1. Activity Reporting.

Activity 720-2014

Understanding and prediction the impact of climate change and adaptation practices on coffee and cocoa production systems in West (cocoa) and East (coffee) Africa together with CIAT and NARS and university partners

Status	On going	Milestone	1.1.3 2014 (1)
Start date	2013 May	End date	2016 Dec

Description: Recent studies have shown that coffee and cocoa smallholder production systems are vulnerable to climate change. Important changes in crop suitability are predicted in the current major growing areas. To cope with climate change, farmers will have to adapt their practices (e.g. climate-smart shade systems). These adaptation practices will impact the carbon footprint per unit area and per unit product produced. There are trade-offs in terms of adaptation/mitigation at both plot and landscape level. IITA, CIAT, UGOE, WITS, NARS, NGOs are currently teaming up to quantify and understand the mitigation and adaptation potential of shaded and non-shaded, intensified and low-input cocoa and coffee systems. We will also involve the private sector partners, who are increasingly interested in certifying sustainable (and increasingly carbon neutral) products for their consumers.

Status: On going. The work is progressing very well, with 6 PhD students working on the coffee and cocoa x climate change in both East Africa (coffee) and West Africa (cocoa). The link to endusers and policy actors if further strengthened through PACCA (FP4-EA) and the joint work with CIAT in FP1

Gender Component: Considerations of gender equity: In Africa, cash crops enterprises like coffee and cocoa are usually controlled by men. However, recent studies have shown that poly-culture shade systems such as banana x coffee intercrop systems do not only decrease production risks related to drought, coffee diseases, and coffee market volatility, but also increase food production from the cash crop fields. This has empowered women to expand their role in these tree crop systems. Addressing the gender imbalance in terms of resource access and control in coffee/cocoa will be part of stakeholder interactions to build gender equity into food security and climate change adaptation and mitigation planning.

Objectives:

1. To quantify, understand, and communicate adaptation/mitigation trade-offs for smallholders, NARS, extension officers, and the private sector partners, so that they can make informed decisions on their best practices in terms of profitability and sustainability

Deliverables:

Description	Type	Year	Status	Justification
Suitability changes for cocoa and coffee under current and future climates mapped and quantified, where possible quantifying economic impact.	Data	2014	Complete	
Farmer preferences for climate-smart shade systems explored through participatory processes and validation through field measurements initiated at the research sites.	Workshop	2014	On going	Still new insights being created through in-depth (PhD) research that feeds into the coffee platforms for further production of recommendations that best tailor farmer needs
In order to understand the importance of climate change on coffee production, we first mapped coffee yield constraints across a large range of different afro-ecological areas in Uganda	Peer-reviewed journal articles	2014	Complete	

Partners:

1- Centro Internacional de agricultura Tropical (CIAT):
Peter Laderach <p.laderach@cgiar.org>

2- Wageningen Unversity and Research Centre (WUR):
Walter Rossing <walter.rossing@wur.nl>

3- World Agroforestry Centre (ICRAF):
Philippe Vaast <p.vaast@cgiar.org>

4- Georg August University Gottingen (GAU):
Anthony Whitbread <anthony.whitbread@agr.uni-goettingen.de>

5- National Agricultural Research Organization (NARO):
Godfrey Kagezi <kagezi@kari.go.ug>

Location(s):

Countries: Ghana, Tanzania, Uganda,
Benchmark Site: Kagera Basin (Rakai),

Activity 946-2014

Develop new germplasm catalogues on existing and released IITA germplasm (i.e. expanding from cassava to also include yam, cowpea, and banana/plantain germplasm).

Status	Cancelled	Milestone	1.1.1 2014
Start date	2013 Jan	End date	2016 Dec

Description: Cassava, yams, cowpea, and banana/plantain are key staple crops in Sub-Saharan Africa and other food insecure areas in the world. The crops are still perceived to produce yields in adverse conditions (i.e. poor soils, drought, heat). However, the genetic variability within these crop families is very large, and so is the response to adverse conditions, to water and nutrient inputs, and to pest and disease pressure. Over the past years, major pest and disease outbreaks have threatened these crops role as a key food security crops in SSA. Pest and disease (vectors) are likely to further increase with climate change. There is a need to map the germplasm diversity in relation to its response to environmental (biotic and abiotic) stresses, so as to predict the impact of climate change and mitigate potential impact by pre-emptively preparing robust germplasm to cope with adverse conditions.

Status: Cancelled. Work on GxE no longer receiving thematic support from CCAFS
FP1 moved from more 'fundamental' work on genetics and agronomics to RBM with focus on outcomes and linkages with change agents.

