naturally prepare fields before they use their vouchers to purchase planting material.

In many areas cassava is harvested during the dry period and farmers do not know how to conserve the planting materials as well as how to best manage the cassava crop for high productivity, such as planting on time and avoiding losses through drought and termites. This sometimes results in losing or reducing the amount of cassava planting materials and therefore there is a need to disseminate cassava planting materials at the same time as training farmers in preserving the viability of cassava cuttings and in cassava agronomy. Since cassava has a low multiplication ratio there is also a need to train farmers and extension staff in rapid multiplication techniques.

### **The Banana Xanthomonas Pandemic**

The outbreak of BXW in Tanzania was officially reported in January 2006 by MARDI staff. The disease is in Muleba (7 wards), Karagwe (4 wards), Bukoba (2 wards) and Biharamulo (2 wards).

Up to the present, about 41,000 banana plants have been uprooted as reported by the MARDI staff and some new outbreaks of the disease are reported mainly in Muleba, Karagwe and Biharamulo districts of Kagera Region.

After a vigorous campaign of sensitization, farmers communally uprooted all infected plants and are continuing to monitor new cases and uprooting them.

The activities undertaken to date include the following:

- Staff of Maruku ARDI with staff of the affected District Councils sensitized the affected farmers, who addressed the disease by the removing male buds and avoiding transporting of any banana plant parts from the infected to non-infected areas.
- An international workshop was convened for leading scientific and development agencies to discuss BXW and related activities
- Maruku ARDI trained some agriculture extension staff about the disease in Kagera region
- Maruku ARDI produced some leaflets about recognition and control of the disease and a BXW training videotape in Swahili .
- Radio and TV programs were used to create awareness of BXW among the public
- Staff of Maruku ARDI and DALDOs carried out a census in all banana-growing villages of Kagera region to determine the extent of damage caused by the disease
- Maruku ARDI sent samples of diseased plants to CABI, who identified and confirmed the pathogen as the one causing BXW.

Some of the above activities need to be scaled up and some new activities added that include the following:

- It is now understood that the disease is mainly distributed through farm tools. Farmers and banana traders are habitually using tools from one plot to the next. In addition, farmers on farms affected with the disease are using the same tools to remove the infected plants and at the same time to work on the uninfected plants. This requires further sensitization and training of communities of farmers and traders on the mode of transmission of the disease and how to manage bananas in the plots with infected plants.
- The leaflets that were made were few and more copies are still needed.
- Radio and TV programs need to be prepared and aired for an extended period
- The census needs to be done in the Kigoma Region, an area with a high density of bananas, to assess if the disease has spread there.
- Mapping of the disease needs to be done by using GPS equipment
- Some nurseries need to be established to multiply and distribute disease-escaping varieties of bananas in order reduce the spread of the disease but this is not as important a technique of addressing the disease as training farmers in the preventive management of their banana farms.
- Phytosanitary and quarantine measures need to be addressed using the policy makers in the Central and Local Governments and local leaders.

With respect to BXW the work should cover the whole of Kagera and Kigoma regions. This follows the way the disease is spreading in a haphazard manner. There is no consistent pattern in the spread of the disease and therefore avoidance and control measures should cover all banana growing areas in these two Regions.

#### **IV. PARTNER CRITERIA AND TARGET AREA AND**

Partners will consist of District Councils and the Prison Farms in their areas as well as key experienced NGOs and ARDIs located at Ukiriguru and Maruku in the Lake Zone. The following criteria will be considered in selecting partners to execute CMD and BXW activities:

- Partners should be working in agricultural enterprises and have some experience in cassava or banana farming
- They should be financially solvent and have capacity in financial accountability
- They should have experience in working with farming communities
- They should be well known by the district/division/ward authorities, who will certify the partner qualities,
- They should be located in areas where people are highly dependent on cassava and/or bananas and where there is a high level of food insecurity as a result of these diseases, and
- They should be located in areas where CMD resistant materials are available.

The list of partners that meet these criteria and their location are discussed below.

