



**C3P**  
**Sixth Quarterly Report**  
**(1<sup>st</sup> July to 30<sup>th</sup> September 2007)**



**USAID**  
FROM THE AMERICAN PEOPLE

**Submitted on behalf of**  
**C3P Management**

**Stephen Walsh**  
**Crop Crisis Control Project**  
**Catholic Relief Services – USCCB**  
**Nairobi, Kenya**

**[swalsh@crsearo.org](mailto:swalsh@crsearo.org)**  
**Tel: 254-736151485**

# Table of Contents

<b>TABLE OF CONTENTS</b> .....	<b>2</b>
<b>1. EXECUTIVE SUMMARY</b> .....	<b>3</b>
<b>2. INTRODUCTION</b> .....	<b>4</b>
<b>3. REPORT</b> .....	<b>4</b>
<b>4. ACRONYMS</b> .....	<b>16</b>
<b>5. APPENDICES</b> .....	<b>18</b>

**A. Country and Regional Technical Partner Report (8)**

This folder contains a total of eight reports: one from Burundi, DRC, Kenya, Rwanda, Tanzania, Uganda, IITA, and Bioversity International.

**B. Country Cassava Templates (9)**

This folder contains one cassava template for Burundi, Kenya, Rwanda, and Uganda. Tanzania is presented here as a word table. DRC has a total of four templates.

**C. ASARECA Meeting Documents (7)**

This folder contains Meeting Agenda, Meeting participant list, Summary Presentation of C3P Program and Outputs, Summary of Cassava Issues and C3P Evaluation, Summary of Banana Coordination and Partnership Issues, Summary of Banana Technical Issues, Summary of Cassava Technical Issues.

**D. GIS Targeting Briefs 2)**

This folder contains one brief on GIS targeting for BXW and one for GIS targeting for CMD.

**E. Cassava Dissemination (2)**

This folder contains one summary document on Cassava Dissemination Guidelines and a summary trip report based on dissemination training in Burundi during the reporting period.

**F. IITA Food Security Report**

This report is the summary food security report for IITA under C3P.

**G. OFV Report Tanzania**

This report is based on the C3P OFV experience in two districts in Tanzania.

**H. BXW Briefs (2)**

One brief is concerned with macro-propagation and the second brief discusses participatory evaluation techniques.

## **1. Executive Summary**

A no cost extension grant modification was applied for by CRS and accepted by USAID during this quarter, the C3P agreement end date is now April 15, 2008.

This quarter saw considerable progress towards completion of project activities with a key outcome being the submission of the IITA final report on food security work under the program, the completion of QMP work, and the completion of IITA C3P activities under the grant, as their sub-grant agreement under C3P concluded at the end of this quarter. IITA support on C3P will continue into the next quarter, specifically as relating to guidance on CBSD based on a contract that carried out to conduct field samples and lab analysis and to draw up recommendations for sampling to be conducted in Burundi and Rwanda.

Regional technical support on banana will continue through to the end of 2007 with Bioversity International providing backstopping to BXW sensitization and training efforts under C3P, extending its contract with CRS under C3P into early 2008.

The Chief of Party for C3P, Dr. John Peacock, completed his service to the program on October 15, the original end date of the program, and Stephen Walsh, Deputy CoP under C3P, will assume CoP duties during the no cost extension period.

This quarter continued to see significant field travel and partner support on the part of C3P regional management with more than 50 travels days booked between the CoP and Deputy CoP and a total of 11 distinct C3P country visits to Burundi (3), Rwanda (2), DR Congo (2), Kenya, Uganda (2), and Tanzania.

This quarter's progress is presented through a summary for each strategic objective and intermediate result followed by key lessons learned and steps moving forward per intermediate result. Reports for each C3P country and for the main technical partners – IITA and BIOVINT – are included in the appendices to this report.

The C3P team and USAID met with a full team from ASARECA in September 2007 to share progress on C3P program, discuss lessons learned, and to discuss how to increase collaboration.

CRS, in partnership with IITA, has intensified discussions with the Gates Foundation during this quarter regarding a multi-country cassava disease mitigation and production project.

## 2. Introduction

The Crop Crisis Control Project (C3P) is a regional activity supported by the USAID Famine Fund to intensify and bring coordination to the fight against Cassava Mosaic Virus disease (CMD) and Banana Xanthomonas Wilt (BXW) in six countries of Central and East Africa – Burundi, Democratic Republic of Congo (DRC), Kenya, Rwanda, Tanzania, and Uganda. Managed by Catholic Relief Services (CRS) and the International Institute of Tropical Agriculture (IITA), the program brings together more than 35 implementing partners. C3P commenced on 15 April 2006 and ends on the April 15, 2008.

