2012 Technical Report per Activity

Each Program Participant must provide a small remark against each activity/deliverable to indicate the status of the activity (2-4 sentences required per activity) using the form below. Updated data from the current partners is also required.

CCAFS Center Led Activities

Bioversity International

Activity No. 45

Activity title	Defining the critical information and information sources needed by breeders and other researchers in order to produce varieties adapted to climate change and testing Crop Trait ontology-based dynamic services on the Platform for multi-location trials of technologies and genotypes for GxE interactions, to support the collection of metadata, trait based queries on evaluation sites and enabling integration of the critical information for breeders, such as GENESYS, GCP integrated breeding platform and other important data sources.	
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)* 1.1.1 2012 (1)
Activity objectives *(what the activity aims to achieve)* — **Objective 1**	Facilitate the description in Agtrials of the uploaded trial data sets with a validated list of breeders'traits and support the data discovery using ontology trait based queries..	
Activity status	Partially completed	
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	During the March 2012 workshop, agreement on the information needed by breeders was defined, including the content of a trait dictionary, the definition of breeders' interest in the use of the trait information, and details for the trait list and Agtrials. In addition,the recommendation was made to use a similar approach for farmer traits and to develop geospatial access to the trait information with Agtrials. The crop trait ontology was also expanded with new breeder trait dictionaries, and this was also translated into the language interest of the crop group (e.g. Spanish, French, Portugese and/or Chinese). Agtrials uses this information for cowpea, groundnut, common bean, and pigeon pea.	

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Workshops	Workshop held with breeders (involved in CCAFS objectives 1.2 and Seeds for Needs projects), CIAT and ICARDA colleagues working under CCAFS 1.3 (FIGS, Analog, AgTrials), GCP data managers to identify and assess the critical information needed from existing data sources, including genetic information.	2012	Completed	Plain text (*.txt)
Model tools and software	Crop Trait ontology (http://www.cropontology.org) enriched with new Trait descriptions and categories useful for the annotation of Climate change data sets	2013	Partially completed	Plain text (*.txt)
Model tools and software	Bioversity's Collecting Mission Database Prototype published online using map interface, and upgraded into an ESRI geodatabase. (http://bioversity.github.com/geosite/).	2012	Completed	Database (*.sql, *.mdb, etc)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
CG - CGIAR Center	CIAT	Centro Internacional de Agricultura Tropical	Glenn Hyman	g.hyman@cgiar.org
ARI - Advanced Research Institution	CIRAD	Centre International de Recherche Agricole et du Developement	Jean Christophe Glaszmann	jean-christophe.glaszmann@cirad.fr
ARI - Advanced Research Institution	INRA	Institut National de la Recherche Agronomique	Jacques Legouis	Jacques.Legouis@clermont.inra.fr
ARI - Advanced Research Institution	USDA	U.S. Department of Agriculture	David Ellis	david.ellis@ars.usda.gov
AI - Academic Institution		Cornell University	Naama Menda	nm249@cornell.edu

		Acronym	**Name**	
			Oregon State University	
	AI - Academic Institution	**Contact Point Full Name**	**Contact Point Email**	
		Laurel Cooper	cooperl@science.oregonstate.edu	

Activity No. 46

Activity title		Case studies of at least 6 crops to use enhanced version of AgTrials.		
CCAFS Objective *(select from drop list)*		1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.1 2012 (1)
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Enabling the access to and discovery of evaluation data using trait queries on Agtrials that will support the selection process of germplasm of interest to breeders and farmers		
Activity status		Partially completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		In 2012, trait information on five priority crops (cassava, yam, sweet potato, sorghum, and pearl millet) was extracted, and linked to both the crop ontology curation tool and Bioversity's collecting mission database. In 2013, information from banana will also be extracted, and case studies on all six crops will be completed and tested with breeders.		

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Model tools and software	Use cases for at least 6 crops developed for accessing to data and integrating Agtrials with the selected online sources based on the Crop Trait ontology	2013	Partially completed	Plain text (*.txt)
Model tools and software	Testing the product with breeders	2013	Uncompleted	Plain text (*.txt)

Current Partners

	Acronym	**Name**	
	CIAT	Centro Internacional de Agricultura Tropical	
CG - CGIAR Center	**Contact Point Full Name**	**Contact Point Email**	
	Glenn Hyman	g.hyman@cgiar.org	
	Acronym	**Name**	
	CIRAD	La recherche agronomique pour le développement	
ARI - Advanced Research Institution	**Contact Point Full Name**	**Contact Point Email**	
	Jean Christophe Glaszmann	jean-christophe.glaszmann@cirad.fr	
	Acronym	**Name**	
		Cornell University	
AI - Academic Institution	**Contact Point Full Name**	**Contact Point Email**	
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		Oregon State University	
AI - Academic Institution	**Contact Point Full Name**	**Contact Point Email**	
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Activity No. 47

Activity title		Multilocation participatory trials of durum wheat in Ethiopia carried out in analogue sites for present and future adaptation to climate change		
CCAFS Objective *(select from drop list)*		1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.1 2014
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To identify and evaluate promising local varieties of barley and durum wheat from genebanks, using an innovative geographic information system (GIS) and participatory evaluation techniques, to meet the short- and long-term climate change-related challenges faced by farmers.		
	Objective 2	To improve farmers' access to genebank materials through the establishment of a seed dissemination system, also enabling the scaling-up of the project at the national level		
	Objective 3	To build the capacity of national scientists on documentation systems, GIS techniques and use of collections		
Activity status		Partially completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		The majority of the work under this activity has been completed on the three pilot analogue sites, and the Final Technical Report will be available in February 2013, which will summarize all findings. A new grant - received towards the end of 2012 - has expanded the work to an additional seven new sites, and will involve three new Partners (activity under theme 2). The work will strengthen the scope of predictive characterization, will provide information on molecular characterization and will put in place a mechanism to evaluate the impact of diversity in production systems. Crowdsourcing will be tested as part of the work.		

Deliverables status
(You may add any unexpected deliverable)

Type	Description	Year	Status	Format
Reports, publications	Final Technical Report and peer reviewed article on multilocation trials in 3 pilot analogues sites Ethiopia for durum wheat and barley, including women farmers' evaluation; preliminary report of trials in five more regions in Ethiopia;	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Capacity	National scientists acquire the skill on doucmentation system and GIS techniques	2013	Completed	Document (*.doc, *.odt, *.pdf)
Workshops	Workshop on preliminary project results in pilot sites will be held in Ethiopia on 15 January. Information to be included in the Final Technical Report (available February 2013)	2012	Partially completed	Document (*.doc, *.odt, *.pdf)
Data	Data series on multilocation trials in all sites consolidated, compiled and analysed. First three pilot analogue sites completed.	2014	Partially completed	Database (*.sql, *.mdb, etc)
Communication products	5 radio products on related issues broadcasted.	2012	Completed	Plain text (*.txt)
Reports, publications	Final report consolidating socio-economic and field trials produced. Information has been consolidated for the first three trial sites; however, the final report will not be generated until the 7 additional sites are analyzed.	2014	Partially completed	Document (*.doc, *.odt, *.pdf)
Other	Expansion of activities to 7 new geographic areas with new partners. LOAs signed.	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NARES - National agricultural research and extension services	IBC	Institute for Biodiversity Conservation	Alganesh Tesema	alganeshgellaw@yahoo.com
AI - Academic Institution		Mekelle University	Dejene Kassahun	dejenekmh@gmail.com
NARES - National agricultural research and extension services		Sirinka Agricultural Research Centre	Yosef Kidane	yosefgk@yahoo.com
AI - Academic Institution		Scuola Superiore S. Anna	Enrico Pe'	m.pe@sssup.it

Activity No. 48

Activity title		Multilocation participatory trials of various crops in 4 countries carried out in analogue sites for present and future adaptation to climate change
CCAFS Objective *(select from drop list)*		1.1 Adapted farming systems
CCAFS Milestone No. *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*		1.1.1 2014
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Developing crop suitability models, coupled with predictions of future climatic conditions, to allow the identification of genebank materials best suited to those conditions;
	Objective 2	Evaluating the current and future production potential for target crops using GIS-based prediction models;
	Objective 3	Developing a database that combines climate and evaluation information on conserved varieties of target crops;
	Objective 4	Undertaking a household survey of farmers to understand their knowledge of crop biodiversity, exchange of planting materials and local strategies for adapting to climate change;
	Objective 5	Establishing community assessment of identified varieties, a community genebank for conservation and a participatory seed-multiplication and delivery system;
	Objective 6	Providing training in the evaluation of varieties for stress-tolerance, the use of GIS tools and prediction models, and the use of innovative screening tools for promising varieties

Activity status	Partially completed
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	First evaluation trials have been completed for sweet potato, oat and buckwheat. Taro trials will be carried out in 2013. Reports for all four crops will be done in 2013.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	First evaluation trials report on sweet potatoes and taro in PNG and for oat and buckwheat in China; Report on Participatory Varietal Evaluation for rice in Malaysia and potatoes in Bolivia.	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Communication products	Public awareness materials for all project sites, newspaper articles, presentations in conferences and workshops.	2013	Partially completed	Presentation (*.ppt, *.odp)
Workshops	Project evaluation workshop in PNG. Planned for October 2013.	2013	Uncompleted	Plain text (*.txt)
Data	Passport and characterization database of taro and sweetpotato germplasm collections in PNG and their mapping	2013	Completed	Database (*.sql, *.mdb, etc)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NARES - National agricultural research and extension services	PROINPA	Fundación para la Promoción e Investigación de Productos Andinos	Wilfredo Rojas	w.rojas@proinpa.org
NARES - National agricultural research and extension services	CAAS	Chinese Academy of Agricultural Sciences	Wu Bin	wubinah@yahoo.com.cn
NARES - National agricultural research and extension services	NARI	National Agricultural Research Institute	Birte Komolong	birte.komolong@nari.org.pg
NGO_DO - Non-governmental organization/Development organization	SIAS	Sarawak Institute of Agriculture Scientists	Mr. Paul Vincent Ritom	pvritom@gmail.com
GO - Government office/department	DoA	Agriculture Research Centre, Semongok	Teo Gien Kheng	jeantgk@gmail.com

Activity No. 49

Activity title	Development and evaluation of methodologies for surveys of communities in three countries about climate change and the relative tolerances of traditional crops including NUS to cope with climate change conditions (Nepal, India, Bolivia)			
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.3 2012 (1)	
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Developing and testing highly participatory, community-based approaches, methods and tools for documenting the current status of conservation and use of traditional crops (NUS) relevant to the rural poor within a climate change context.		
	Objective 2	Enhancing capacities of stakeholders in documenting, monitoring, conserving and using local agrobiodiversity and associated knowledge on farm;		
Activity status	Partially completed			
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	The Report presenting approaches, methods and tools has been delayed because the surveys to assess resilient crops were started later than expected. A graduate student is analyzing the data, and working on the report, which will be completed by June 2013.			