### CMD Interventions

For CMD activities, C3P will cover all regions, which are partly or fully affected, namely Mara, Shinyanga, Mwanza and Kagera of the Lake Zone and Kigoma in the Western Zone. In each selected district in the five Regions, CRS will identify potential partners to carry out the multiplication and dissemination of CMD material along with training and sensitization activities. In each district, CRS will endeavor to coordinate activities in line with SO1 by combining human and financial resources in joint District Agricultural Development Plans (DADPs) for CMD. Similarly, C3P will develop joint coordinated plans with key NGOs. C3P resources in the small grants program will be matched with the partner's resources. This will avoid duplication of effort and take advantage of synergies between development agencies in the field and promote sustainability in the long term. CRS and its partners have identified 19 District Councils and three to four key NGOs, who have CMD experience and capacity, who are located in areas where people are dependent on cassava and where planting material of resistant varieties is available. RUDDO is one of the most capable NGOs in CMD multiplication and dissemination with five years of experience and it will assist seven District Councils in drawing up collaborative CMD DADPs. The Anglican Church in Mara Region at its Mogabiri and Buhemba Farm Centers is also a potential key partner with several year's of agricultural experience. These centers could act as a source of primary and secondary planting material of resistant varieties. There are several smaller less-experienced NGOs, who will probably work with the District Councils in their areas. There are eight Prison Farms scattered across the five Regions, who for the past two years have received funds from the MOAFSC to produce quality cuttings on about 8ha farms. Most of these have been acting as secondary sites for CMD-resistant materials and the C3P project will support the 2006 distribution of existing material and the planting of an expanded area for 2007 planting if possible. It has been estimated that there are presently at least 14.7 million cuttings of resistant varieties available on primary, secondary and tertiary sites<sup>1</sup>. These partners and their location and the population of the beneficiaries are listed below.

**Table 1 - Target (Provinces) Region/District/Zone and Location of the Program Intervention for CMD**

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<sup>1</sup> Definitions of Primary site; where cuttings of promising varieties are supplied by breeders for multiplication at ARDIs and other well-managed sites for supplying secondary sites. Secondary site: where second and third generation of resistant material is multiplied under good management in collaboration with the District Councils and local government authorities for supply to other secondary sites or tertiary sites. Tertiary sites: located at community level where groups or individual farmers multiply and distribute material to other farmers at large.



Region	Specific Location of Program Intervention (Districts)	Identified partners (DEDs refer to District Councils)	Total population of District	Approximate number of cassava dependent people	Estimated Farmers (HH's) to be served as direct beneficiaries of the CMD program per Location*
Mara	Tarime	DED and Mogabiri Farm Extension Centre (MFEC)	492,798	395,000	
	Musoma	Kyabakari Prison Farm, Anglican Farm, Buhemba	330,953	264,762	
	Serengeti	DED	176,609	170,000	
	Bunda	DED, CODERT, Ikizu Sec. School, Bunda Prison and Anglican Agric Training Centre	260,000	210,000	
Mwanza	Magu	DED and Magu Prison	416,113	390,000	
	Ilemela & Nyamagana	DED, KIMKUMAKA and Plan International	476,646	107,000	
	Ukerewe	Kagunguri Primary and Secondary Schools	261,944	209,555	
	Misungwi	DED and SEEKE group of farmers, MRHP	257,155	157,000	
	Kwimba	DED, Ngula Farmers Research Group	316,180	205,000	
	Sengerema	DED, Prison and KKKT	501,915	450,000	
	Geita	DED, Butundwe Prison farm and Plan International	712,195	550,000	
Shinyanga	Kahama	DED and RUDDO	596,456	450,000	
	Bukombe	DED and RUDDO	396,423	305,000	
Kigoma	Kibondo	DED, RUDDO and TCRS	414,764	350,000	
	Kasulu	DED	628,677	520,000	
	Kigoma Rural	DED and Ilagala Prison	490,816	390,000	
Kagera	Bukoba Rural	DED and SCC-VI	395,130	195,000	
	Muleba	DED and RUDDO	386,328	185,000	
	Karagwe	DED, Kitenguli Prison Farm, SCC-VI, RUDDO	425,476	125,000	
	Ngara	DED, RUDDO	334,939	195,000	
	Biharamulo	DED and RUDDO Nyarubungo Prison Farm	410,794	305,000	

Source: Population statistics according to August 2002 population census

### BXW Interventions

For BXW the target area will be the Kagera and Kigoma Regions. In the Kagera Region the disease has spread to all districts except Ngara district. The Kigoma Region has not yet been surveyed and

MARDI staff will do this to see whether BXW is present in the Region. The BXW partners will be the District Councils and communities of farmers together with their Ward and Village Local Government Authorities in the affected and threatened areas in both Regions. The BXW component of the C3P project will concentrate on the sensitization and training of District staff and communities of farmers affected or likely to be affected by the disease and less on the production of disease-escaping varieties. The Districts and the estimated number of beneficiaries are given below.