C3P has been organized under the auspices of a Limited Scope Grant Agreement with COMESA (the Common Market for Eastern and Southern Africa), in partnership with ASARECA (the Association for Strengthening Agricultural Research in Eastern and Central Africa).

Catholic Relief Services (CRS) has been awarded a grant to implement regionally coordinated, well-targeted activities, in all six countries. Their largest implementing partner, with a sub-award, is the International Institute of Tropical Agriculture (IITA), and together they are leading a network of regional associations and agricultural institutions, national agricultural research organizations, NGOs and local partners.

This document is the sixth Quarterly Report for the period 1<sup>st</sup> July to 30<sup>th</sup> September 2007.

## 3. Report

### I. Progress to Date Against Strategic Outputs and Intermediate Results

#### PROGRAM FRAMEWORK

**Goal: Threats to food security caused by agricultural crises in the Great Lakes Region of Eastern and Central Africa are reduced**

**SO 1: Regional stakeholders institutionalize coordinated agricultural disaster response mechanisms**

IR 1.1: Regional response to CMD and BXW is well coordinated

IR 1.2: GIS technology links data on disease to data on vulnerability to food insecurity

IR 1.3: Existing institutions carry forward proven methods for coordination and knowledge sharing regarding agricultural disasters

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

IR 2.1: 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

*For more details on program progress as reported by any of the six C3P countries or from the prime technical support partners of IITA or Bioversity International, see the appendices for the country and technical partner reports.*

## **SO 1: Regional stakeholders institutionalize coordinated agricultural disaster response mechanisms**

### *IR 1.1: Regional response to CMD and BXW is well coordinated*

Country Program managers in each of the six country's made special effort this quarter on national coordination for cassava given the focus on dissemination across all countries which is to begin from late October 2007. Across all countries there were meetings held to discuss dissemination plans among field practitioners and government authorities. Dissemination planning visits by C3P regional management, and sharing of practices between countries, facilitated exchange of information and cross country learning.

The entire C3P project team met with ASARECA in late September to share the outputs of the C3P program and to discuss key lessons learned. See the appendices for documents related to this meeting. The intention of this meeting was to identify synergies with ASARECA so that they could be totally engaged in looking firstly at post C3P cassava and banana work and to how to promote transition from C3P into ASARECA supported efforts and secondly to assess the successes & challenges in implementing a multi-country grant of the nature of C3P. Key outputs of this meeting included ASARECA commitment to be engaged in the C3P evaluation and CRS commitment to participate in the ASARECA strategy setting meeting for staple crops in October 2007.

Multiple regional cassava players, representing all six C3P countries and IITA scientists and C3P staff, attended a four day meeting in Tanzania in September 2007 to discuss a multi-year regional cassava program involving all of the C3P countries. The meeting was supported by the GATES foundation. Key results of this meeting included a regional sharing and consensus on the threat of cassava brown streak disease and next steps that should be taken from the standpoint of breeding, multiplication, and dissemination and discussion on the challenges and opportunities facing national programs with respect to medium to long terms prospects of addressing cassava challenges across the region.

All C3P countries, with exception of Tanzania, completed cassava monitoring templates during this reporting period. These enable for a transparent sharing of production information on national and regional level and promotes more detailed mapping using GPS'd C3P field sites on national and regional basis. The templates (see the appendices to this report) provide GPS coordinates on a field by field basis as well as variety per field basis and are summarized by partner.

BXW regional coordination this quarter was evidenced by cross country visits conducted with DRC and Rwanda practitioners visiting UGANDA to look at macro-propagation sites and to understand key lessons learned from BXW sensitization efforts in Western Uganda. Kenyan farmers and extension workers visited Ugandan farmers from 15<sup>th</sup> -19<sup>th</sup> July, 2007 to share BXW experiences and challenges with Ugandan stakeholders. BXW survey conducted along Kenya-Tanzania border in Mara region with no incidence reported.

During this quarter, data from the C3P food security survey in North and South Kivu was used by CRS Congo in preparing a MYAP for USAID. It is imagined that when the data from the food security work is housed in a central location, a wide audience of organizations will be able to access and analyze the data for future use.

IITA completed the final food security report for C3P this quarter. This report provides an excellent basis for looking at the intersection between vulnerability, needed interventions, and BXW & CMD on a regional basis.

A number of new additions were made to the C3P website this month including the IITA food security report, the C3P Q5 report, and a number of project briefs. For details please see <http://c3project.iita.org>. Also, several reports from 'The Global Plant Clinic' related to extension work and BXW in the Great Lakes Region were added to the webpage.

### ***Key Lessons Learned and Next Steps***

Effective regional coordination on cassava requires three prime elements: disease surveillance data, supply data on improved and disease resistant cassava material, and demand data on improved and disease resistant cassava material. The extent to which information related to these elements can be generated, standardized, and shared among practitioners at national and regional level will determine the success at longer term coordination and targeting of resources. Next steps to promote cassava coordination include improving the standardization and sharing of data on national and regional level among key actors and advising the donor community of the importance of funding cassava programs in a manner in which regional and national synergies will be cultivated.