Deliverables status

(You may add any unexpected deliverable)

Type	Description	Year	Status	Format
Reports, publications	Report presenting approaches, methods and tools deployed in target countries with annotations on comparative advantages and/or disadvantages;	2012	Partially completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	Survey questionnaires to assess status of conservation and use of traditional crops, perceived comparative advantages for resilient production systems, best practices, needs and opportunities.	2012	Completed	Document (*.doc, *.odt, *.pdf)
Data	Survey data	2012	Completed	Spreadsheet (*.xls, *.ods)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NGO_DO - Non-governmental organization/Development organization	PROINPA	Fundacion Promocion e Investigacion de Productos Andinos	Ximena Cadima	x.cadima@proinpa.org
GO - Government office/department	ARC	Agriculture Research Centre, Semongok	Teo Gien Kheng	jeantgk@gmail.com
NGO_DO - Non-governmental organization/Development organization	SIAS	Sarawak Institute of Agriculture Scientists	Mr. Paul Vincent Ritom	pvritom@gmail.com
NGO_DO - Non-governmental organization/Development organization	IUCN	International Union for Conservation of Nature	Rajendra Khanal	info@iucn.org.np
NARES - National agricultural research and extension services	NARC	Nepal Agricultural Resarch Council	Keshab B. Koirala	ednarc@ntc.net.np
NGO_DO - Non-governmental organization/Development organization	LIBIRD	Local Initiatives for Biodiversity Research and Development	Sajall Sthapit	ssthapit@libird.org
NGO_DO - Non-governmental organization/Development organization		MS Swaminathan Research Foundation	Israel E.O. King	ediok151173@gmail.com
NGO_DO - Non-governmental organization/Development organization	ASA	Action for Social Advancement	Ashis Mondal	ashis@asabhopal.org
NGO_DO - Non-governmental organization/Development organization		Gene Campaign, India	Dr Suman Sahai	mail@genecampaign.org

NARES - National agricultural research and extension services	**Acronym**	**Name**	
	INIAF	Instituto Nacional de Innovación Agropecuaria y Forestal	
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	Beatriz Vino	vinobeatriz@gmail.com	
Other	**Acronym**	**Name**	
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	Contact Point Full Name	**Contact Point Email**	
	Kakoli Gosh	Kakoli.Ghosh@fao.org	
AI - Academic Institution	**Acronym**	**Name**	
		Lucian Blaga University, Romania	
	Contact Point Full Name	**Contact Point Email**	
	Maria Mihaela Antofie	mihaela_antofie@yahoo.com	

Activity No. 50

Activity title	Collection and analysis of information on acquisition, use, distribution, uptake of germplasm useful for climate change adaptation by Centres' partners and other PGRFA users in target countries [to complement study of centres themselves in 2011]; Synthesis and analysis of policy signficance of baseline survey results. Comparing those results with trends in policy development at national and international levels. Identifying key policy challenges for centres (and partners) acquisition, use, diffusion of adapted germplasm.			
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.3 2012 (2)	
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To identify factors that influence national level germplasm flows.		
Activity status	Partially completed			
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	In 2011, we conducted surveys of CG scientists. In 2012, we published two papers based on our analysis of those surveys. In 2012, we also developed a survey instrument and identified respondents in 19 countries, focusing on non-CG organizations, as part of the second phase of the research. The survey will be conducted in 2013.			

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	**Galluzzi, G., Halewood, M., Lopez-Noriega, I., and Vernooy, R., 2012. Keeping germplasm flowing. Journal of Public Interest in Intellectual Property, 1(2), pp.1–13. Available at: http://www.piipajournal.org/article/view/10698.	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	Lopez-Noriega, I., Galluzzi, G., Halewood, M., Vernooy, R., Bertacchini, E., Gauchan, D. and Welch, E., 2012. Flows under stress: availability of plant genetic resources in times of climate and policy change, Available at: http://hdl.handle.net/10568/21225.	2012	Completed	Document (*.doc, *.odt, *.pdf)
Data	Overall analysis of survey results, literature surveys, and complementary research conducted for Phase 1 - focussing on CG centres	2012	Completed	Other
Model tools and software	Survey instrument for Phase 2 focusing on centres' partners and other users	2012	Completed	Other
Communication products	M. Halewood, Key note address, closing session entitled 'Towards a Global Science and Technology Policy Agenda for Mitigating and Adapting to Climate Change closing session'. First Global Thematic IASC Conference on the Knowledge Commons. Knowledge Commons Conference. Sept 12-14, 2012. Available at http://www.iasc-commons.org/conferences/thematic/2012-knowledge-commons and http://www.youtube.com/watch?feature=player_embedded&v=UQjpQ0GyB40#!	2012	Completed	Video (*.avi, *.mpeg, etc)
Communication products	R. Vernooy. Plant breeders respond to climate-related stresses in multiple ways. http://ccafs.cgiar.org/blog/plant-breeders-respond-climate-related-stresses-various-ways	2012	Completed	Blogpost

Communication products	R. Vernooy. Access to genetic resources and genebanks –where are we in the process? http://ccafs.cgiar.org/blog/slow-progress-access-genetic-resources	2012	Completed	Blogpost
Communication products	R. Vernooy. Spotlight on policy challenges for breeders. http://ccafs.cgiar.org/blog/spotlight-policy-challenges-plant-breeders	2012	Completed	Blogpost
Communication products	Overall analysis of survey results, literature surveys, and complementary research conducted for Phase 2 - focussing on Centres' partners and other users	2013	Uncompleted	Spreadsheet (*.xls, *.ods)
Communication products	Climate change models may help spur lawmakers to implement seed treaty. http://ccafs.cgiar.org/blog/climate-change-models-	2012	Completed	Blogpost
Communication products	R. Vernooy. Recognizing and promoting farmers' knowledge and rights: the policy challenges. http://www.cgiar.org/consortium-news/recognizing-and-promoting-farmers-knowledge-and-rights-the-policy-challenges/	2012	Completed	Blogpost
Communication products	J. Cherfas. New climate change tool. http://grpi2.wordpress.com/2012/02/20/climate-change-tool/	2012	Completed	Blogpost

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
AI - Academic Institution		University of Illinois	Eric Welch	ewwelch@uic.edu
NARES - National agricultural research and extension services		National Agricultural Research Laboratories, Plant Genetic Resources Center, Entebbe Botanic Gardens	John Wasswa Mulumba	jwmulumba@yahoo.com
NARES - National agricultural research and extension services	NARO	National Agricultural Research Organization	Richard Ogwal	ricogwal@yahoo.co.uk
NARES - National agricultural research and extension services	ACODE	Advocates Coalition for Development and Environment	Ronald Naluwairo	r.naluwairo@acode-u.org
NARES - National agricultural research and extension services		Rwanda Agriculture Board, Ministry of Agriculture and Animal Resources	Jean Rwihaniza Gapusi	gapusirj@yahoo.fr
Other		FAO Treaty Secretariat	Dr Shakeel Bhatti	pgrfa-treaty@fao.org

Activity No. 51

Activity title	Collecting mission for Musa in identified area; gender-differentiated information about materials and their traits integrated into Musa Germplasm Information system, Musa Knowledge Resources Centre, MusaNet and ProMusa through meetings/workshops; start developing a phenotypic method to screen the Musa biodiversity for drought tolerance.			
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.3 2013 (1)	
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To obtain a Musa diversity map based on collecting missions already undertaken and predict its evolution based on Climate Change models.		
	Objective 2	To develop an early rapid technique for drought tolerance		
	Objective 3	To incorporate evalauation data (including abiotic data) in MGIS		

Activity status	Completed
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	A Musa diversity map indicating the areas where material was collected was performed and was coupled with prediction (for 20 years) on climate change models. A rapid method for drought screening was performed using a phytotron and the Musa germplasm Information System was modified in order to include evaluation data. It does yet include yet a large amount of abiotic data but the system is now in place to do so. This activity has been moved to CRP-RTB for 2013, so progress towards full delivery will not be reported to CCAFS.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	Collecting mission in areas of interest (dry, cold, wet areas) carried out. Mission report	2013	Completed	Document (*.doc, *.odt, *.pdf)
Data	Information on evaluation data relevant to climate change easily accessible by users of the Musa community. Study case: An integrated tool for mapping diversity data against climate change scenarios.	2013	Completed	Presentation (*.ppt, *.odp)
Communication products	First draft of a standardized drought tolerance screening protocol	2013	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners

Acronym	Name	
	Indonesian Tropical Fruit Research Institute	
NARES - National agricultural research and extension services	**Contact Point Full Name**	**Contact Point Email**
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Acronym	**Name**	
	Katholieke Universiteit Leuven	
AI - Academic Institution	**Contact Point Full Name**	**Contact Point Email**
	Sebastien Carpentier	Sebastien.Carpentier@biw.kuleuven.be

Activity No. 52

Activity title		Collating and sharing information on the use of indigenous/local technical knowledge in deploying crop diversity (especially NUS) for strengthening adaptation and resilience of production systems to climate change in 5 countries (PNG, Malaysia, Bolivia, Nepal and India).
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)* 1.1.3 2013 (3)
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Analyze and synthesize data on indigenous knowledge and traditional crops to learn more on its use for adaptation and resilience in production systems
	Objective 2	Assess how relevant knowledge is held by men and women, what are the complementarities among these and how these can be best harnessed, valorized and promoted for more resilient systems
	Objective 3	Understand critical factor impeding the full use of knowledge and develop policy recommendations
Activity status		Partially completed
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		This activity is well underway and most data has been collected and is now being processed. Information about climate resilience of NUS is being synthesized across countries and two different projects in a systematic way. The data gathered will be added to the Underutilized Species database. In the AMKN database, 39 agrobiodiversity cases are now available.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	Socio-economic reports	2013	Partially completed	Select a format
Data	Database on indigenous knowledge and resilient crops and varieties;	2013	Uncompleted	Database (*.sql, *.mdb, etc)
Reports, publications	Draft of peer reviewed article to synthesize findings.	2013	Uncompleted	Document (*.doc, *.odt, *.pdf)
Communication products	More than 10 cases on the use of agrobiodiversity as an adaptation strategy featured on AMKN in 2012.	2013	Completed	Other
Reports, publications	An analysis of the findings with recommendations has been made in the paper "The Role of Regional Communities in Climate Change Adaptation", presented at the 1st Regional conference on Agrobiodiversity Conservation and sustainable utilization (RAC-1) 2012, Malaysia.	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners		Acronym	Name	Contact Point Full Name	Contact Point Email
	NGO_DO - Non-governmental organization/Development organization	PROINPA	Fundación para la Promoción e Investigación de Productos Andinos	Ximena Cadima	x.cadima@proinpa.org
	GO - Government office/department	ARC	Agriculture Research Centre, Semongok	Teo Gien Kheng	jeantgk@gmail.com
	NGO_DO - Non-governmental organization/Development organization	LIBIRD	Local Initiatives for Biodiversity Research and Development	Sajall Sthapit	ssthapit@libird.org
	NGO_DO - Non-governmental organization/Development organization		MS Swaminathan Research Foundation	Israel E.O. King	ediok151173@gmail.com
	NGO_DO - Non-governmental organization/Development organization	ASA	Action for Social Advancement	Ashis Mondal	ashis@asabhopal.org
		Acronym	Name		

Activity No. 53

Activity title	Analysis of gender disaggregated data about perceptions, crops/varieties, uses and management practices and their relation to climate change adaptation in Nepal, India, Bolivia, Sarawak		
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.3 2013 (4)
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Gain better understanding of gender perceptions across countries and regions	
	Objective 2	Identification areas of attention for future R&D interventions.	
	Objective 3	Develop recommendations for decision makers.	
Activity status	Partially completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	A graduate student is working on analyzing the survey data, and will write the related report in 2013. Data analysis is nearly complete for Bolivia and has been initiated for Sarawak. In Bolivia (Cochabamba district) we have set up different structures of challi that combine resistant with susceptible potato cultivars to pest and disease in different proportions.		