**Table 2 - Target (Provinces) Region/District/Zone and Location of the Program Intervention for BXW**

District	Specific Location of Program Intervention	Total population of District	Approximate Number of Banana Dependent People	Estimated Farmers (HH's) to be served as direct beneficiaries of the BXW program per Location*
Kagera region	Bukoba	394020	350678	57400
	Muleba	385184	342814	63000
	Biharamulo	409389	364356	21000
	Ngara	334409	297624	44000
	Karagwe	424287	377615	77000
Kigoma region	Kibondo	413777	124133	59000
	Kasulu	626742	188023	86000
	Kigoma	489271	146781	72000

## V. PROGRAM DESIGN AND STRATEGY

The basic approach to the C3P project is to strengthen an already existing coordinated approach among a team of organizations and agencies that will share human and financial resources and skills and experiences in the face of this crisis caused by these two diseases. There are four discrete proposals for sub-grants envisaged to arise from this work plan and these are described below.

1. The ARDIs located at Ukiriguru and Maruku will screen on-station and on-farm several CMD-resistant varieties and distribute the promising ones to multi-locational sites for multiplication and distribution at primary and secondary sites. This proposal will also assist the staff of the ARDIs to ensure that all the promising CMD-resistant varieties are distributed and present at primary and secondary sites in all the Districts. Additionally, the ARDI staff will help sensitize and train District Council staff and Community level farmers and Local Government Authorities especially in the pre-epidemic areas such as the Western Zone. This proposal will concentrate on the primary and secondary levels of CMD material multiplication and distribution.
2. A large proposal will involve 12 District Councils in the distribution and multiplication of CMD-resistant varieties involving the Prison Farms as the principal source and strengthening the multiplication and distribution of these materials at community level. The concentration in this proposal will be the secondary and tertiary levels of multiplication and distribution and the monitoring and evaluation process especially at community level.
3. RUDDO will receive a sub-grant for the multiplication and distribution of CMD resistant material on secondary and tertiary sites, many of which RUDDO has developed over the years. It will collaborate and provide training and guidance to seven District Councils in the Kagera, Shinyanga and Kigoma Regions. This will be based on the five year's of experience and the application of lessons learned and best practices that it has developed.
4. The staff of MARDI will coordinate the fight against BXW in the Kagera and Kigoma Regions in those District Councils where there is a high dependence on bananas. The main

thrust of this proposal will be on going public with the disease and the sensitization and training of District and Local Government Authority staff as well as farmers at community level. This proposal will also involve policy issues with the Plant Health Services of the MOAFSC to institute plant quarantine regulations as much as possible in affected areas. Mass and more direct forms of communication will be used to create awareness about the disease to the public at large over a wide area. On a more limited scale, some nurseries for the multiplication of BXW escaping varieties will be set up.

The allocation of funds will follow a ratio of 80:20 for CMD and BXW respectively.

A more detailed discussion on the Results Framework first introduced in Section II above is presented below in more detail.

**Project Goal: Threats to food security caused by agricultural crisis in Tanzania are reduced.**

The overall goal of C3P in Tanzania is to assist cassava and banana farmers to recover cassava and banana production in the areas infected by severe CMD and BXW. C3P will seek to reach this goal by achieving two specific objectives and five intermediate results over a fifteen-month period.

**SO 1: Country stakeholders institutionalize coordinated agricultural disaster response mechanisms.**

**IR 1.1: Country response to CMD and BXW is well coordinated.**

The C3P project in Tanzania will provide assistance and guidance to the existing National Steering Committee to address CMD disease and ensure coordination of the sub-grantee projects of the C3P project with the existing and some new stakeholders and their development and distribution plans for the CMD resistant-material. In addition, the CCU will ensure that there is a formal request to the Minister of Agriculture by LZARDI to extend the scope of the National Steering Committee to include those institutions engaged in BXW disease prevention and control. In this way, the BXW disease will be given the same national importance presently attached to combating CMD. While the CCU of the C3P in Tanzania will be part of the National Steering Committee, it will also act as a discrete smaller committee for managing the C3P project. The CCU will also ensure coordination of all the stakeholders in the National Steering Committee with the C3P project.