ASARECA held a meeting in October 2007 to revisit its staple food crops strategy. It is imagined that areas for increased collaboration with respect to future regional cassava efforts will include information management and support to regional coordination with focus on National Programs.

UN/FAO, given the size of field operations regionally with respect to cassava multiplication is a critical player in terms of regional coordination. C3P has participated in an FAO regional cassava meeting in Uganda in late 06 and will attend the next FAO regional cassava meeting in Burundi in October 07. CRS, under the auspices of C3P, has approached FAO to work jointly on two technical cassava workshops. Moving forward, effective regional coordination requires getting FAO on board given that they have so many cassava activities in the region.

A regional meeting on BXW is planned in the next quarter by Bioversity International and CRS with the express focus of sharing key lessons learned under C3P. The meeting will provide a framework for determining next steps to promote more effective regional coordination under banana and particular looking at disease issues.

C3P is meeting with COMESA in early November 2007 and a key output of this meeting will be a clearer understanding of synergies between CAADEP Pillar III activities and post C3P cassava and banana activities with the spirit of continuing to promote regional coordination for disease surveillance and response for both crops and with a particular view of looking at regional policy.

C3P has contracted with a technical editor to produce a refined set of C3P briefs. The audience for this product will be the donor community and regional practitioners. These efforts will enable for formal documentation and sharing of the C3P experience. A final product is expected by March 2008.

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

GIS mapping intensified in this past quarter as the data from cassava templates and from the food security surveys enabled for a more robust data set from which to make maps. The primary focus of map making this quarter was for targeting purposes in a post C3P regional cassava initiative proposal. A draft GIS brief, 'Targeting Interventions against BXW in the Great Lakes Region using GIS' is available for review on the C3P website.

C3P experience with GIS was presented and discussed at both the ASARECA and GATES cassava meetings in September 2007. The potential utility and challenges to GIS are better understood and there is a growing consensus as to the power that GIS offers from the standpoint of visually representing data and promoting coordination at multiple levels.

***Key Lessons Learned and Next Steps***

Effective use of GIS tools is contingent upon having quality data in a timely manner. GIS maps under the best case scenario are backward looking; there is always a time lag between the data and the development of the map. This prevents GIS mapping from representing real time what is occurring on the ground, and underlines the importance of interpretation by practitioners. This also underlines the importance of having time series maps which could then be analyzed to predict future movement of, in the case of C3P, crop diseases.

CRS, in looking at post C3P cassava work, is looking to increase its commitment to GIS tools and resources and building the capacity of staff and partners to better understand and use these tools.

GIS activities under C3P are complete but one important pending contribution is a brief by Chris Legg which will summarize the lessons learned of GIS under C3P and provide a review of the key GIS contributions to C3P and recommendations for the improved use of GIS tools in similar type programs.

***IR 1.3: Existing institutions carry forward proven methods for coordination and knowledge sharing regarding agricultural disasters***

The development of a food security model as a result of C3P food security surveys and associated data on crop production, population, and socio-economic statistics (see the final IITA food security report).

CRS conducted a two country, Rwanda and Burundi, review of the financial, administrative, and programmatic review of the C3P activities through a scope of work which was carried out by a CRS staffer from another region. The report provided CRS with recommendations moving forward with respect to improved financial, administrative, and program management for multi-country agricultural disaster response programs with focus of recommendations on how best to support implementing partners.

The ASARECA meeting in September 2007 indicated knowledge sharing and coordination on the BXW and CMD disasters in the region and provided framework for follow on collaboration and application of best practices.

### ***Key Lessons Learned and Next Steps***

There is need for increased communication flow between key stakeholders (donors, international organizations, policy makers, national programs, national and local governments, and NGO's and CBO's. One way to do this is to raise the importance of coordination with the donor community and high level country actors and to increase the priority put on coordination and sharing lessons learned among practitioners. A suggestion to achieve this is to build this into M&E systems of both national and regional programs and to make coordination a core objective of the intervention, as was the case for C3P. Key challenge to coordination is the funding mandates and funding needs of organization do not always effectively promote synergy do to short term nature of funding.

The C3P evaluation – with ASARECA support – will provide an opportunity to look broadly at successes and challenges in promoting coordination and knowledge sharing regarding agricultural disasters and is expected to include suggestions for strengthening collaboration between existing networks as relating to effective coordinated regional responses to agricultural disasters.