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Data	Data gathered on gender-related surveys carried out in Latin America and south/ East Asia	2013	Partially completed	Spreadsheet (*.xls, *.ods)
Reports, publications	Report on analyses of gender related data gathered from Latin America and south/ East Asia	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	In Bolivia (Cochabamba district) we have set up different structures of ch'alis that combine resistant with susceptible potato cultivars to Pest and Disease in different proportions. In 2013 the	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	Socio economic report in PNG including gender disaggregated data.	2013	Partially completed	Document (*.doc, *.odt, *.pdf)

		Acronym	Name	Contact Point Full Name	Contact Point Email
	NGO_DO - Non-governmental organization/Development organization	PROINPA	Fundación para la Promoción e Investigación de Productos Andinos	Ximena Cadima	x.cadima@proinpa.org

Current Partners	NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**	
		ARC	Agriculture Research Centre, Semongok	
		Contact Point Full Name	**Contact Point Email**	
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	NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**	
		LIBIRD	Local Initiatives for Biodiversity Research and Development	
		Contact Point Full Name	**Contact Point Email**	
		Sajal Sthapit	ssthapit@libird.org	
	NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**	
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		Contact Point Full Name	**Contact Point Email**	
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	NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**	
			Action for Social Advancement (India)	
		Contact Point Full Name	**Contact Point Email**	
		Ashis Mondal	ashis@asabhopal.org	
	NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**	
			Oxfam Novib	
		Contact Point Full Name	**Contact Point Email**	
		Gigi Manicad	Gigi.Manicad@oxfamnovib.nl	
	NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**	
			Gene Campaign	
		Contact Point Full Name	**Contact Point Email**	
		Dr Suman Sahai	mail@genecampaign.org	

Activity No. 54				
Activity title		Selection of promising genebank accessions of durum wheat and barley for climate change adaptation in Ethiopia and buckwheat and oats in China on the basis of their passport data, current and future climate profiles.		
CCAFS Objective *(select from drop list)*		1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.3 2014 (1)
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Provide options to local farmers for income generation through developing participatory methodologies to evaluate genetic diversity of buckwheat and oat for adaption to climate change, screening local varieties with resistance to biotic and abiotic stresses, and piloting good practice in use of crop genetic diversity to adapt to climate change;		
	Objective 2	Improve the breeding of buckwheat and oat through integrating phenotypes and genotypes of resistant traits (resistance to pest, disease, drought, etc);		
	Objective 3	Advance the knowledge and ability of young scientists and local communities in using crop genetic diversity to adapt to climate change through training activities. The project aims to promote the use of crop genetic diversity to adapt to climate change, and contribute to food security and sustainable agricultural development in China		
	Objective 4	Provide options to local farmers for income generation through developing participatory methodologies to evaluate genetic diversity of buckwheat and oat for adaption to climate change, screening local varieties with resistance to biotic and abiotic stresses, and piloting good practice in use of crop genetic diversity to adapt to climate change;		
	Objective 5	Improve the breeding of buckwheat and oat through integrating phenotypes and genotypes of resistant traits (resistance to pest, disease, drought, etc);		
	Objective 6	Advance the knowledge and ability of young scientists and local communities in using crop genetic diversity to adapt to climate change through training activities.		
Activity status		Completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		The 2012 deliverables have been completed. An Atlas on the use of climatic groups of different accessions of barley and durum wheat is almost completed. The survey on wild diversity of buckwheat was carried out in Liangshan District, Sichuan. Seventy-six samples of wild buckwheat species were collected. Impacts of drying conditions caused by climate change and other factors on wild relatives of buckwheat are under assessment, and a strategy of in situ conservation of wild buckwheat is being drafted. Multiplication trials for screening of buckwheat and oat germplasm were conducted in more than ten sites in China and data on morphological characters of 100 accessions of buckwheat and 100 accessions of oat have been analyzed to identify the most adaptable accessions for climate change. Farmers have been involved in the evaluation of buckwheat and oat germplasm in the fields. With Diva-GIS and integrated weather data, the model of possible impact of climate change on distribution of buckwheat and oat in China has been generated.		

Deliverables status
(You may add any unexpected deliverable)

Type	Description	Year	Status	Format
Data	Promising accessions of durum wheat and barley in Ethiopia and buckwheats and oats in China identified.	2012	Completed	Other
Capacity	1 Chinese young scientist trained at Bioversity on in situ management.	2012	Completed	Plain text (*.txt)
Model tools and software	Maps of the most adaptable areas of growing buckwheat and oat produced using GIS technology	2012	Completed	GIS vector (shapefiles)
Workshops	9th International Oat Conference held in Beijing, China, 20-23 June 2012. There were 280 participants from 24 countries.	2012	Completed	Presentation (*.ppt, *.odp)
Reports, publications	1-2 Peer-reviewed papers published	2012	Completed	Document (*.doc, *.odt, *.pdf)
Model tools and software	Participatory methodologies for evaluating and identifying accessions of buckwheat and oat to adapt to climate change developed	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Model tools and software	Methodologies integrating phenotype and genotype of the biotic or abiotic traits of buckwheat and oat determined	2014	Partially completed	Document (*.doc, *.odt, *.pdf)
Workshops	The national symposium on buckwheat and oat took place from 21-23 December 2012. There were 120 participants.	2012	Completed	Presentation (*.ppt, *.odp)
Select a data type	Agronomic traits of buckwheat and oat evaluated in multiple trials for adapative model ananlysis for climate change	2013	Partially completed	Spreadsheet (*.xls, *.ods)
Reports, publications	Report on present and future climate adaptation of barley accessions	2013	Partially completed	Document (*.doc, *.odt, *.pdf)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
AI - Academic Institution		Institute of Biodiversity and Conservation	Alganesh Tesema	alganeshgellaw@yahoo.com
AI - Academic Institution	CAAS	Institute of Crop science of CAAS	Wu Bin	wubinah@yahoo.com.cn
AI - Academic Institution		Zhangjiakou Academy of Agricultural sciences	Tian Changye	tcy5221436@sohu.com
AI - Academic Institution		Chifeng Academy of Agricultural and Animal Husbandry Sciences	Ding Surong	dingsr@126.com

Activity No. 55

Activity title	Systematic review of literature on the use of agricultural biodiversity for risk management and adaptation to climate change		
CCAFS Objective *(select from drop list)*	1.1 Adapted farming systems	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.1.3 2015 (1)
Activity objectives *(what the activity aims to achieve)* — **Objective 1**	To review the effectiveness of economic and biotic diversification by smallholder farmers as a strategy to manage climate risk		
Activity status	Partially completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	The initial work was completed; however, the work was amended to include the development of a database. A first draft has been done and will be published as a CCAFS working paper. A relational database is under development to be used by a community of practices. A final paper will be prepared to be published in a peer-reviewed journal.		

Deliverables status
(You may add any unexpected deliverable)

Type	Description	Year	Status	Format
Reports, publications	Report on review and identification of research needs. This work has a strong link to Theme 2 (risk management) and results will also be reported to the leader of Theme 2.	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	To submit a paper on peer review journal on major findings of the work done	2012	Uncompleted	Plain text (*.txt)
Data	The development of a relational database to be used by community of practice, embedded within the AMKN website.	2013	Partially completed	Database (*.sql, *.mdb, etc)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
AI - Academic Institution		Columbia University	Kevin Coffey	kcoffey@iri.columbia.edu
CG - CGIAR Center	ICRAF	World Agroforestry Centre	Henry Neufeldt	h.neufeldt@cgiar.org
CG - CGIAR Center	ILRI	International Livestock Research Institute	Mariana Rufino	m.rufino@cgiar.org

Activity No. 56

Activity title
Case studies on informal seed systems conducted, identifying bottlenecks for climate change adaptation.

CCAFS Objective
(select from drop list)
1.1 Adapted farming systems

CCAFS Milestone No. *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*
1.1.3 2015 (3)

Activity objectives
(what the activity aims to achieve)

Objective 1	Insights in the climatic/varietal diversity to which farmers have access in different geographic contexts
Objective 2	Preliminary insights into the contribution of varietal diversity to diminish climatic vulnerability
Objective 3	Insights to inform the design of interventions to improve informal seed systems and link them to formal seed systems

Activity status
Partially completed

Insert a small remark to indicate the status of the activity.
(2-4 sentences required per activity)
A technical donor report outlines the recommendations on informal seed systems in Bolivia. A study in Latin America will commence in 2013, and the report will follow.

Deliverables status
(You may add any unexpected deliverable)

Type	Description	Year	Status	Format
Reports, publications	Report on informal system in Bolivia	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	Reports on informal systems in other Latin American countries	2013	Uncompleted	Plain text (*.txt)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NARES - National agricultural research and extension services	PROINPA	Fundación para la Promoción e Investigación de Productos Andinos	Wilfredo Rojas	w.rojas@proinpa.org

2012 Technical Report per Activity

Each Program Participant must provide a small remark against each activity/deliverable to indicate the status of the activity (2-4 sentences required per activity) using the form below. Updated data from the current partners is also required.

CCAFS Center Led Activities

Bioversity International

Activity No. 61

Activity title		Tools for stakeholder adaptation planning for Musa and its pests and diseases, cocoa and coconut
CCAFS Objective *(select from drop list)*		1.2 Breeding strategies
CCAFS Milestone No. *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*		1.2.1 2015 (3)
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	effects of climate change modeled and validated on a.) length of cycle and survival of major cultivar groups of Musa, taking into account monthly rainfall distribution and extreme weather events, b.) cocoa and coconut suitability, taking into account monthly rainfall distribution and other crop-specific factors;
	Objective 2	Effects of climate change on geographic distribution and severity of major pests and diseases of Musa modeled and validation begun at global, regional and national levels
	Objective 3	Role of growing conditions on yields modeled based on alternative Musa crop growth/production models (integrated and for specific growth factors) for major cultivar groups and potential adaptation approaches pre-tested through modeling and existing field data
	Objective 4	Stakeholder (global, regional and national) planning of adaptation response strategies in Bioversity commodity crops (based on user-friendly, participatory tools and workshops);
Activity status		Partially completed
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		The tools for stakeholder-based adaptation planning advanced from a conceptual framework based on climate change and weather variability applied to ecological hierarchies on several fronts. Alternatives to ECOCROP were identified and tested with data from Asia. The banana mapping tool is on line and mapping is in progress based on 47 variables which will allow the delimitation of homologue and analogue zones based on multiple factors beyond climate. Reviews were carried out of pest and disease models and ideotype and banana models in terms of their data needs compared with existing data sets. Banana country representatives in Asia met through BAPNET to review approaches to regional collaboration for climate change adaptation of the banana sector. A keynote address entitled - Banana growers facing climate change in Asia and the Pacific: planning adaptation to uncertainty, weather variability and extreme events – highlighted opportunities for collaborative approaches to planning climate change adaptation in a symposium with 200 banana specialists held back to back with the banana network meeting.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Model tools and software	Testing of alternative approaches to mapping current crop suitability for bananas in tropics and subtropics and incorporation of climate change scenarios into crop suitability mapping to project impact of CC on banana production suitability using Participatory banana mapping site.	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Capacity	Inventory of banana production practices organized by ecological hierarchy of application and response to climate change, variability and extreme events.	2013	Uncompleted	Plain text (*.txt)
Model tools and software	Alternative modeling approaches for impact of climate change on banana pests and diseases compiled and tested for nematodes, weevils, BLS.	2013	Completed	Document (*.doc, *.odt, *.pdf)
Capacity	Inventory of national partner human resources and programs on commodity crops and climate change.	2013	Partially completed	Spreadsheet (*.xls, *.ods)
Workshops	Regional banana workshops in Asia, East and West Africa and Latin America on climate change adaptation in banana with proceedings incorporated into regional website.	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Data	Data on previous yield trials, including IMTP and CIALCA, compiled through partners, entered into Agtrials and analyzed and with existing banana and ideotype models used for formulation of crop modeling strategy	2013	Completed	Spreadsheet (*.xls, *.ods)
Data	Mapping of current cocoa and coconut commodity production areas and special diversity with identification of approaches to modeling crop suitability for cocoa and coconut.	2013	Partially completed	Plain text (*.txt)
Select a data type	Participatory banana mapping site available globally.	2012	Completed	Select a format

	Acronym	Name	Contact Point Full Name	Contact Point Email
Research_Network - Research network	MUSALAC	Banana Research and Development Network for Latin America and the Caribbean	Mario Orozco	orozco.mario@inifap.gob.mx
Research_Network - Research network	BARNESA	Banana Research Network for Eastern and Southern Africa	Célestin Niyongere	cniyongere@yahoo.fr

Current Partners

Acronym	Name		
BAPNET	Banana Asia-Pacific Network		
Research_Network - Research network	**Contact Point Full Name**	**Contact Point Email**	
	Dr. Chih-Ping Chao	cpchao_tbri@yahoo.com.tw	

Acronym	Name		
IITA	International Institute of Tropical Agriculture		
CG - CGIAR Center	**Contact Point Full Name**	**Contact Point Email**	
	Piet J.A. Van Asten	p.vanasten@cgiar.org	

Acronym	Name		
CIAT	Centro Internacional de Agricultura Tropical		
CG - CGIAR Center	**Contact Point Full Name**	**Contact Point Email**	
	Julian Ramirez	j.r.villegas@cgiar.org	

Acronym	Name		
	University of Western Australia		
ARI - Advanced Research Institution	**Contact Point Full Name**	**Contact Point Email**	
	David William Turner	david.turner@uwa.edu.au	

Acronym	Name		
	Queensland Department of Primary Industries		
ARI - Advanced Research Institution	**Contact Point Full Name**	**Contact Point Email**	
	Tony Pattison	tony.pattison@daff.qld.gov.au	

Acronym	Name		
CacaoNet	Global Network for cacao genetic resources		
Research_Network - Research network	**Contact Point Full Name**	**Contact Point Email**	
	Martin Gilmour	martin.gilmour@effem.com	

Acronym	Name		
COGENT	The international coconut genetic resources network		
Research_Network - Research network	**Contact Point Full Name**	**Contact Point Email**	
	George Thomas	georgevthomas@yahoo.com	

Acronym	Name		
	Innovate Plantain - Africa		
Research_Network - Research network	**Contact Point Full Name**	**Contact Point Email**	
	Amoncho Adiko	adikoam@yahoo.com	

2012 Technical Report per Activity

Each Program Participant must provide a small remark against each activity/deliverable to indicate the status of the activity (2-4 sentences required per activity) using the form below. Updated data from the current partners is also required.