The Tanzanian CCU will have the following members: IITA representatives for both BXW and CMD, OFDA/CMD team leader, BXW team leader, one representative of RUDDO, one representative from NPA and CRS Country Program Manager and CRS Agriculture Technical Advisor. CRS Tanzania will act as the lead agency and be responsible for convening meetings.

LZARDI will be the lead agent in the National Steering Committee and its members will include all scientists working in cassava and banana research in the Lake and Western zones, National Cassava Research Leading Scientist, National Banana Research Leading scientist, Ministry of Agric. Plant Health Services Scientist, Ministry of Agric. Crop Promotion Officer, one representative of Prison Farms HQ, the five Regional Agricultural Advisors, five leading farmers, one representative of Tropical Pesticides Research Institute (TPRI), two Zonal Directors of Lake and Western Zone Agriculture Research and Development Institutes (ARDIs) and NGOs such as RUDDO and NPA as well as CRS and the C3P technical representatives for CMD and BXW from IITA..

**Activities**

- The C3P PM will convene CCU meetings once a year to plan and monitor results of the coordinated CMD and BXW interventions,
- The C3P PM for CRS Tanzania will coordinate quarterly meetings within each of the five regions of the project to share the quarterly report and C3P achievements
- At least two inter-country regional workshops and seminars for C3P will be held during the project. The CRS Tanzania C3P PM will attend these inter-country regional workshops and seminars. The steering committee can also propose candidates to attend the workshops or seminars if warranted.
- The CCU will ratify the proposals established for the C3P and ensure a coordinated approach to these two diseases.
- The CCU will monitor progress and impact of the program and provide direction for the project.

**Output:**

- Human and financial resources are shared by all organizations and agencies involved in a coordinated approach to these diseases,
- A system of knowledge sharing and experience exchanges is established among implementing partners and the steering committee.
- CCU is established to involve both the stakeholders for CMD as well as for BXW,
- M&E system set up
- A sense of ownership of the project activities and the outcomes,
- Collaborative linkages developed with related projects

**IR 1.2: GIS technology links data on diseases to data on vulnerability and food insecurity.**  
C3P in Tanzania will assist IITA in sharing the information from GIS.

**Activities :**

- Surveys will be completed in the field collecting information on CMD and BXW prevalence rates.
- GIS experts will collect baseline geographic information to know the location of CMD and BXW infected zones and link this information to food insecure areas in Tanzania.
- This information will be collected in collaboration with a C3P GIS Specialist and will be analyzed in order to disseminate the information within the country as well as regionally.

**Output :**

- In collaboration with IITA, database established on status of food security, CMD prevalence and BXW prevalence.
- In collaboration with IITA, GIS map on food security, risks and vulnerability
- Reports on field level surveys regarding CMD and BXW prevalence rates.
- GIS map of food secure areas and CMD/ BXW prevalence rates.
- System of country and regional information sharing regarding the reports.

**IR 1.3: Existing institutions carry forward proven methods for coordination and knowledge sharing regarding agricultural disasters with specific reference to the food insecurity caused by the CMD and BXW diseases.**

**Activities :**

- Assist IITA in developing a coordinated disaster assessment, analysis and action

**Output :**

- Components of agricultural disasters response approach identified
- Collaborative framework for disaster responses established with a network of existing institutions.
- In collaboration with IITA, plan for early warning system developed.
- In collaboration with IITA, plan for dissemination of early warning information developed.

**S02: Farmers employ effective measures to control CMD and BXW****IR2.1: Effective control of CMD is achieved through multiplication and distribution of CMD resistant varieties and promotion of improved management practices.**

In order to achieve the above intermediate results the following strategies will be employed:

- Capacity building of partner staff by training more than 120 extension officers in two venues. The first venue will be in Mwanza which will cover cassava multiplication and dissemination approaches, pests and diseases, rapid multiplication, conservation of planting materials during dry periods and cassava agronomy. Also, seed voucher and fairs and internal savings and credit schemes (a strategy to strengthen group solidarity of cassava block farms) will be introduced. This venue will have participants from Mara and Mwanza regions. The second venue will be at Biharamulo and this will cover participants from Shinyanga, Kagera and Kigoma regions and apart from cassava at this venue BXW disease and management will be covered. The trained extension workers will train at least 60 farmers each in their respective areas of work and subsequently training a total of 7,200 farmers .
- Helping farmers to establish their own nucleus nurseries by purchasing CMD-resistant materials and availing them to farmers who will be given the CMD-resistant material on a loan basis. Farmers will give back from a half to two-thirds of the material during harvesting and these materials will be given to other farmers in a group or on an individual basis with the intervention of the Relief Committee constituted in each village at the time of an emergency by the Village Chairperson while one-third to a half will be retained by the farmer or farmers. The approach will be to form groups of farmers who will use communal land or block farms and each member of the group will own a piece of land in that communal land. The farmer groups or individuals will be selected by the communities for their farming expertise under the leadership of the Village Chairpersons and held accountable to the communities to multiply these CMD-resistant materials. This approach has been very successfully practised by NPA/RUDDO in Ngara and Biharamulo districts and appears to be the “best practice” at the secondary level of multiplication and distribution of CMD material. Individual contract farmers will also be used in areas where land is scarce but will follow the same procedure of receiving CMD materials on a loan basis as on the block farms. Evidently, communities will adapt these “best practices” to their own situation and especially decide on whether the material should be sold by the block farms or not as a means of promoting a marketing approach to the production of CMD-resistant material that is in such high demand. In addition, Voucher Schemes (see below) will be tried on a pilot basis whereby, farmers selected by the communities that have poor access to the CMD-resistant material will “purchase” material with vouchers that will cover the cost of the material and transportation to the farmers’ fields. These processes will continue in a community until all farmers receive the materials to cover the entire planting area. The advantage of having groups is that it will be easy to train many farmers, collective security of the crop in the field under the scrutiny of the Village Chairperson and the Relief

Committee and the monitoring by the Ward and Village Extension Agents will be easier. In this way, the dissemination of cassava planting materials will be fast and cover a big area in the shortest possible time. Therefore C3P will work with the Village Local Authorities in the formation of groups of farmers and individual farmers to multiply the CMD-resistant materials.

- The Seed Voucher and Fair (SV&F) or On-Farm Voucher (OFV) schemes will be tried in areas where the materials have been introduced and materials are available either in the community or at another secondary site such as a Prison Farm but some farmers may not have easy access to it for reasons of price or distance. A voucher value may cover the cost of the material plus transport, if any, for say one-tenth of a hectare (1/4 acre) for each household at the tertiary level. Voucher holders will be identified in a transparent village meeting of the Relief Committee and vouchers given on the condition that land is prepared before hand. Because the SV&F schemes are new to the partners though CRS Tanzania has some experience, this will be introduced on a pilot basis in Kyaka, Bukoba district, Murusagamba in Ngora district and Nyakahura in Biharamulo district. These sites have been selected because material is available but there are very poor communities who do not have easy access to it. If there is interest in other Districts, other sites may be added at the time of writing the proposals for sub-grants.
- C3P will introduce all new CMD-resistant materials (MM96/4619, MM96/4684, MM96/8450, MM96/3075B, MM96/8233, MM96/5725, TME15, Nase 10, I92/0057 and I92/0067) to the districts especially to those Districts and institutions such as ARDI Ukiriguru that have not received these for reasons of past plant quarantine restrictions on movement of material from ARDI Maruku. This will increase the diversity of the CMD resistant materials and ensure the best material is available in all Districts at secondary sites. The introduced materials will be given to institutions such as Prison Farms or NGOs such as RUDDO in Kagera and the Anglican Church in the Mara Region so that the material will have a high level of management to get enough materials for later distribution to farmers. But if the materials are sufficient then some can be distributed to reputable farmer groups (block farms) or individual farmers (Contract farmers) and the institutions and NGOs mentioned above will provide a back-up with their nucleus nurseries in case anything unexpected happens to the materials sent to farmers.
- To facilitate the research team (Ukiriguru and Maruku Research Institutes) to do monitoring of CMD-resistant materials in the primary and secondary sites especially in institutions involved in multiplication, like prison farms and NGO nucleus multiplication nurseries.
- To facilitate the DALDO staff to monitor CMD material that is distributed to farmers for variety performance, management and effectiveness of multiplication process. A simple MDS will be established at village level so that the community itself will be responsible for gathering the information on CMD material being multiplied in a self-monitoring and evaluation exercise as part of community level accountability. These data will be collected at the time of planting, mid-season and harvesting/distribution of the material and aggregated by DALDOs at District level and again aggregated at Regional and Country level.
- At the end of the C3P project, there will be certain activities to prepare for the planting season in August and September 2007. These will include planning meetings with District Councils, and distribution plans and budgets for the distribution and multiplication of CMD-resistant material for the 2007 season. For BXW, all the training and sensitization will have taken place by the end of the project period.