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

*IR 2.1: Effective control of CMD is achieved through multiplication and distribution of CMD resistant varieties and promotion of improved management practices*

Cassava templates, detailing varieties under multiplication within C3P on a field, partner, and country basis and including GPS references for each field were completed for all countries except Tanzania during this past quarter. Tanzania provided roll up figures on partner basis but not have been GPS'd. These templates enable for C3P on a national and regional basis to promote good coordination with respect to dissemination of material through documentation of material under multiplication. Templates are provided per the appendices to this report.

Quality Management Protocols (QMP) implemented under C3P by teams comprised of IITA/NARS/CRS in all six countries and draft reports were completed during this quarter. Approximately 40% of all project multiplication sites were assessed and virtually all fields had levels of CMD that were lower than the threshold level of 20% at which point fields are to be de-classified for on-ward dissemination. CBSD was not recorded from any sites in DR Congo, Rwanda, Kenya, or Tanzania. One plant outside the sampled set of plants in one surveyed field was affected by CBSD in Uganda and there were unconfirmed reports of CBSD from four sites in Burundi. A plan was devised to conduct confirmatory virus diagnostic tests on material from sites in Burundi and Rwanda and this will be implemented through during late October – early November with IITA / respective NARS / and CRS.

Dissemination workshops were conducted in this quarter in Burundi, DR Congo, and Uganda. The workshops were attended by C3P partners and the focus was to provide practitioners with a framework for promoting effective dissemination built upon the lessons learned from the C3P experience to date with dissemination and the use of On Farm Vouchers in Kenya, Tanzania, and Uganda. Sample reports and guidelines to dissemination are provided per the appendices to this report.

## CMD Resistant Cassava Multiplication under C3P

Country	Target (ha)	Total Planted (ha)	Varieties Under Multiplication	Partners Engaged in Multiplication
Burundi	144	104	MM96/7678, MM96/7204, MM96/0087, MM96/5280, ABBEY-IFE	Bubanza, Muyinga, EMUSO, FHI, Ngozi, Caritas Belgique, CRS Kirundo
DRC	105	139.5	Liyayi (MM96/0287), SawaSawa (MM96/3920), Mayombe (MM96/7752), Sukisa (MM96/1666), Kasela, Kitanda, Kikonda	Cederu, Kindu, Kongolo, Uvira, Bukavu, Goma
Kenya	58	146*	Mygera, MH95/0183, and SS4	Homa Bay, Kisumu, REFSO
Rwanda	92	90.6	95/0063 and 92/0057	Ingabo and Rwarri
Tanzania	143	190	MM 96/4619 ( <i>Meremeta</i> ), MM 96/4684 ( <i>Mkombozi</i> ), MM 96/8450 ( <i>Kibaya</i> ), MM 96/5725 ( <i>Nyakafuru</i> ), MM 96/8233 ( <i>Rangimbili</i> ), MM 96/3075B ( <i>Belinde</i> ), I 91/00063 ( <i>Kasara</i> ), I 91/0057 ( <i>Isanzu</i> ), I 91/0067 ( <i>Suma</i> ), TME 14 ( <i>Bahati</i> ), SS4 and TMS 4(2) 1425 (Nigeria)	RUDDO, LZARDI-(Ukiriguru & Maruku), MARDI, MFEC, KIMKUMAKA, KIKANGONET, TAHEA, MRHP
Uganda	0	26.4**	0067 (Akena) and 2961	World Vision, Caritas Lugazi, Caritas Kasana Luwero
<b>Total</b>	<b>542</b>	<b>696..5</b>		<b>22</b>

\*Kenya total includes secondary and tertiary multiplication.

\*\*Uganda total includes ONLY secondary multiplication.

Burundi: Multiplication under C3P totals 104 HA against a target of 144 HA. However, through complimentary funding from ECHO (Food for Work) and USAID (Food Security Consortium) an additional 180 HA of cassava planting material will be available for on-ward dissemination. QMP work was completed in July 2007 across 36 sites in 4 provinces. An estimated minimum of 25 million cuttings will be disseminated to at least 30,000 farmers in by CRS Burundi resulting from this multiplication (based on 100,000 cuttings per HA and an average of 500 cuttings per farming HH). C3P & CRS fields will begin to be disseminated from late October with the majority of dissemination to occur in December 07 and February 08.

The national committee met to address CMD in late September in Burundi to discuss dissemination and it was noted that material should be transported in form of bundled sticks (fargot) and not through mini cuttings in bags as was widely practiced during the past agricultural season. It is believed that the C3P documentation of cutting losses (see the CRS Burundi brief per the Q4 report) was instrumental in providing clear documentation as to losses resulting from the practice of mini cuts and bagging of cassava planting material. All CRS Burundi partners attended a 2.5 day cassava dissemination lessons learned and training meeting at CRS Burundi offices in September. Cassava training during this quarter included 39 extension agents on cassava practices and nine farmer groups in rapid multiplication.