CCAFS Center Led Activities

Bioversity International

Activity No. 62

Activity title		Gathering socially differentiated knowledge on local seed distribution and flows (seed systems) and documentation of the effectiveness of these seed systems in climate change adaptation strategies in PNG (sweet potato and taro) and in Ethiopia (wheat and barley), in Sarawak (rice) and in Bolivia (potatoes)
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)* 1.3.1 2013
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To understand the crop systems and productivity
	Objective 2	To understand local seed systems
	Objective 3	To understand farmers' knowledge of climate change and link it to the seed system
Activity status		Partially completed
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		A PhD student has collected all of the data. The reports will be completed by the summer of 2013. Data are under analysis.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	Critical review of the functioning of local seed systems, their constraints and potential to deliver seed under climate change conditions in Ethiopia and PNG;	2012	Partially completed	Document (*.doc, *.odt, *.pdf)
Model tools and software	Crop production areas under threat identified (Ethiopia and PNG), together with varieties likely to be best adapted under future climatic conditions	2013	Partially completed	Image (*.jpg, *.png, etc)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NARES - National agricultural research and extension services	IBC	Institute for Biodiversity Conservation	Alganesh Tesema	alganeshgellaw@yahoo.com
NARES - National agricultural research and extension services	NARI	National Agricultural Research Institute	Birte Komolong	birte.komolong@nari.org.pg
NARES - National agricultural research and extension services	ICAR	Indian Council of Agricultural Research	Dr. K. C. Bansal	kailashbansal@hotmail.com

Activity No. 63

Activity title		Organization of national and local workshops in at least two countries to share findings and discuss strategies for enhancing seed systems based on gender-sensitive approaches
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)* 1.3.1 2013
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Organization of farmers field days and diversity seed fairs
	Objective 2	Establishment of community seed banks/community banks
	Objective 3	Establishment of Farmers Climate Field Schools
	Objective 4	Organization of national workshops
	Objective 5	Organization of public awareness workshops
Activity status		Partially completed

Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	Workshops have been organized for January 2013 in Ethiopia and October 2013 in PNG. An additional inception workshop will take place in May in Ethiopia. A regional workshop in East Africa is also foreseen.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	Promising accessions from genebanks evaluated and characterized (inc. using participatory approaches and in consultation with vulnerable women's groups)	2013	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	Awareness raised among farmers and decision-makers about climate change risks. Information shared regarding how use of better-adapted varieties and gender-sensitve interventions can support vulnerable women farmers.	2013	Partially completed	Document (*.doc, *.odt, *.pdf)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NARES - National agricultural research and extension services	ICAR	Indian Council of Agricultural Research	N.K. Krishna Kumar	ddghort@gmail.com
NARES - National agricultural research and extension services	IBC	Institute for Biodiversity Conservation	Alganesh Tesema	alganeshgellaw@yahoo.com
NARES - National agricultural research and extension services		Mekelle University	Dejene Kassahun	dejenekmh@gmail.com
NGO_DO - Non-governmental organization/Development organization	ABCIC	African Biodiversity Conservation and Innovations Centre	Dan Kiambi	d.kaimbi@abcic.org

Activity No. 64

Activity title	Development of a regional strategic action plan for PGRFA management for climate change adaptation in Mesoamerica -- climate change impact and climate information needs studies, policy and institutional analysis, participatory discussion and design processes, expert consultations, case studies		
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.3.3 2013
Activity objectives *(what the activity aims to achieve)* — **Objective 1**	To sustain food security and livelihoods under changing climatic conditions based on improved conservation, use of and access to Mesoamerican PGRFA. Given the global relevance of several native crop gene pools (e.g. maize, beans) and the interdependence of countries on these, the project will contribute to the adaptation of agricultural systems to changing climates and therefore to food security in Mesoamerica as well as in other regions of the world.		
Activity objectives — **Objective 2**	To have regional and national entities formulate and endorse a strategic action plan which outlines key research and policy priorities for the coming 10 years. The framework provided by the SAP will guide countries in the identification and coordinated implementation of priority regional and national actions for strengthening conservation, use of and access to Mesoamerican PGRFA.		
Activity status	Completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	Activities are on schedule for completion by spring 2013. Baseline data collection and diagnostic analysis were finalized across all areas of PGRFA conservation, use and policy in Mesoamerica. The first stakeholder consultation took place in November. A project progress report, stakeholder consultation report, numerous maps and documents are available on request.		

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	Project mid-term report, First Stakeholder Consultation report, Farmers´s Consultation report. Maps and summary documents prepared for diagnostic studies	2012	Completed	Document (*.doc, *.odt, *.pdf)
Capacity	Analytical methods short course (GIS) and Policy International Treaty overview seminar	2012	Completed	Presentation (*.ppt, *.odp)
Workshops	Extensive consultations with stakeholders about Diagnostic Studies	2012	Completed	Presentation (*.ppt, *.odp)
Data	Extensive Compilation of data for diagnostic studies: accesion data, characteristics of regional genebanks, publications database.	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners				
NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**		
	FPMA	Programa Colaborativo de Fitomejoramiento Participativo en Mesoamérica		
	Contact Point Full Name		**Contact Point Email**	
	Sergio Romeo Alonzo		alonzo.sergio@gmail.com	
NGO_DO - Non-governmental organization/Development organization	**Acronym**	**Name**		
	Asocuch	Asociación de organizaciones de los Chuchumatanes		
	Contact Point Full Name		**Contact Point Email**	
	Sergio Romeo Alonzo		alonzo.sergio@gmail.com	
GO - Government office/department	**Acronym**	**Name**		
	CONARFIP	Comisión Nacional de Recursos Fitogenéticos de Panama		
	Contact Point Full Name		**Contact Point Email**	
	Roberto Mancilla		rmancilla@mida.gob.pa	
GO - Government office/department	**Acronym**	**Name**		
	MAGA	Ministerio de Agricultura, Ganadería y Alimentación		
	Contact Point Full Name		**Contact Point Email**	
	Samuel Ajquejay		sammyajqujay@gmail.com	
NARES - National agricultural research and extension services	**Acronym**	**Name**		
	DICTA	Dirección de Ciencia y Tecnología Agropecuaria		
	Contact Point Full Name		**Contact Point Email**	
	Elizabeth Santacreo		esantacreo@yahoo.com	
NARES - National agricultural research and extension services	**Acronym**	**Name**		
	SNICS	Servicio Nacional de Inspección y Certificación de Semillas		
	Contact Point Full Name		**Contact Point Email**	
	Enriqueta Molina		enriqueta.molina@snics.gob.mx	
GO - Government office/department	**Acronym**	**Name**		
		Oficina Nacional de Semillas de Costa Rica		
	Contact Point Full Name		**Contact Point Email**	
	Walter Quirós		wquiros@ofinase.go.cr	
AI - Academic Institution	**Acronym**	**Name**		
	CATIE	Centro Agronómico Tropical de Investigación y Enseñanza		
	Contact Point Full Name		**Contact Point Email**	
	William Solano		wsolano@catie.ac.cr	
RO - Regional Organization	**Acronym**	**Name**		
		Interamerican Institute for Agricultural Cooperation		
	Contact Point Full Name		**Contact Point Email**	
	David Williams		david.williams@iica.int	
AI - Academic Institution	**Acronym**	**Name**		
		Universidad del Valle, Guatemala		
	Contact Point Full Name		**Contact Point Email**	
	Silvana Maselli		smaselligua@gmail.com	

Activity No. 65			
Activity title	Data gathering and synthesis as part of development of technical reports to the meetings of bodies created under the CGRFA, Treaty Governing Body, and CBD COP including policy brief and side event on climate change, policies to support availability of adapted germplasm, and benefit sharing to the meeting of the Ad Hoc Open Ended Working Group on Sustainable Use of PGRFA (under the ITPGRFA). Exploring linkages/cross-overs from agrobiodiversity policy work at Treaty and Commission to UNFCCC.		
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.3.3 2014
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Informing key international agencies responsible for PGRFA about actual germplasm flows at the international and national levels and make suggestions for policy revisions.	
Activity status	Completed		

Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	Multiple interventions were made in 2012 which contributed towards the completion of this activity and the related deliverables (first drafts of technical papers, policy brief, side event). Details are included within the deliverables below. Of note, in addition to preparing the policy brief for the ITPGRFA meeting 'Open Ended Working Group on Sustainable Use of PGRFA', numerous interventions were made during the meeting in line with the content of the brief, with emphasis on the need to consider use of agrobiodiversity for climate change adaptation. The final report of the meeting, including survey and indicators for sustainable use of plant genetic resources includes consideration of use of those resources for adaptation for climate change.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	M. Halewood, 2012. Collection, Conservation and Distribution through the SMTA of samples of Plant Varieties Protected by Plant Breeder's Rights (Working Document), Developed for the Fourth meeting of the Ad Hoc Advisory Technical Committee on the Standard Material Transfer Agreement and the Multilateral System, Rome, Italy, 6-7 October 2012. Available at: http://www.planttreaty.org/sites/default/files/ACSMTAMLS4w6e.pdf [Accessed 11 January 2013].	2012	Completed	Document (*.doc, *.odt, *.pdf)
Communication products	Side event presentation at COP 11, October 2012, Hyderabad, India.	2012	Completed	Plain text (*.txt)
Communication products	Organized side event at the session of the Intergovernmental Technical Working Group on PGRFA, November 15, 2012, Rome, entitled 'The Newly Reformed CGIAR with emphasis on PGRFA related research", featuring Frank Rijsberman . http://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/itwg/6th/en/	2012	Completed	Document (*.doc, *.odt, *.pdf)
Communication products	CGIAR Consortium Blogpost related to side event at the session of the Intergovernmental Technical Working Group on PGRFA, November 15, 2012, Rome, entitled 'The Newly Reformed CGIAR with emphasis on PGRFA related research", featuring Frank Rijsberman . Available at: http://www.cgiar.org/consortium-news/taking-stock-itpgrfa-and-the-new-cgiar/ [accessed 15 January 2013]	2012	Completed	Blogpost
Reports, publications	Policy Brief for for ITPGRFA meeting. Vernooy, R.; Halewood, M.; López-Noriega, I.; and Galluzzi, G., 2012. New strategies and partnerships for the sustainable use of plant genetic resources. Available at: http://www.bioversityinternational.org/index.php?id=19&user_bioversitypublications_pi1[showUid]=7061 [accessed 11 January 2013].	2012	Completed	Document (*.doc, *.odt, *.pdf)
Communication products	Contribution towards a document concerning Centres intellectual assets policy.	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners

	Acronym	Name	
CG - CGIAR Center		CGIAR Consortium Office	
	Contact Point Full Name		**Contact Point Email**
	Elise Perset		e.perset@cgiar.org

Activity No. 66

Activity title	Research work, with teams of national partners in India and Nepal, concerning variables relevant to the manner in which countries implement the Treaty's multilateral system of access and benefit sharing for the exchange of germplasm useful to climate change adaptation. Participatory processes - stakeholder consultation, workshops, high level meetings -- to obtain relevant information, linkages to other relevant policy-making activities and buy-in from competent authorities.		
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.3.3 2015
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To identify the key factors that influence the effective implementation of the Treay's MLS	
Activity status	Completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	National meetings were held in Nepal and India. In Nepal, the report from the planning workshop to kick-off the project, "Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)" or "GRPI2", summarizes the policy, research and capacity development activities that the team from Nepal and partner organizations will jointly carry out. In India, research papers were generated by the research partners in India and the Treaty Secretariat. A manuscript, based on these papers and the workshop, is ready for publication pending approval from the Indian National partners (ICAR).		