The major activities that will be carried out will be:

- Diagnostic survey to identify potential partners and availability of CMD-resistant planting materials

- Develop the bid offer for sub-grants for CMD partners
- Develop a Training of Trainers manual in collaboration with IITA reviewing and improving presently available manuals.
- ToT training of extension workers by conducting a workshop at two venues
- District level planning meetings with target communities at village level and secondary sites at Prison Farms or competent NGOs,
- Organize farmers and partners to establish block farms/ individual farms/nucleus nurseries
- Conduct farmers ToT training at village level (on the spot training)
- Multiplication field establishment (land preparation and planting)
- Monitor and evaluate the execution of the project including MDS at village community level and other secondary sites such as Prison Farms
- Publicity (Radio and TV programs and extension training materials)

The key outputs under this intermediate result will be:

- C3P targeted areas for CMD defined
- Potential partners for CMD will be well informed, aware and prepared to execute project activities.
- Offer for sub-grants bid developed for CMD partners
- Farmers and partners organize to establish block farms/ individual farms/nucleus nurseries/SV&F to multiply EACMV-UG resistant materials in the 2006 planting season
- Standardization of sustainable approaches to multiply and disseminate the cassava planting materials
- Regular monitoring and evaluation of C3P CMD activities.
- Establishment of 152 ha of CMD-resistant planting materials on primary and secondary sites by October 2006
- Training of at least 60 agricultural extension workers and at least 7,200 farmers on cassava during the 2006 planting season.
- At least 3-5 radio and TV programs on CMD produced for the 2006 planting season
- Review<sup>2</sup>, development and production of 80 training manuals, 3,800 leaflets and 1,900 brochures for dissemination in the 2006 planting season
- At least 10 new CMD-resistant planting materials introduced to all target districts by October 2006, especially those that have not received adequate materials due to past movement restrictions.
- At least 4 million cuttings of CMD-resistant material distributed and multiplied on about 400ha during the 2006 planting season
- At least three pilot SV&F projects in three districts will be conducted during the 2006 planting season.
- Several reports (quarterly report, meeting proceedings, trip reports, etc) will be available during the 2006 planting season
- Plans and budgets will have been prepared and disbursed for the beginning of the 2007 planting season.

## **IR2.2:Effective control of BXW is achieved through sensitisation and promotion of improved disease management and multiplication and distribution of wilt-escaping varieties**

### **Strategies**

- Tanzania is newly infected with BXW (first reported in January 2006) and so the strategy will identify epidemic (Kagera Region) and pre-epidemic areas (Kigoma Region) and have

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<sup>2</sup> Existing CMD manual exists but it will be revised and further developed for the C3P project.

interventions for immediate and quick impact to prevent the spread of the disease as much as possible in the epidemic areas and alert banana-dependent communities in pre-epidemic areas,

- Community and District Council sensitisation of BXW given priority over multiplication and distribution of wilt-escaping varieties,
- Cultural measures of control will be emphasised such as male bud removal, disinfecting farm tools (thought to be the main mode of transmission in Tanzania), on-farm uprooting of infected mats and plant quarantine control on movement and trade of infected plant materials from infected farms within epidemic areas and prevention as much as possible into pre-epidemic areas,
- Training of Trainers of key partner staff (NGOs and District Councils), who in turn will train farmers and Local Government leaders in communities,
- Involvement of policy makers and local leaders in all disease campaigns

### **Specific activities**

- One training workshop for DEDs, DALDOs, PHS agents and NGOs in BXW and its management and control to inform and plan responses in September 2006,
- Production and distribution of 94,500 leaflets for use in epidemic as well as pre-epidemic areas in Sep, Oct and Nov 2006,
- Quarantine and Phytosanitary control of movement of bananas out of diseased districts in epidemic areas. Alert local government for these controls in pre-epidemic areas in Sept, Oct, Nov 2006,
- Training of 272 extension staff as ToT trainers mainly from District Councils but also from strategic NGOs mainly from epidemic areas and also some from pre-epidemic areas in Oct, Sep 06 and Feb, Jun, Sept 07
- ToTs to train about 14,000 farmers at the ward level in September, December 06 and August 07
- Conduct a BXW census in Kigoma Region and follow-up survey in Kagera to update recent census there and map the disease status in September and October 2006,
- Set up BXW Crisis Response Centre with mobile phone access for rapid BXW disease response and monitoring and frequent reporting at least on a quarterly and or as needed basis in Sep 2006,
- Placement of 20 Billboards along main roads, harbours, large fishing villages and along the country/Kagera/Kigoma region borders in Sept. and Dec 06 and April and Sept. 07
- Establishment of BXW-escaping banana varieties in six nurseries in Jan and April 2007