DRC: Multiplication under C3P totals 139.5 HA against a target of 105 HA. Significant training and sensitization on cassava occurred during this period in DRC with a number of conferences held by INERA/CRS to look at coordination in four provinces (North Kivu, South Kivu, Maniema, and North Katanga). More than 20,000 leaflets discussing management practices on CMD were disseminated during this period through village level meetings conducted by C3P partners in three provinces. Additionally, over 80 radio emissions were broadcast in program areas to sensitize farmers on management practices related to CMD and 8,000 posters on CMD management were disseminated through C3P partners. C3P fields will be disseminated in DRC, starting with Uvira from late October 2007. Outside of Uvira, most dissemination of C3P material in DRC will occur in February 2008. C3P partners in Kongolo will not disseminate cassava cuttings produced because of high CMD incidence, the material multiplied was sourced locally based on regional recommendation not to source material from distance for these fields – this to reduce potential spread of other diseases. A cassava dissemination training was conducted in Uvira in September 2007 and attended by local authorities and partner staff.

Kenya: Multiplication under C3P totals 146 HA against a target of 58 HA. The target was surpassed through gaining an additional planting season due to planting bulking sites in September 2006. To date over 1,000 farming households have received cassava planting material through C3P implemented On Farm Vouchers. Dissemination continued during this reporting period for C3P partner based in Busia district and from December 2007 dissemination will occur for C3P partners in Kisumu and Homa Bay.

Rwanda: Multiplication under C3P totals 90.6 HA against a target of 92 HA. QMP surveys were completed in late July and only detected significant CMD (still under 20%) in a few fields under partner Rwarri in eastern Rwanda. CRS is planning a dissemination training, including use of On Farm Vouchers, with partners and to engage MINAGRI and RADA in mid November 2007. Rwanda dissemination is expected to begin from late November 2007.

Tanzania: Multiplication under C3P totals 190 HA against a target of 143 HA. Cassava inventory surveys were conducted in 22 districts during the quarter, providing practitioners at national level with clear sense of the availability of improved cassava planting material, notably in 4 districts. An additional 25 HA of primary material was established this quarter in to promote availability of material in particularly needy districts, which were targeted as result of the food security survey work in Tanzania under C3P. QMP surveys were completed in TZ through sampling a total of 30 sites with IITA / NARS / CRS and partners being trained in the process. CRS Tanzania and partner MARDI completed a draft of the OFV experience in late 2006/2007 during this quarter, the report was used in dissemination trainings in DRC and Burundi and in Uganda where the CPM was present to provide personal insights to the OFV and dissemination efforts in Tanzania. More than 5,000 farmers were trained on CMD management practices this quarter in Tanzania. Regional CMD steering committee meetings were conducted in Mara and Mwanza during this period, participants included local authorities (district agricultural officers, planning officers, C3P focal officers at district level), C3P program manager, and multiplication partners, and the respective regional administrative secretaries.

Uganda: Multiplication under C3P totals 26.4 HA against a target of zero. Cassava multiplication was not envisioned at the start of C3P when targets were set but this was later changed to take into account the need for multiplication of CBSD&CMD resistant material. A short dissemination planning meeting was held with Uganda partners in September 2007. Ugandan C3P dissemination is to occur between November and April 2008 with an expected total of more than 10,000 farmers receiving improved cassava planting material through partner supported dissemination in Central Uganda. More than 160 community based trainers were trained this

quarter on CMD / CBSD management through four C3P partners. C3P Ugandan team along with National Banana Program and IITA drafted two briefs for this quarter, see appendices.

### ***Key Lessons Learned and Next Steps***

Cassava templates used under C3P may prove to set a threshold for provision of information on multiplication that can be broken down by field, variety, location, and partner and as a result of GPS can be mapped. This information, if collected and accurate, and made accessible to a wider audience of practitioners, will enable more targeted interventions. In a similar vein, increased inter-institutional coordination on disease surveillance and supply surveys will increase the scale of information and the common formatting of information so as to promote greater synergy and improved targeting of interventions.

QMP survey work under C3P may provide an excellent starting point in institutionalizing field quality surveys on national and regional basis, as applicable when there is a dearth of disease resistant material and there is a crucial need to have a process to validate field status. Post C3P it will be important to look hard at how this process can be decentralized and to increasingly engage National Programs with respective plant health inspection units, under a regional umbrella, to take the lead on such survey work and as a key to this process, establish / monitor / and enforce quality controls standards for the QMP teams.