Deliverables status
(You may add any unexpected deliverable)

Type	Description	Year	Status	Format
Reports, publications	National 'stock taking' surveys and research papers concerning issues relevant to the implementation of the Treaty's multilateral system. Policy options identied and draft policies developed and introduced/considered by competant authorities.	2015	Partially completed	Select a format
Workshops	Nepal - National workshop held on 18 June, Kathmandu, Nepal. Note related blog available at: http://grpi2.wordpress.com/2012/07/06/national-inception-workshop-in-nepal/	2012	Completed	Blogpost
Workshops	National workshop titled, "Strategies for implementing the International Treaty's multilateral system of access and benefit-sharing in India" held at NBPGR in New Delhi, from 23-25 January, 2012, in New Delhi. "Strategies for implementing the International Treaty's multilateral system of access and benefit-sharing in India" .	2012	Completed	Plain text (*.txt)
Reports, publications	Proceedings of the Indian National workshop drafted, and pending approval by Director of ICAR.	2013	Partially completed	Plain text (*.txt)
Reports, publications	R. Vernooy. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the first project planning workshop, 6-10 February 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1503_Strengthening_national_capacities_to_implement_the_International_Treaty_on_Plant_Genetic_Resources_for_Food_and_Agriculture.pdf?cache=1348567652 [Note: *this publication is specific to Nepal, but also applies to Activities 67, 68 and 69.]*	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	R. Vernooy and M. Halewood. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the Research Planning and Training Workshop, 2-4 May 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1536_Report_GRPI2_ITPGRFA_workshop_May_2012.pdf?cache=1344241746 [Note: this publication is specific to Nepal, but also applies to Activities 67 and 69.]	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
NARES - National agricultural research and extension services	ICAR	Indian Council of Agricultural Research	Dr. S. Ayyappan	dg-icar@nic.in
NARES - National agricultural research and extension services	NBPGR	National Bureau of Plant Genetic Resources (India)	K.C Bansal	director@nbpgr.ernet.in
GO - Government office/department	MOAC	Ministry of Agriculture and Cooperatives (Nepal)	Bidya Pandey	bidyapandey2004@yahoo.com
NARES - National agricultural research and extension services	NAGRC	National Agriculture Genetic Resources Center	Madan Raj Bhatta	madan_bhatta@yahoo.com

	Acronym	Name
NARES - National agricultural research and extension services	NARC	National Agricultural Research Council (Nepal)
	Contact Point Full Name	**Contact Point Email**
	Devendra Gauchan	devandragauchan1@yahoo.co.uk
	Acronym	**Name**
NGO_DO - Non-governmental organization/Development organization	LIBIRD	Local Initiatives for Biodiversity Research and Development
	Contact Point Full Name	**Contact Point Email**
	Shreemam Prasad Neopane	sneopane@libird.org
	Acronym	**Name**
NARES - National agricultural research and extension services	PPV&FRA	Protection of Plant Varieties and Farmers' Rights Authority, Ministry of Agriculture, India
	Contact Point Full Name	**Contact Point Email**
	P.L. Gautam	rg-ppvfra@nic.in

Activity No. 67

Activity title	Research work, with a team of national partners in Uganda, concerning variables relevant to the manner in which countries implement the Treaty's multilateral system of access and benefit sharing for the exchange of germplasm useful to climate change adaptation. Participatory processes - stakeholder consultation, workshops, high level meetings -- to obtain relevant information, linkages to other relevant policy-making activities and buy-in from competent authorities.			
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.3.3 2015	
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To identify the key factors that influence the effective implementation of the Treay's MLS		
Activity status	Completed			
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	The report from the planning workshop (see deliverables below), summarizes the policy, research and capacity development activities that the team from Uganda and partner organizations have started and will jointly carry out. A training workshop on the climate analogue tool was held with project partners from Uganda and Rwanda. Starting with three reference sites from each country, the tool was used to identify analogue sites in other parts of the world which would be potentially useful sources of germplasm. The analogue training draft report is available (Bioversity's annexes).			

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	National 'stock taking' surveys and research papers concerning issues relevant to the implementation of the Treaty's multilateral system. Policy options identified and draft policies introduced to and considered by competant national authorities.	2015	Select a status	Select a format
Workshops	'Climate Analogues Training Workshop' held November 21-23, 2012 with project partners from Uganda and Rwanda.	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	R. Vernooy. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the first project planning workshop, 6-10 February 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1503_Strengthening_national_capacities_to_implement_the_International_Treaty_on_Plant_Genetic_Resources_for_Food_and_Agriculture.pdf?cache=1348567652 [Note: *this publication is specific to Uganda, but also applies to Activities 66 (Nepal only), 68 and 69.]*	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	R. Vernooy and M. Halewood. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the Research Planning and Training Workshop, 2-4 May 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1536_Report_GRPI2_ITPGRFA_workshop_May_2012.pdf?cache=1344241746 [Note: this publication is specific to Uganda, but also applies to Activities 67 (Nepal only) and 69.]	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners		Acronym	Name	Contact Point Full Name	Contact Point Email
	NARES - National agricultural research and extension services		National Agricultural Research Laboratories, Plant Genetic Resources Center, Entebbe Botanic Gardens	John Wasswa Mulumba	jwmulumba@yahoo.com
	NARES - National agricultural research and extension services	NARO	National Agricultural Research Organization	Richard Ogwal	ricogwal@yahoo.co.uk
	NARES - National agricultural research and extension services	ACODE	Advocates Coalition for Development and Environment	Ronald Naluwairo	r.naluwairo@acode-u.org

Activity No. 68

Activity title	Research work, with a team of national partners in Malaysia, concerning variables relevant to the manner in which countries implement the Treaty's multilateral system of access and benefit sharing for the exchange of germplasm useful to climate change adaptation. Participatory processes - stakeholder consultation, workshops, high level meetings -- to obtain relevant information, linkages to other relevant policy-making activities and buy-in from competent authorities.		
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.3.3 2015
Activity objectives *(what the activity aims to achieve)* — **Objective 1**	To identify the key factors that influence the effective implementation of the Treay's MLS		
Activity status	Completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	Survey and consultation process, including a national workshop, completed. Paper completed and published jointly by Bioversity International and the Malaysian Agricultural Research and Development Institute. In addition, there were two related blog posts. A published paper will follow in 2013.		

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	National 'stock taking' surveys and research papers concerning issues relevant to the implementation of the Treaty's multilateral system. Policy options identified, draft policies developed, and introduced to and considered by competant national authorities.	2015	Partially completed	Document (*.doc, *.odt, *.pdf)
Workshops	National Stakeholders' Workshop on the Implementation of the ITPGRFA/MLS', Kuala Lumpur, Malaysia 14-15 March 2012.	2012	Completed	Plain text (*.txt)
Reports, publications	Nijar, Gurdial Singh. Malaysia's Implementation of the Multilateral System of Access and Benefit-sharing. Bioversity International, Rome, Italy and Malaysian Agricultural Research Development Institute, Kuala Lumpar, Malaysia. http://www.bioversityinternational.org/nc/publications/publication/issue/malaysias_implementation_of_the_multilateral_system_of_access_and_benefit_sharing.html	2012	Completed	Document (*.doc, *.odt, *.pdf)
Communication products	Malaysia's Implementation of the Multilateral System of Access and Benefit-sharing http://grpi2.wordpress.com/2012/12/19/new-paper-malaysias-implementation-of-the-multilateral-system-of-access-and-benefit-sharing/	2012	Completed	Blogpost
Communication products	Interpreting 'under management and control' in the Malaysian context http://grpi2.wordpress.com/2012/03/16/under-management-and-control-in-the-malaysian-context/	2012	Completed	Blogpost

Reports, publications	R. Vernooy. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the first project planning workshop, 6-10 February 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1503_Strengthening_national_capacities_to_implement_the_International_Treaty_on_Plant_Genetic_Resources_for_Food_and_Agriculture.pdf?cache=1348567652 [Note: *this publication is specific to Malaysia, but also applies to Activities 66 (Nepal only), 67 and 69.]*	2012	Completed	Document (*.doc, *.odt, *.pdf)

Current Partners		**Acronym**	**Name**
	AI - Academic Institution		Centre of Excellence for Biodiversity Law, University of Malaya
		Contact Point Full Name	**Contact Point Email**
		Singh Professor Gurdial Nijar	nijar46@hotmail.com

Activity No. 69

Activity title	Research work, with teams of national partners in Cote d'Ivoire and Burkina Faso, concerning variables relevant to the manner in which countries implement the Treaty's multilateral system of access and benefit sharing for the exchange of germplasm useful to climate change adaptation. Participatory processes - stakeholder consultation, workshops, high level meetings -- to obtain relevant information, linkages to other relevant policy-making activities and buy-in from competent authorities.		
CCAFS Objective *(select from drop list)*	1.3 Policies and institutions for adaptation	**CCAFS Milestone No.** *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*	1.3.3 2015
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	To identify the key factors that influence the effective implementation of the Treay's MLS	
Activity status	Completed		
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*	Terms of reference and workplans developed with the partners from Cote D'Ivoire and Burkina Faso. The report from the planning workshop to kick-off the project, "Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture" (link below) or GRPI2, summarizes the policy, research and capacity development activities that teams from Cote D'Ivoire and Burkina Faso and the partners organizations will jointly carry out.		

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	National 'stock taking' surveys and research papers concerning issues relevant to the implementation of the Treaty's multilateral system. Policy options identified, draft policies developed, and introduced to and considered by competant national authorities.	2015	Partially completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	R. Vernooy. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the first project planning workshop, 6-10 February 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1503_Strengthening_national_capacities_to_implement_the_International_Treaty_on_Plant_Genetic_Resources_for_Food_and_Agriculture.pdf?cache=1348567652 [Note: *this publication is specific to both Cote D'Ivoire and Burkina Faso, but also applies to Activities 66 (Nepal only), 67. and 68.]*	2012	Completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	R. Vernooy and M. Halewood. Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture. Report of the Research Planning and Training Workshop, 2-4 May 2012, Rome, Italy. http://www.bioversityinternational.org/fileadmin/bioversity/publications/pdfs/1536_Report_GRPI2_ITPGRFA_workshop_May_2012.pdf?cache=1344241746 [Note: this publication is specific to both Cote D'Ivoire and Burkina Faso, but also applies to Activities 66 (Nepal only), and 67.]	2012	Completed	Document (*.doc, *.odt, *.pdf)
Workshops	National workshop held in Ougadougou, Burkina Faso from 22 - 24 October 2012. Trip Report available upon request.	2012	Completed	Plain text (*.txt)
Workshops	National workshop held in Abidjan, Cote d'Ivoire o from 17-21 October 2012. Trip Report available upon request.	2012	Completed	Plain text (*.txt)

Current Partners

	Acronym	Name	
NARES - National agricultural research and extension services		National Commission of Sustainable Development (Cote d'Ivoire)	
	Contact Point Full Name	**Contact Point Email**	
	Bernard Brou	broubernardca@yahoo.fr	

	Acronym	Name	
NARES - National agricultural research and extension services		National Center for Agronomic Research	
	Contact Point Full Name	**Contact Point Email**	
	Edmond Kouablan Koffi	kofiedmond@yahoo.fr	

	Acronym	Name	
AI - Academic Institution	CNRA	University of Abobo-Adjamé (Cote d'Ivoire)	
	Contact Point Full Name	**Contact Point Email**	
	Dr. Gustave Aboua	abouagustave@gmail.com	

	Acronym	Name	
NARES - National agricultural research and extension services	SP/CONAGREP	Secretariat Permanent Commission Nationale de Gestion des Ressources Phytogénétiques	
	Contact Point Full Name	**Contact Point Email**	
	Didier Balma	balma_didier@yahoo.fr	

	Acronym	Name	
AI - Academic Institution		Université de Ouagadougou (Burkino Faso)	
	Contact Point Full Name	**Contact Point Email**	
	Mahamoudou Zongo	zongomahamadou@yahoo.fr	

	Acronym	Name	
NARES - National agricultural research and extension services		Ministry of Agriculture, Cote D'Ivoire	
	Contact Point Full Name	**Contact Point Email**	
	Fataye Akamou	akamoufataye@yahoo.fr	

2012 Technical Report per Activity

Each Program Participant must provide a small remark against each activity/deliverable to indicate the status of the activity (2-4 sentences required per activity) using the form below. Updated data from the current partners is also required.