### **Key outputs**

- Establishment of BXW Crisis Control Center,
- C3P targeted areas for BXW defined and mapped as pre-epidemic or epidemic,
- Potential partners for BXW will be well informed, aware and prepared to recognize disease, its control and execute project activities in epidemic and pre-epidemic areas.
- BXW spread is halted through community and district awareness, knowledge and application of proper crop cultural management techniques appropriate for epidemic and pre-epidemic areas
- Offer for sub-grants bid developed for BXW partners, who will be District Councils and local NGOs,
- Work with IITA/INIBAP to revise, adapt and multiply existing training manual and communications materials for BXW management with other banana extension materials
- Training of agricultural extension workers in epidemic and pre-epidemic areas to conduct project activities for BXW (ToT)
- Identify BXW-escaping materials,



- Farmers and partners trained to establish nurseries to multiply BXW-escaping materials using sustainable approaches
- Farmers planted BXW-escaping banana varieties
- Regular monitoring and evaluation of C3P BXW activities, using Participative Monitoring techniques at community level and aggregating the information at District and National levels.

It should be noted that no chemicals will be used except for household bleach in all BXW activities

## **KEY ASSUMPTIONS AND RISKS**

The main risks and assumptions in this work plan are listed below:

- Rainfall amounts and distribution patterns will be normal and that improved agricultural husbandry practices will result in expected yields of planting materials and cassava roots.
- Soil fertility will be another factor that will reduce the amount of planting materials to be produced. Therefore there may be a need to improve soil fertility by either adding farm-yard manure or inorganic fertilizers as the need arises.
- The estimate of booked CMD-resistant planting materials with different multipliers might not be accurate and may result in getting more or less materials. Prepared land should give allowance for expansion and be used to plant other crops while waiting to plant cassava in the next season when cassava planting materials will be available.
- Planting material of CMD resistant varieties especially at Prison farms will be available to District Councils to implement their DADPS,
- Politicians will understand the C3P approaches and will not interfere other than by finding their own means to scale up the approaches to other/their constituencies or to wait for the scaling up of C3P in the next season
- Farmers will manage block and individual farms to an acceptable standard of management and understand due to the low multiplication ratio of cassava planting materials that they must use 5-7 nodes cassava cuttings and all the possible parts of plants which can produce a plant as one way of rapid multiplication instead of using longer (30cm and above) cuttings.

## **VI. IMPLEMENTATION CALENDAR (see Excel Worksheet)**

*This calendar is intended to provide a timeline for the major activities per the five IR's covered by this plan. Not all activities need be referenced in this calendar. More activities should be referenced for SO2 – the CMD and BXW response. Activities need be referenced per IR. Each activity row should include five columns: (a) calendar life of project, (b) location of activity, (c) responsible party for the activity, (d) key partners to support successful implementation of activity, and (e) indicative financial resources needed to carry out activity.*

Please see attached spreadsheet “C3P\_Country\_Workplan\_Tanzania draft final”

## VII. MONITORING AND EVALUATION

USAID Reporting requirements for C3P include quarterly reports for the life of the project. The first quarterly report is due August 7, 2006. Quarterly reports will also be due on the 7<sup>th</sup> of November 2006, February 2007, May 2007, August 2007, and final quarter due November 2007.

USAID requests a final M&E plan to be submitted for approval in September 2006. The final M&E plan will include a concise list of indicators to be tracked across all countries as well as monitoring guidelines and reporting formats.

USAID has specifically noted an interest in keeping M/E lean and a premium placed on achieving the minimum outputs per each country as well as fostering a learning environment within and between countries.