Cassava brown streak disease has emerged as the number one cassava issue emanating from C3P (see CBSD per Q4 report) and is reflected by IITA/EARRNET. Given what appears to be an increased prevalence of the disease in highland areas, while still marginal and while yet to be seen impacts as is noted in coastal regions, donors, research, and practitioners will need to place greater emphasis on diagnostics, more research to understand the disease and its current manifestations, an increased focus on breeding, and increased inclusion of CBSD in cassava management training at field level. All of these elements are part of an on-going post C3P program that is being developed to address cassava across all 6 of the C3P countries. Sampling was conducted by an IITA led team in late October 2007 in Burundi and Rwanda and the results and analysis will be available in the next quarter. Likely outcomes may include the de-classification of a number of CMD tolerant varieties that were multiplied under C3P but were not selected for CBSD tolerance due to no known presence of CBSD at the time decision of material selection for multiplication under C3P was taken. In September 2007, a team comprised of cassava experts from IITA and National Programs drafted guidance on the implication of and recommendations for CBSD management during a CRS facilitated meeting.

Dissemination of cassava planting material has been an area of significant learning under C3P. The combination of multi-country learning and lesson sharing and a regional frame work as fostered by C3P has enabled for these lessons to be documented and implemented across most of the C3P countries. Major lessons learned include the feasibility of voucher based approaches – namely On Farm Vouchers – in reducing transport costs and losses and promoting transparency between origin and end use of material at farm level. These lessons have been documented per C3P briefs (see Q4 briefs on use of OFV in Kenya and on Cassava Cuttings in Burundi and per the Q6 draft brief on the OFV experience in TZ – per appendices). Dissemination will be the focus of C3P activities during the no cost extension period and there will be continued documentation of experience and lessons learned with the aim to promote better practices for the larger practitioner community to better serve farming communities.

Site selection challenges for cassava multiplication under C3P have been noted in all C3P countries. The desire to have good spatial orientation of multiplication sites, as related to the community in need of material, needs to continue but an added focus in the future need be on selecting sites with good soils that drain well. The use of fertilizer at time of planting should also be considered as standard practice to promote early growth and plant viability in advance of emergence of competition from weeds within 6-10 weeks of planting.

Engagement of National Programs has emerged as one key lesson learned from C3P. National program engagement was not uniform across the C3P countries but the importance of effective engagement. Key areas for engagement include improving practitioner understanding of national breeding programs and national pipeline of cassava materials and leadership & backstopping on QMP work and cassava training.

Challenges on spacing in the C3P multiplication plots, that is farmer and multiplication groups almost systematically ignored spacing guidance for production of planting material and opted for wider spacing which benefited root production. Moving forward, it will be important to better understand and appreciate farmer and farmer group needs for root production and to orient planting guidance accordingly. One solution may be to orient production contracts with farmer groups to cutting production by making bonus payments contingent upon adherence to spacing guidance and to the total amount of planting material produced.

Increased use of rapid multiplication techniques has been noted as a technique to embrace in future cassava planting material production programs. This technique is advantageous for the amount of material that can produced on limited land in a short period but the downsides include the need for more intense training and the need for labor and critical attention to site selection near water points.

Training and community awareness on CMD / CBSD Management. A large effort was put into a number of different approaches to build farmer and community awareness and management of CMD during C3P. A crucial aspect of the C3P evaluation will to draw lessons learned and best practices from the myriad approaches used. Follow on cassava work in the region must also include a greater focus on CBSD management.

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*

Improved BXW disease management was promoted regionally this quarter through C3P partner visits to Uganda which were facilitated by Bioversity International and IITA.

C3P partners from DR Congo and Rwanda visited the IITA macro propagation facility in Uganda in July and then various macro propagators that were established through C3P partners in Uganda. The macro propagators in Uganda represent the first time this technology was piloted at a community basis in Central or East Africa and drew on the experiences in Cameroon and Nigeria. Taskforces were formed in Rwanda and DR Congo after this visit and field planning for macro propagation activities commenced following this visit.

IITA provided strong support on macro propagation this quarter through a number of visits to the Uganda sites, backstopping and support to the DR Congo and Rwanda teams as a follow support to the establishment of macro propagation facilities in Uganda. IITA also provided leadership and support to a BXW evaluation that was facilitated by CRS in Rwanda during September 2007.

C3P partners from DR Congo and Rwanda completed their Uganda visit by sharing BXW experiences with communities in Western Uganda, Mbarara District, where the disease has been eradicated.

C3P partners from Kenya visited Uganda in July to meet with Mbarara District farmers to share experiences on BXW.

Key lessons draw from these visits included the importance of the community owning the problem and the exploitation and use of local culture and practices in successful community awareness and education campaigns and the engagement of a wide spectrum of civil society actors including local government authorities and civil and religious institutions.

Bioversity International and BARNESA conducted a regional workshop in July – funded outside of C3P but to which all C3P countries were invited. The workshop was focused on managing a host of banana diseases, including BXW.

During this quarter a BXW Diagnostic and Management Manuel developed by Bioversity International was tested at NARS level and a final version is being edited and will be disseminated in November 07. Also, Bioversity International is finalizing a BXW diagnostic and management fact sheet.