CCAFS Center Led Activities

Bioversity International

Activity No. 292

Activity title		Varietal diversification to manage climate risk in East Africa
CCAFS Objective *(select from drop list)*		2.1 Identify and test innovations that enable rural communities to better manage climate-related risk and build more resilient livelihoods
CCAFS Milestone No. *(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)*		2.1.3 2013 (1)
Activity objectives *(what the activity aims to achieve)*	**Objective 1**	Assessment of current varietal diversity and its climate risk management and adaptation potential and the needs for strengthening farmers' varietal portfolios, disaggregated by gender.
	Objective 2	Quantitative validation of the varietal diversification approach to reduce climate vulnerability.
Activity status		Partially completed
Insert a small remark to indicate the status of the activity. *(2-4 sentences required per activity)*		This activity started in October. The promising accessions for adaption to climate change were selected. The bulk of the work will take place during 2013, and the peer-reviewed publications and database will follow in 2014.

Deliverables status *(You may add any unexpected deliverable)*

Type	Description	Year	Status	Format
Reports, publications	Report on the current varietal diversity and its climate risk management and adaptation potential and the needs for strengthening farmers' varietal portfolios, including an analysis of the local seed system and gender-specific vulnerabilities and needs.	2013	Uncompleted	Document (*.doc, *.odt, *.pdf)
Reports, publications	Report on the identification of promising materials to address the climate risk management and adaptation needs, their evaluation by farmers, and an overall appraisal of the potential of the approach, including a (simple) cost-benefit analysis.	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
Reports, publications	Report on the quantitative ex-ante analysis of the impact of crop and varietal diversification on yield and income levels and variability, given climate and price variability.	2013	Uncompleted	Document (*.doc, *.odt, *.pdf)
Reports, publications	A peer-reviewed article submitted in early 2014, based on outputs 1 and 2.	2014	Uncompleted	Document (*.doc, *.odt, *.pdf)
Data	Databases of the survey and trial results made available online.	2014	Uncompleted	Database (*.sql, *.mdb, etc)

Current Partners

	Acronym	Name	Contact Point Full Name	Contact Point Email
CG - CGIAR Center	CIAT	Centro Internacional de Agricultura Tropical		
NGO_DO - Non-governmental organization/Development organization	ABCIC	African Biodiversity Conservation and Innovations Centre	Dan Kiambi	d.kiambi@abcic.org

2012 summary report of activities and deliverables by Output level

Each Program Participant must prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives. Length is dependent on budget size so please refer to the table on the explanatory notes.

CCAFS Center Led Activities

Bioversity International

Theme 1. Adaptation to Progressive Climate Change	
Objective 1.1 Analyze and design processes to support adaptation of farming systems in the face of future uncertainties of climate in space and time	
Outcome 1.1: Agricultural and food security strategies that are adapted towards predicted conditions of climate change promoted and communicated by the key development and funding agencies (national and international), civil society organizations and private sector in at least 20 countries	
Output 1.1.1 Development of farming systems and production technologies adapted to climate change conditions in time and space through design of tools for improving crops, livestock, agronomic and natural resource management practices	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	Crop informatics work is progressing well. A workshop served to build agreement among breeders about the traits to be included in the crop ontology. The ontology was further developed (different crops, multiple languages) and further implemented in AgTrials and Bioversity's Collection Missions Database. The different field activities are producing a stream of phenotypic evaluation data of farmer varieties, and in some cases molecular data as well. The work will strengthen the scope of predictive characterization and is making progress to create mechanisms to evaluate the impact of diversity on the adaptive capacity of crop production systems. This work is now expanding with an eye on climate risk management and upscaling/crowdsourcing (Activity under Theme 2). In 2011, we conducted surveys of CG scientists on the use of plant genetic resources for climate change adaptation. Results were published in 2012 in two papers, accompanied by coverage through social media. We developed a survey instrument, and identified respondents in 19 countries, focusing on non-CG organizations, as part of the second phase of the research. The survey using this instrument will be conducted in 2013.
Output 1.1.3 New knowledge, guidelines and access to germplasm are provided for using genetic and species diversity to enhance adaptation, productivity and resilience to changing climate with benefits for socially marginal groups.	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	Our methodological report on the use of local knowledge on crop diversity for climate change adaptation has been delayed because the surveys to assess resilient crops were started later than expected. Data analysis and write-up should be concluded in the coming months. Several socio-economic reports on the use of agrobiodiversity for climate change adaptation are underway. Information about climate resilience of NUS is being synthesized across countries and two different projects in a systematic way. The data gathered will be added to the Underutilized Species database. In the Adaptation and Mitigation Knowledge Network (AMKN) database, 39 agrobiodiversity cases are now available.
Objective 1.2 Develop breeding strategies for addressing abiotic and biotic stresses induced by future climatic conditions, variability and extremes, including novel climates	
Outcome 1.2: Strategies for addressing abiotic and biotic stresses induced by future climate change, variability and extremes, including novel climates mainstreamed among the majority of the international research agencies who engage with CCAFS, and by national agencies in at least 12 countries	
Output 1.2.1 Understanding and evaluating the response of different varieties/crops to climate change in time and space, and generating comprehensive strategies for crop improvement through a combination of modeling, expert consultation and stakeholder dialogue	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	The tools for stakeholder-based adaptation planning advanced from a conceptual framework based on climate change and weather variability applied to ecological hierarchies on several fronts. Alternatives to ECOCROP were identified and tested with data from Asia. The banana mapping tool is on line and mapping is in progress based on 47 variables which will allow the delimitation of homologue and analogue zones based on multiple factors beyond climate. Reviews were carried out of pest and disease models and ideotype and banana models in terms of their data needs compared with existing data sets. Banana country representatives in Asia met through BAPNET to review approaches to regional collaboration for climate change adaptation of the banana sector.
Objective 1.3 Integrate adaptation strategies for agricultural and food systems into policy and institutional frameworks	
Outcome 1.3: Improved adaptation policies from local to international level supporting farming communities, rural institutions and food system actors adapted to future climate conditions in at least 20 countries.	
Output 1.3.1 Improved institutional arrangements and socially differentiated adaptation planning approaches at the local level to enable farming system adaptationstrategies for crop improvement through a combination of modeling, expert consultation and stakeholder dialogue	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	Terms of reference and workplans were developed with the partners from Cote D'Ivoire and Burkina Faso. The report from the planning workshop to kick-off the project, "Strengthening national capacities to implement the International Treaty on Plant Genetic Resources for Food and Agriculture" or GRPI2, summarizes the policy, research and capacity development activities that teams from Cote D'Ivoire and Burkina Faso and the partners organizations will jointly carry out.
Output 1.3.2 Public and private sector policies and strategies at the national level to enable farming communities and the food system to adapt to predicted future conditions	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	A meeting attended by a broad range of experts from the region was held in Guatemala. The meeting was evaluated very positively by participants. It validated a vision for a new architecture of the PGR and seed systems in the region, with a focus shifted towards use and users with special attention on climate change adaptation, and a more efficient use of scarce resources to run the system. The Action Plan for Mesoamerica will produce a roadmap to achieve this vision and identify a number of initial "quick-win" actions to start walking in this direction. The broad consultation process embedded in the development of the action plan will enhance the likelihood of its application
Output 1.3.3 Policies to enable access to and use of genetic resources for climate change adaptation research, and diffusion of adapted germplasm strategies for crop improvement through a combination of modeling, expert consultation and stakeholder dialogue	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	As 2012 progressed, we deepened, and expanded beyond our original plans, our work with partners in eight countries regarding the use of plant genetic resource diversity to adapt to climate changes, and putting policies in place to support those uses. We developed common terms of reference for activities focused on a) analyzing changes in climate over the last 50 years in key sites in the countries and linking that to information on crop and production system changes, b) using the climate analogue tool to identify analogue sites using forward, backward and neutral modeling, c) identifying potentially useful germplasm from analogue sites (and crop improvement programs where traits of interest are being developed), d) seeking to obtain this germplasm through the multilateral system of access and benefit sharing, e) introducing it into local germplasm evaluation and crop improvement programs, and f) using information and perspectives gleaned from these experiences to identify most appropriate mechanisms for identifying and obtaining germplasm through the multilateral system of access and benefit sharing under the International Treaty. To this end, in addition to reporting on such activities in Uganda, Nepal, Cote D'Ivoire, and Burkina Faso (as identified in our 2012 workplan) in 2012 we also worked in Costa Rica, Guatemala, Bhutan and Rwanda. (Training workshops with national partners, focusing on the use of the climate analogue tool were held with national partners from Uganda, Rwanda and Costa Rica in 2012.) Our work in Malaysia and India is less long-term in nature, with most of our work in Malaysia completed in 2012, and activities in India being relatively minimal in 2013. Activities in India could pick up if and when partners confirm their desire to follow up on activities in 2012 (and commit some of their own resources to those activities).
Theme 2. Adaptation through Managing Climate Risk	
Objective 2.1 Identify and test innovations that enable rural communities to better manage climate-related risk and build more resilient livelihoods	
Output 2.1.3 Development; and demonstration of the feasibility, acceptability and impacts; of innovative risk management strategies and actions for socially-differentiated rural communities	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	The activity on crop varietal diversification in East Africa was initiated in October 2012. We prepared and signed the Letters of Agreement with partner organizations. Promising accessions for adaption to climate change were identified. The bulk of the work will take place during 2013, with the peer-reviewed publications and database following in 2014.

List of publications that acknowledge CCAFS support

(a) Each Program Participant must list all publications that acknowledge CCAFS support. Only include publications that came out in final version in the calendar year. Please do not include journal papers under review (submitted etc) or out in electronic format ahead of print, except of course for electronic-only journals.
(b) Please try to format references in the Harvard style. A clear guide can be found here: http://libweb.anglia.ac.uk/referencing/harvard.htm

(c) For journal articles, please indicate all of the references that are "green open access" with a single asterisk and those that are "gold open access" with a double asterisk. This is now a requirement from CGIAR donors. Green open access means that the authors have made a free copy available on a website. Gold open access means that the journal allows free download (either as standard practice or because the authors paid for it).
(d) For all publications that are up online, please provide a web link if possible. This will help us to advertise your work more widely.