USAID has underlined the importance of frequent reporting above and beyond what is outlined in an M&E plan. C3P countries will be asked to produce brief, short documents that summarize some piece of analysis, methodological approach, or best practice in your country program. These ‘briefs’ will serve first of all as a medium for exchange of information and best practices among the partners in the six countries of C3P, as a major benefit of participating in a regional project. They will also be useful for reporting on the project back to Washington, and more broadly to the development and relief communities. We all hope that C3P will become a model, and good documentation and communication will be crucial.

A baseline survey is currently being planned as part of the GIS and food security components of this program. A key component of this baseline survey will be a household survey conducted in all six of the C3P countries. This survey is expected to begin as early as August in some countries.

### 1. Key indicators to track for each of the five intermediate results in Tanzania

Intermediate Result	Key Indicators	Frequency of collection?	Whom Responsible for collection?
<b>1.1 A country response to CMD and BXW is well coordinated.</b>	<ul style="list-style-type: none"> <li>• A Country Coordination Unit in place.</li> <li>• Regular periodic reports available</li> <li>• C3P well understood by the district authorities</li> <li>• District level Steering Committees in place</li> </ul>	<p>Once a year</p> <p>Quarterly</p> <p>Quarterly reports from districts/NGOs</p>	CRS, ARDIs, IITA & Ministry of Agric
<b>1.2 GIS technology links data on diseases to data on vulnerability and food insecurity.</b>	<ul style="list-style-type: none"> <li>• Food security status report</li> <li>• Report on disease prevalence of CMD and BXW</li> <li>• Reports are shared with Regions, Districts and NGO</li> </ul>	<p>One Report</p> <p>One Report</p> <p>Quarterly</p>	IITA, CRS & LZARDI

Intermediate Result	Key Indicators	Frequency of collection?	Whom Responsible for collection?
	partners		
<b>1.3 Existing institutions carry forward proven methods for coordination and knowledge sharing regarding agricultural disasters.</b>	<ul style="list-style-type: none"> <li>• Plan for early warning system developed,</li> <li>• Plan for dissemination of early warning information developed,</li> <li>• Number of papers, reports produced</li> </ul>	Once when plan developed and training provided at Seminar and workshop reports	IITA & CRS
<b>2.1 Effective control of CMD is achieved through multiplication and distribution of CMD resistant varieties and promotion of improved management practices.</b>	<ul style="list-style-type: none"> <li>• Number of multiplication plots established,</li> <li>• Number of cuttings and area planted to CMD resistant material</li> <li>• Number of extension workers and farmers trained</li> <li>• # Radio and TV programs developed and aired</li> <li>• Number of training manuals and other extension materials produced and distributed</li> <li>• Number and name of new CMD-resistant planting materials introduced to the districts by primary, secondary and tertiary sites</li> <li>• MDS data collected and aggregated at District and Country level.</li> </ul>	Quarterly reports	CRS, DALDOs, LZARDI, DED, NGO partners
<b>2.2 Effective control of BXW is achieved through promotion of improved disease management techniques and through multiplication and distribution of wilt-escaping varieties.</b>	<ul style="list-style-type: none"> <li>• BXW census completed,</li> <li>• # of farmers who have removed male buds</li> <li>• # of trained extension staffs</li> <li>• # of trained farmers</li> <li>• # of distributed leaflets</li> <li>• # of Billboards placed</li> <li>• Numbers of farmers implement BXW avoidance</li> </ul>	Quarterly reports	MARDI/DALDOs/CRS and back-stopped/planned with IITA/INIBAP

Intermediate Result	Key Indicators	Frequency of collection?	Whom Responsible for collection?
	and control techniques <ul style="list-style-type: none"> <li>• Number of farmers who effectively remove infected plants</li> <li>• New cases of BXW halted</li> <li>• Number of primary nurseries for escaping banana varieties established</li> </ul>		

**2. Tanzania’s four “briefs” to be shared among the C3P countries.**

- Using media, local government and community awareness in the prevention and control of BXW in Tanzania
- Compare the NPA approach with that of OFVs and other approaches for the sustainability of multiplication and dissemination of CMD-resistant planting materials at community level,
- The Tanzania experience of public-private alliances of agencies for the multiplication and dissemination of CMD-resistant materials
- The use of Prison Farms in the multiplication and dissemination of CMD-resistant varieties in Tanzania.

**VIII. BUDGET**

**An illustrative budget for funds allocated to Tanzania program for C3P activities.**

The budget allocated for CMD is US\$ 286,224 and for BXW is US\$ 75,750