During this quarter Bioversity International a participatory learning and monitoring tool was developed and tested at farm level in Uganda and translated in English and French and data is currently being collected at two sites per C3P country for analysis. The results are to be presented at the Regional BXW workshop which is slated for December 2007.

### **BXW Trainings and Estimated Farmers Reached in C3P**

<b>Country</b>	<b>Target for Extensionists Trained</b>	<b>Actual Trained*</b>	<b>Target for Farmers Trained</b>	<b>Actual Trained/ Estimated Trained</b>
Uganda	50	160	1000	+ 9,000
Tanzania	50	53	1000	13,296
Kenya	50	76	1000	3,335
Burundi	50	130	1000	+ 1,000
Rwanda	50	71	1000	+ 1,000
DRC	50	524	1000	+ 20,000
<b>Total</b>	<b>350</b>	<b>1014</b>	<b>6,000</b>	<b>47,631</b>

**Targets are based on the C3P project document.**

Burundi: Over 10 agricultural extension agents were trained this quarter in BXW management. The training was conducted by IRAZ with backstopping from Bioversity International. Trainings occurred in 4 provinces. Key topics included BXW identification, dissemination, and management. A total of 2,400 posters on BXW, with Bioversity backstopping, were developed and disseminated in Burundi as aids to onward education campaigns at field level and were provided to extension agents.

DR Congo: Training efforts in DR Congo on BXW were intense this quarter with more than 300 technicians, 1500 task force leaders, and 20,000 farmers trained in the Beni/Butemo, Rutshuru, and Masisi within North Kivu through C3P partners Caritas Goma, Cederu, and UC Graben. C3P partners visited Uganda in July to look at macro propagation and to understand the successes at BXW efforts in Mbarara District.

Kenya: C3P partner KARI Kakamega organized two BXW workshops in Busia and Bungoma district with 54 trainers were trained and 2,000 BXW posters were used as part of awareness creation in the targeted districts.

Rwanda: BXW trainings in 11 districts began in this quarter, this as a follow to the Rubavu BXW ToT held in June 2007, and will be completed during the next quarter. Rubavu trainings under C3P were completed this quarter. C3P partners visited Uganda in July to look at C3P macro propagation sites and to understand BXW successes in Western Uganda. Following the visit Rubavu district authorities established sector, cell, and village level taskforces to improve BXW surveillance. C3P partner BAIR is currently establishing two macro propagation sites in Rubavu district and the corms for these sites will be provided by MINAGRI. Phase II of food for work activities to promote eradication efforts in Rubavu District was completed this quarter with the following achievement: 195 HA eradicated across 6 HA, more than 500,000 plants removed, and partial food rations provided to over 1,000 families during the phase. An evaluation of C3P BXW/FFW activities in Rubavu was also completed this quarter. The evaluation was facilitated by a CRS staffer from outside the region and included a variety of stakeholders (UN/WFP, RADA, ISAR, BAIR, Rubavu district authorities) and was backstopped/supported by IITA. The evaluation report will be presented as part of the next Q report and is currently in final stages before being released to stakeholders.

Tanzania: BXW sensitization efforts continued this quarter in Kagera region and Tarime District, Mara region where six additional infected stools were found in the same earlier infected field. A drama group performed a 'BXW performance' during a Kagera agricultural show and followed the performance with distribution of BXW leaflets to audience members. A total of 30,000 leaflets on BXW were disseminated – primarily through extension agents – this quarter. Since inception of the C3P program a total of 13,296 farmers have been trained – with about 30% of these farmers women. A total of 1,050 plantlets were produced by the MARDI macro propagator, some of these were used to establish a banana mother garden at MARDI and the rest will be sold to farmers through an on-farm voucher system for November-December 2007.

Uganda: BXW sensitization in Uganda has reached over 9,000 farmers and over 160 extension agents across five districts but one challenge is that while female farmers represent about 50% of farmers they represent only about 30% of the CBT's trained. This surpassed the global target of C3P BXW for Uganda by 100%. Nearly 50,000 clean banana suckers are expected to be disseminated from October until March 2008 and this will serve almost 2,000 households. To date, about 900 households have received clean banana material.

Macro propagation has proven to be challenging in terms of technical backstopping, with the lesson being the need for continuous training to increase adoption in applying the technology as effectively as possible. Other propagation methods can also be quite good, one such method is the ‘false decapitation’ where by a larger numbers of suckers are produced than through macro propagation. C3P Ugandan team produced two draft briefs this quarter – which are in the Q6 appendices.

### ***Key Lessons Learned and Next Steps***

Community ownership & multiple stakeholder engagement are critical in effectively responding to BXW. This theme has consistently been noted by Bioversity International. During the December meeting to share lessons learned in addressing BXW, Bioversity International will present results on their participatory learning and monitoring tool.