CCAFS Center Led Activities
Bioversity International

Publication 1	**Type**: Journal papers	**Citation identifier**: http://caod.oriprobe.com/articles/29426012/Construction_and_Application_of_SSR_Molecular_Markers_System_f
	Citation: Fan, G.A.O., Zongwen, Z. and Bin, W.U., 2012. Construction and application of SSR molecular markers system for genetic diversity analysis of Chinese tartary buckwheat germplasm resources. Scientia Agricultura Sinica, 45(6), pp.1042–1053. Available at: http://caod.oriprobe.com/articles/29426012/Construction_and_Application_of_SSR_Molecular_Markers_System_for_Genet.htm.	
Publication 2	**Type**: Journal papers	**Citation identifier**: http://www.piipajournal.org/article/view/10698
	Citation: **Galluzzi, G., Halewood, M., Lopez-Noriega, I., and Vernooy, R., 2012. Keeping germplasm flowing. Journal of Public Interest in Intellectual Property, 1(2), pp.1–13. Available at: http://www.piipajournal.org/article/view/10698.	
Publication 3	**Type**: Journal papers	**Citation identifier**: http://dx.doi.org/10.1080/15427528.2011.609928
	Citation: Hodgkin, T. and Bordoni, P., 2012. Climate change and the conservation of plant genetic resources. Journal of Crop Improvement, 26(3), pp.329–345. Available at: http://www.tandfonline.com/doi/abs/10.1080/15427528.2011.609928 [Accessed January 8, 2013].	

Publication 4

Type	Citation identifier
Working papers	http://hdl.handle.net/10568/21225

Citation

Lopez-Noriega, I., Galluzzi, G., Halewood, M., Vernooy, R., Bertacchini, E., Gauchan, D. and Welch, E., 2012. Flows under stress: availability of plant genetic resources in times of climate and policy change, Available at: http://hdl.handle.net/10568/21225.

Publication 5

Type	Citation identifier
Conference proceedings	http://www.bioversityinternational.org/index.php?id=19 &user_bioversitypublications_pi1%5BshowUid%5D=6847

Citation

Padulosi, S., Bergamini, N. and Lawrence, T. (eds., 2012). On farm conservation of neglected and underutilized species: trends and novel approaches to cope with climate change. Proceedings of an International Conference. Frankfurt (Germany), 14-16 Jun 2011, Bioversity International. Available at: http://www.bioversityinternational.org/index.php?id=19&user_bioversitypublications_pi1[showUid]=6847.

Publication 6

Type	Citation identifier
Conference proceedings	http://www.bioversityinternational.org/index.php?id=19 &user_bioversitypublications_pi1%5BshowUid%5D=6847

Citation

Padulosi, S., and Dulloo, E., 2012. Towards a viable system for monitoring agrobiodiversity on-farm: a proposed new approach for Red Listing of cultivated plant species. In On farm conservation of neglected and underutilized species: trends and novel approaches to cope with climate change. Proceedings of an International Conference. Frankfurt (Germany), 14-16 Jun 2011. (Padulosi, S.; Bergamini, N,; Lawrence, T. (eds.)). Bioversity International, pp. 171–187. Available at: http://www.bioversityinternational.org/index.php?id=19&user_bioversitypublications_pi1%5BshowUid%5D=6847..

Publication 7

Type	Citation identifier
Journal papers	http://dx.doi.org/10.3389/fphys.2012.00326

Citation

**Shrestha, R., Matteis, L., Skofic, M., Portugal, A., McLaren, G., Hyman, G. And Arnaud, E. , 2012. Bridging the phenotypic and genetic data useful for integrated breeding through a data annotation using the Crop Ontology developed by the crop communities of practice. Frontiers in Physiology, 3(August), p.Article 326. Available at: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3429094&tool=pmcentrez&rendertype=abstract [Accessed December 7, 2012].

Publication 8

Type	Citation identifier
Other	www.pgrsecure.bham.ac.uk/sites/default/files/documents/newsletters/CWR_Issue_8.pdf

Citation

Thormann, I., 2012. Applying FIGS to crop wild relatives and landraces in Europe. Crop Wild Relative, 8, pp.14–16. Available at: www.pgrsecure.bham.ac.uk/sites/default/files/documents/newsletters/CWR_Issue_8.pdf.

Publication 9

Type	Citation identifier
Journal papers	http://caod.oriprobe.com/articles/29117088/Identification_of_Genetic_Diversity_and_Redundancy_in_Recently_Collect.htm

Citation

Wang, Y., Zhang, Z., Li, G., Zhang, E. and Wu, B., 2012. Identification of genetic diversity and redundancy in recently collected oat accessions. Journal of Plant Genetic Resources, 13(1), pp.16–21. Available at: http://caod.oriprobe.com/articles/29117088/Identification_of_Genetic_Diversity_and_Redundancy_in_Recently_Collect.htm.

Publication 10

Type	Citation identifier
Journal papers	http://dx.doi.org/10.1007/s11032-010-9525-y

Citation

**Wu, B., Lu, P. and Zhang, Z., 2012. Recombinant microsatellite amplification: a rapid method for developing simple sequence repeat markers - Springer. Molecular Breeding, 29(1), pp.29–53. Available at: http://link.springer.com/article/10.1007/s11032-010-9525-y/fulltext.html.

Publication 11

Type	Citation identifier
Journal papers	http://dx.doi.org/10.3732/ajb.1100404

Citation

**Wu, B., Zhang, Z., Chen, L. and He, M. 2012. Isolation and characterization of novel microsatellite markers for Avena sativa (Poaceae) (oat). American Journal of Botany, 99(2), pp.69–71. Available at: http://www.ncbi.nlm.nih.gov/pubmed/22275767 [Accessed January 8, 2013].

Publication 12

Type	Citation identifier
Policy briefs	http://www.bioversityinternational.org/index.php?id=19&user_bioversitypublications_pi1[showUid]=7061

Citation

Vernooy, R.; Halewood, M.; López-Noriega, I.; and Galluzzi, G., 2012. New strategies and partnerships for the sustainable use of plant genetic resources. [Policy Brief] Bioversity International, Rome, Italy. 4 pp. Available at: http://www.bioversityinternational.org/index.php?id=19&user_bioversitypublications_pi1[showUid]=7061 [accessed 11 January 2013].

Publication 13

Type	Citation identifier
Book chapters	http://www.routledge.com/books/details/9781844078936/

Citation

Ramirez, M., Ortiz, R., Taba, S., Sebastian, L., Williams, D., Ebert, A., and Vezina, A., 2013. Demonstrating interdependence on plant genetic resources for food and agriculture. In Crop genetic resources as a global commons: challenges in international law and governance. (Halewood, M. et al. (eds.)). Earthscan p. 39-61 ISBN:9781844078929

Type	Citation identifier
Book chapters	http://www.routledge.com/books/details/9781844078936/

Publication 14

Citation

[illegible] interdependence in the face of climate change. In Halewood M. et al (Eds), Crop Genetic Resources as a Global Commons. Challenges in International Law and governance. Routledge. London.
Available at: http://www.routledge.com/books/details/9781844078936/

Publication 15

Type	Citation identifier
Working papers	http://www.planttreaty.org/sites/default/files/ACSMTAMLS4w6e.pdf

Citation

M. Halewood, 2012. Collection, Conservation and Distribution through the SMTA of samples of Plant Varieties Protected by Plant Breeder's Rights (Working Document), Developed for the Fourth meeting of the Ad Hoc Advisory Technical Committee on the Standard Material Transfer Agreement and the Multilateral System, Rome, Italy, 6-7 October 2012. Available at: http://www.planttreaty.org/sites/default/files/ACSMTAMLS4w6e.pdf [Accessed 11 January 2013].

Publication 16

Type	Citation identifier
Journal papers	http://dx.doi.org/10.1080/14735903.2012.691221

Citation

**Mijatovic, D.; Van Oudenhoven, F.; Eyzaguirre, P.; Hodgkin, T.(2012). The role of agricultural biodiversity in strengthening resilience to climate change: towards an analytical framework. International Journal of Agricultural Sustainability. Online first: 19 Jun 2012: ISSN:1473-5903

(co-supported with CRP WLE)

Publication 17

Type	Citation identifier
Journal papers	http://link.springer.com/article/10.1007%2Fs1

Citation

Thormann, I.; Gaisberger, H.; Mattei, F.; Snook, L.; Arnaud, E.(2012). Digitization and online availability of original collecting mission data to improve data quality and enhance the conservation and use of plant genetic resources. Genetic Resources and Crop Evolution 59(5) : p. 635-644 ISSN:0925-9864. Available online: http://link.springer.com/article/10.1007%2Fs10722-012-9804-z#

(co-supported with CRP WLE)

2012 Case studies

Number of case studies to be submitted is dependent on budget size so please refer to the table on the explanatory notes. Each case study should be about half a page, and Program Participants are expected to build a portfolio of case studies over the years that demonstrate all different types.

CCAFS Center Led Activities
Bioversity International

CASE STUDY 1

Title

Farmers' Views of Crop and Agrobiodiversity Choices in Papua New Guinea: What role for Gender?

Author

Stella Nordhagen

Type	Date (DD/MM/YYYY)	Countries
Social differentiation and gender	31/01/2012	Papua New Guinea (PNG)

Keywords

Crop Choice, Agrobiodiversity, Gender

See "Bioversity's annexes " on the CCAFS intra

Introduction/Objectives (400 characters)

The majority of the population in PNG is dependent on subsistence agriculture using crop diversity. Bioversity is working on the reintroduction and improved use of farmer crop varieties through systematic participatory evaluation (Seeds for Needs). To understand better the socio-economic context, a study was done. The objective of this study was to examine farmers' reasons for crop choice and diversity maintenance, with particular attention to gender.

Description of the project,procedures etc. (1100 characters)

A literature review of resources held in the PNG-specific collection at Australia National University was carried out to understand existing knowledge of gender roles in crop choice in PNG, in preparation for fieldwork. For fieldwork, the innovative Q methodology was chosen as it enables quantitative results on highly qualitative, subjective topics. Between August and November 2012, interviews were conducted with 92 farmers (50 women, 42 men), across four sites in both highland and lowland areas. Individual and group interviews, including farm tours, were also conducted. The data were then analysed using PQMethod and StataSE10 software packages. Multiple typologies of farmers, with different motivations for crop choices, were revealed.

Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)

Farmer typologies include those that placed greater weight on marketing than conservation; those for whom image or status concerns were crucial; and those focussed on experimentation and novelty. Consumption values and household self-sufficiency were universal motivators, as was resilience to environmental (including climate) change. Significant differences were found between men and women, with women more likely to place marketing concerns foremost and men more likely to be image conscious. However, there was considerable variance within genders and little weight given to 'traditional' crop gender constraints.
The results underline the importance of crop marketing for women's crop choices, signifying an ability to earn income that they control and can spend on expenses crucial to household well-being. This information is useful for considering crop interventions (e.g. climate-ready varieties) and conservation (e.g. maintaining option value for adaptation). The absence of strict gender divisions implies that such concerns need not limit the scope of crop interventions in market-oriented areas of PNG. Furthermore, as crop diversity was found to vary significantly across the groups, methodologically similar approaches can be used to target interventions.

Partners involved and their role (250 characters)

The National Agricultural Research Institute of Papua New Guinea provided logistical support, research assistants, and assisted in recruiting research participants and facilitating access to the study sites.

Links/Sources for further information

See "Bioversity's annexes " on the CCAFS intra for PNG related reports

Title

Participatory and science-based formulation of a Strategic Action Plan to strengthen the conservation of plant genetic resources and their enhanced use in adapting to climate change in Mesoamerica

Author

Marleni Ramirez

Type	Date (DD/MM/YYYY)	Countries
Successful communications		Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Mexico

Keywords

Mesoamerica, Plant Treaty, PGR, Adaptation, Climate Change

Photo URL

See "Bioversity's annexes " on the CCAFS intra

Introduction/Objectives (400 characters)

To engage a core number of stakeholders beyond the traditional constituencies around plant genetic resources, from the farming, research, development and policymaking communities in a process to decide on the elements of an Action Plan for Mesoamerica for the conservation and use of 10 genepools of plant genetic resources as an option for adaptation to climate change.

CASE STUDY 2

Description of the project,, procedures etc. (1100 characters)

To accomplish engagement leading to action, it is indispensable that stakeholders participate in a meaningful way to: a) build consensus about what steps to take considering scientific evidence and circumstances in the region and b) reflect on the role that stakeholders and the communities they represent can play in this 10-year plan. Stakeholders were invited to a regional consultation. Here we describe the process designed to engage stakeholders in the first consultation. The selection of participants to invite to the First Stakeholders' Consultation was a deliberate, multi-step, iterative process that involved consultations with the International Treaty Focal Points in each of the five countries (or their acting designates), complemented with suggestions from the Steering Committee of the Strategic Action Plan for Mesoamerica and other parties. Mexico and Belize, although they have not signed the International Treaty, were included in the invitations so as to include all Mesoamerican countries. To promote awareness at the highest possible level, the Council of Ministers of Agriculture of Central America was briefed about the development of the SAP for Mesoamerica and its relevance to the region they govern.

Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)

About 7O stakeholders hailing from nine countries, from several branches of national governments (agriculture, environment, health), regional government bodies (CAC, CCAD, SICA), academia, regional and international agricultural organizations (IICA, CATIE, FAO, CIAT, Famine Early Warning System Network, e.g. FEWS-NET), civil society, farmers, and donor representatives (UNDP, GIZ) attended the consultation. The most important observations made by participants in the consultation were: a) the rare opportunity to get together and interact with a very varied group of people in a collegial atmosphere, b) discovery of the convergence of interests around the better use of plant genetic resources for food and agriculture in Mesoamerica, and c) a common perception that an overhaul of the institutional and technical architecture of the PGR system in Central America is needed to serve the needs of smallholder farmers in the face of climate change. Insights will inform the formulation and prioritization of potential areas of action for inclusion in the Plan of Action.

Partners involved and their role (250 characters)

Steering Committee members from academic, government, regional organization, donor, farmers organizations all participants in the consultation, regionally based researchers.
Government organizations: agriculture, environment, health, climate change.

Links/Sources for further information

http://www.planttreaty.org/news/more-70-experts-central-america-discuss-climate-change-and-food-crops

CASE STUDY 3

Title

Inter-Center collaboration : the key to data harmonization and data integration

Author

Elizabeth Arnaud

Type	Date (DD/MM/YYYY)	Countries
Inter-center collaboration	2012	Global

Keywords

AgTrials, GCP, ontology, breeding

Photo URL

See "Bioversity's annexes " on the CCAFS intra

Introduction/Objectives (400 characters)

One objective of the CGIAR-created Generation Challenge Programme (GCP) is to assist developing-world researchers to access improved plant breeding technologies and access a broader pool of plant genetic diversity. GCP and CCAFS co-organized a workshop which brought together several CGIAR Centers to collaborate on the development of the crop trait dictionaries of the GCP Crop Ontology and the potential linkages with the Global Agricultural Trial Repository (AgTrials).

Description of the project,, procedures etc. (1100 characters)

AgTrials stores metadata describing evaluation data sets uploaded by partners. The coordinates of these trials enable the creation of an online atlas of evaluation sites, which also include information on varieties, traits and environmental details. The GCP Crop Ontology (CO) was developed for the Integrated Breeding Platform (IBP) as a way of creating a common language that can be used by breeders, database managers and crop modelers. The CO website also provides access to the trait dictionaries, which are a valuable online resource for AgTrials. To begin this harmonization of the data file descriptioon, all measured variables named in the metadata of AgTrials were matched to the similar terms in the CO. This enabled trait-based queries to retrieve evaluation data files and sites. To take this further, a crop ontology community workshop was held 19-22 March 2012 bringing together crop breeders, managers of breeder databases, and CO curators. The meeting objectives were to:

1. Further develop the crop ontologies and trait dictionaries for the traits most frequently measured by breeders
2. Define the workflow between the IBP field book, the trait dictionaries and the CO curation website through a Community of Practice
3. Upload the trait dictionaries on the CO website
4. Discuss the synchronization of the CO with the GCP crop central databases and apply the CO terms to AgTrials, for data annotation and query.

Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)

Workshop results included agreement on the information needed by breeders, including the content of a trait dictionary, the definition of breeders' interest in the use of trait information, and their vision of the use of both products. Suggestions for improvement were: i) statistical results about the correlation of traits often measured in the same evaluation trial, ii) strengthening the relationships between related ontological terms, iii) using the CO for lists of farmer traits, and iv) developing geospatial access to the trait information with AgTrials and collected sample database . The CO was expanded with new breeder trait dictionaries for the common bean, cowpea, groundnut, pearl millet, yam and was translated into the languages of interest to the crop group.

The crop ontology site is novel as it provides an online community ontology curation tool with quick visualization of trait dictionaries and acts as a controlled vocabulary resource to AgTrials and other third party websites (e.g. International cassava database). The suite of linked tools (field book, CO, Genotyping Data Management System and AgTrials site) raised great interest from external partners (USDA, Cornell, INRA) and private companies (e.g. Syngenta and Monsanto), as a concrete example of integration between field data capture, online data storage and data analysis. The atlas visualization of the data is also a major attraction. The application of the CO terms to AgTrials for annotation of phenotyping data appears as a model for partners who start engaging in a similar process (e.g. International wheat Initiative), with the additional perspective of annotating high throughput phenotyping data.

Partners involved and their role (250 characters)

The CGIAR crop lead centers include Bioversity International, CIMMYT, CIAT, CIP, IITA, ICRISAT and IRRI.They provide the content of CO and the curation teams.

Links/Sources for further information

http://www.agtrials.org/
http://www.cropontology.org
http://www.integratedbreeding.org/

CASE STUDY 4

Title		Author
Capacity building on Climate Analogue Tool for National Partners- Rwanda and		Gloria Otieno
Type	**Date (DD/MM/YYYY)**	**Countries**
Capacity enhancement	18-23/11/2012	Uganda and Rwanda
Keywords		**Photo URL**
Climate change, Climate Analogue Tool, future interdependence, adaptation		http://grpi2.wordpress.com/2013/01/30/climate-analogues-rwanda-

Introduction/Objectives (400 characters)

Within the context of changing climate and adaptation strategies, the future levels of countries' interdependence for specific germplasm is critical for their food security. Project partners in Uganda and Rwanda were trained in the use of the Climate Analogue Tool to help identify and map spatial and temporal analogue sites across the globe based on multiple climate projections in reference sites for specific crops. The vulnerability of these crops to climate change and future adaptation strategies were also explored i.e using today's climate for agricultural adaptation options for 2030 and beyond.

Description of the project,, procedures etc. (1100 characters)

The teams commenced by identifying their reference sites and crops of interest based on the relative importance of these crops for the economy and for food security. Rubaya, a border town, which is a common reference site for beans, was selected for both countries with the aim of identifying cross-country germplasm exchange. Additional sites for Rwanda included Bugesera for rice and maize; and Kirehe for maize. For Uganda additional sites included Nakaseke for bananas and beans and Kabwohe for beans.

Following training on the analogue tool, a further analysis of the reference sites and crops was done on a global scale, based on precipitation and temperatures and three scenarios — past , present and future (2030)— to determine analogue sites and future stresses. The GENESYS data portal was explored with the aim of identifying germplasm and holding institutions for future germplasm requests.

Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)

Preliminary analysis for all crops and sites yielded numerous analogue sites for all three scenarios. For rice, precipitation will not change significantly; however, by 2030 there will likely be an average temperature increase of 2.1 CO during the growing season. The closest analogue sites are in Australia where crop wild relatives of rice were identified as possible future germplasm. A reduction in precipitation for maize is predicted and an average increase in temperatures by 2 CO meaning that future stresses would be drought related, so drought resistant varieties would be suitable. Closest analogues sites were identified in Kenya and South America. Beans and bananas yielded the most dynamic results for both present and future with an average increase in temperature ranging between 1.8 and 2 CO. Over 100 analogue sites were identified; therefore, it was methodologically challenging to reduce this to a workable number. Best practices for selecting key sites are under review.

In addition, training on the Climate Analogue Tool was also held in Costa Rica in August, 2012. Further events are being scheduled in Bhutan, Burkino Faso, Cote D'Ivoire.

Partners involved and their role (250 characters)

CCAFS: Flora Mer, CCAFS – Trainer
Partners trained in 2012:
Uganda: The National Agricultural Research Organization
Rwanda: The Rwanda Agricultural Board
Costa Rica: The Ministry of Agriculture, the Ministry of Environment, INTA, CATIE, and INBIO. Organized by the National Seed Office.

GRPI 2 partners in Bhutan, Burkino Faso, Cote D'Ivoire, Guatamala and Nepal will be trained in 2013.

Links/Sources for further information

http://grpi2.wordpress.com/2013/01/30/climate-analogues-rwanda-uganda/
http://grpi2.wordpress.com/2012/09/04/grpi-2-project-starts-in-the-americas-kick-off-workshop-in-costa-rica/
http://ccafs.cgiar.org/blog/climate-analogues-arrives-costa-rica-time-pgr-conservation
www.genesys-pgr.org/

2012 Outcome report

Frequency of reporting outcomes is dependent on budget size so please refer to the table on the explanatory notes. (max 1 page)

CCAFS Center Led Activities
Bioversity International

OUTCOME 1

What is the outcome of the research (use of research results by non-research partners)?

A farmers' field experimentation network has been established with wheat farmers in the IGP region of India, connected through NGOs to the national agricultural research system.

What outputs produced in the three preceding years resulted in that outcome?

1. Capacity building of national partners in identifying germplasm/varieties suitable to address climate adaptation and the organization of participatory trials
2. Different rounds of selection of wheat varieties using scientific and participatory methods

What partners helped in producing the outcome?

Indian Agricultural Research Institute (IARI), Regional Station, Pusa, Samastipur, Bihar, India
Local NGOs, Farmers' organizations and Women's groups

Who used the output?

Farmers and communities have adopted a number of wheat varieties as a result of the trials.
National programme and NGOs have gained in knowledge about the links between climate change and plant genetic resources, and skills to address this link.

How was the output used?

The initial output is the foundation for a subsequent upscaling effort. Variety evaluation is being crowdsourced in 2012-2013, using the varieties identified by farmers in the previous phase. After initial skepticism, there is now keen interest in this approach, both from organizations in the field as from the national system, which has already led to the development of proposals to expand this work with international and national funds.

What is the evidence for this outcome: Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it? Please provide a reference or source.

It is too early for a formal evaluation of variety adoption. However, there is strong qualitative evidence of success (Report "On-farm participatory network for climate change adaptation and visualization in the Indo-Gangetic Plains (IGP) -- Phase II" in Annex).
- Positive evaluation of introduced varieties during the participatory evaluation
- Seed requests from farmers of the varieties and enthusiasm to collaborate with the trials on a voluntary basis in subsequent seasons
- Interest of local and national partners in collaboration with Bioversity and further investment in this line of action.

Gender and Social Differentiation related activities summary report - 2012

CRPs that have presented their Gender Strategy to the Consortium in 2012 should show progress in 2013 in relation to implementing the Strategy. Therefore it is expected from Program Participants that findings of gender and social differentiation activities and their significance to be referred in this summary report. It is essential to relate progress towards outcomes to the baseline gender-differentiated conditions being used to measure change. This report should also refer specifically to what is being learnt about gender and how this knowledge is being used to inform research priority-setting and approach. If none or few of your activities integrate gender please explain why it is not relevant to your research portfolio.

CCAFS Center Led Activities
Bioversity International

Gender is being incorporated progressively in the research areas that have a direct link with farmers and farmers' communities. Bioversity is especially making an effort to integrate gender in the different Seeds for Needs projects, as exemplified by the case study on gender. The methodology used in this case study (Q methodology) provides a very interesting framework for gender analysis in agriculture as it produces robust and informative results, especially when interpreted against the background of the ethnographic literature and interviews. An interesting lesson from the field study in Papua New Guinea (PNG) is that women perceived access to planting materials a less important constraint than men, which may be related to the formers' more prominent role in marketing. Also, the study suggests a degree of 'ungendering' of roles in PNG society. Crop diversity is perceived to be a buffer against environmental shocks, but this is not the only reason why PNG farmers maintain diversity. These insights are highly relevant to the design of gender-sensitive interventions around crop diversity and will directly serve to refine the Seeds for Needs approach. Socio-economic and gender studies will continue in 2013, with more emphasis on characterizing climate vulnerability from a social science perspective and with our geographical focus more squarely on the CCAFS benchmark sites.