Eradication Challenges in Endemic Areas (Case Study Rubavu, Rwanda). The CRS facilitated evaluation of BXW efforts in Rubavu will be shared in the next quarter and be presented at the Bioversity International meeting slated for Burundi in December, 2007.

Macro propagation potential revolutionary impact in speeding up delivery and reducing costs for delivery of clean banana planting material. Continue efforts in the coming quarter to roll out this technology in Rwanda and DRC through applying the knowledge and lessons learned from Uganda. In Uganda, the efforts in the next quarter will be in dissemination of suckers produced via this technology.

## 4. Acronyms

ADP	Area Development Program
ASC	Advisory Steering Committee
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
BAIR	Bureau d'Appui aux Initiatives Rurales
BARNESA	Banana Research Network for Eastern and Southern Africa
BDD	Bureau Diocésain de Développement
BXW	Banana Xanthomonas Wilt
CARITAS	Network of Catholic Charitable Organizations working under Diocesan and Catholic Conference mandate
C3P	Crop Crisis Control Project
CBSD	Cassava Brown Streak Disease
CBT	Community Based Trainers
CCU	Country Coordinating Unit
CIALCA	Consortium for Improved Agriculture-based Livelihoods in Central Africa
CICR	International Committee of Red Cross (DRC)
CMD	Cassava Mosaic Disease
CMVD	Cassava Mosaic Virus Disease
COMESA	Common Market for Eastern and Southern Africa
CRS	Catholic Relief Services
DPAE	Provincial Department of Agriculture (Burundi)
DRC	Democratic Republic of Congo
EARRNET	Eastern African Root Crops Research Network
ECHO	European Commission Humanitarian Aid Department
ECOSEC	Economic Security
EMUSO	Entente Mutuelle et Solidarité
FAMIS	Food and Agricultural Marketing Information System
FAO	Food and Agricultural Organization
FEWSNET	Famine Early Warning System Network
GIS	Geographic Information System
GPS	Geographical Positioning System
ICRC	International Committee of the Red Cross
IITA	International Institute of Tropical Agriculture
INERA	l'Institut National pour l'Etude et la Recherche Agronomique
INIBAP	International Network for the Improvement of Banana and Plantain
IRAZ	Institut de Recherche Agronomique et Zootechnique
ISABU	Institut des Sciences Agronomiques du Burundi
ISAR	Institut des Sciences Agronomiques du Rwanda
KARI	Kenya Agricultural Research Institute
KEPHIS	Kenya Plant Health Inspection Services
MINAGRI	Ministry of Agriculture (Burundi)
MoA	Ministry of Agriculture
NAADS	National Agricultural Advisory Services (Uganda)
NADIFA	Nakasongola District Farmers Association
NARO	National Agricultural Research Organization (Uganda)
NARS	National Agricultural Research Systems
NBRP	National Banana Program (Uganda)
OFV	On-Farm-Voucher

RADA	Rwanda Agricultural Authority
REFSO	Rural Energy and Food Security Organization
RGC	Regional Grant Review Committee
REGI	Regional Economic Growth and Integration
RUDDO	Rulenge Diocesan Development Office
RWARRI	Rwandan Rural Rehabilitation Initiative
SAKSS	Strategic Analysis & Knowledge Support System
SENASEM	Service national de semances
SO	Strategic Objective
USAID	United States Agency for International Development
WFP	World Food Programme

## **5. Appendices**

### **I. Country and Regional Technical Partner Report (8)**

**This folder contains a total of eight reports: one from Burundi, DRC, Kenya, Rwanda, Tanzania, Uganda, IITA, and Bioversity International.**

### **J. Country Cassava Templates (9)**

**This folder contains one cassava template for Burundi, Kenya, Rwanda, and Uganda. Tanzania is presented here as a word table. DRC has a total of four templates.**

### **K. ASARECA Meeting Documents (7)**

**This folder contains Meeting Agenda, Meeting participant list, Summary Presentation of C3P Program and Outputs, Summary of Cassava Issues and C3P Evaluation, Summary of Banana Coordination and Partnership Issues, Summary of Banana Technical Issues, Summary of Cassava Technical Issues.**

### **L. GIS Targeting Briefs 2)**

**This folder contains one brief on GIS targeting for BXW and one for GIS targeting for CMD.**

### **M. Cassava Dissemination (2)**

**This folder contains one summary document on Cassava Dissemination Guidelines and a summary trip report based on dissemination training in Burundi during the reporting period.**

### **N. IITA Food Security Report**

**This report is the summary food security report for IITA under C3P.**

### **O. OFV Report Tanzania**

**This report is based on the C3P OFV experience in two districts in Tanzania.**

### **P. BXW Briefs (2)**

**One brief is concerned with macro-propagation and the second brief discusses participatory evaluation techniques.**