Gender Component: Some survey work has been conducted by IITA in relation with staple production and use x gender. Although this is perceived to be an important parameter to take into account when it comes to adoption and transformation of cassava products, this activity focuses primarily on acquiring and analysing GxE data at the plant level and does not have a specific gender component at this stage. Later on, when adaptation trials are to be conducted, gender-related preferences for germplasm adoption should be taken into account.

Objectives:

1. This activity aims to (i) provide staple crop end-users with an overview of germplasm traits in terms of yields, pest and disease resistance traits, and adaptation potential to cope with environmental stresses (e.g. drought), (ii) to provide insight into the eco-physiological diversity of germplasm for national (breeding) programs, and (iii) to function as a parameter basis for crop suitability modeling/mapping for current and future climates

Deliverables:

Description	Type	Year	Status	Justification
Cassava databases uploaded to Agtrials and Catalogue started with mapping of current and future suitability of IITA-released varieties using GxE analysis and climate change predictions	Data	2014	Cancelled	No longer receiving support from FP1
Data is being collected for the development and calibration of a yam model in DSSAT. The work will be linked to ECOCROP and Agtrial	Data	2014	Cancelled	No longer receiving support from FP1

Partners:

1- Centro Internacional de agricultura Tropical (CIAT):
Glenn Hyman <g.hyman@cgiar.org>

Location(s):

Regions: East Africa (EA), West Africa (WA),

Activity 718-2014

Assess risks and test strategies for adaptation to significant crop biotic threats due to climate change. In particular, IITA is conducting studies to understand and reduce the damage caused by soybean rust, tomato bacterial blight and banana weevil. Modeling approaches are developed and validated with research partners (CGIAR and NARS) and adaptation strategies to reduce pest- and disease risks are developed and tested

Status	Complete	Milestone	1.2.1 2014
Start date	2012 Jan	End date	2015 Dec

Description: Plant disease and pest outbreaks have led to major food security crises in Sub-Saharan Africa over the past decades. Examples are the outbreak of cassava mosaic virus (CMV), cassava brown streak virus (CBS), and banana xanthomonas wilt (BXW), just to name a few. These pest and disease outbreaks are often caused by changes in insect population dynamics, either because they are the agent acting as the disease vector or causing direct physical damage to the plant, or because natural insect enemies have not been able to control the insect pest/vector. The population dynamics and behaviour of pests are strongly depending on climatic conditions (i.e. temperature, humidity, winds) and by the presence and condition of host plants that are affected by climate conditions as well. In this activity, we try to understand and model the impact of climate variability and change on majore pest and diseases.

Status: Complete. A regional scientific workshop with the theme 'Biotic stresses, climate change and agricultural production in West and Central Africa', co-sponsored by CORAF/WECARD, the Swiss Development Cooperation and IITA, and co-organized with the Benin national agricultural research institute (INRAB), the University of Abomey-Calavi (UAC), AfricaRice, Bioversity International and CIRAD, the workshop convened some 120 participants from 19 of the 21 CORAF/WECARD member countries, with active participation by IITA Board of Trustees and senior management staff, as well as the CCAFS regional manager (WA).
Besides this specific IITA-organized workshop, two workshops (both in Uganda) on the same topic were organised by RTB, but building on the work initiated jointly by RTB-CCAFS on plant pest/disease risks under climate change.
Besides the Climate Change and Plant Health workshop, individual scientists across IITA continued their work on some major pests and disease vectors in maize, banana, cassava, cocoa and coffee. This work will continue, but it is no longer deemed an essential part of CCAFS. As such, the work will no longer be continuing under CCAFS in 2015

Gender Component: Not defined

Objectives:

1. Understand the effect of climate variability on major pest/disease dynamics, which can be used by crop breeders and producers to build the adaptive capacity/activities.

Deliverables:

Description	Type	Year	Status	Justification
Report on validation and adaptation of biotic stress x climate models through field testing of at least 2 important smallholder crops.	Peer-reviewed journal articles	2014	Cancelled	There are a number of MSc and PhD students working on this project and we expect more output in 2015-2016, but this activity is no longer supported by CCAFS after RBM phase did not select project proposal on this for funding.
At least 2 technologies identified to significantly reduce to pest- and disease outbreaks induced by climate change.	Other	2014	Cancelled	Activity no longer supported by CCAFS because proposal that was submitted on this team in the framework of FP1 RBM call did not make it through.
Workshop with NARS partners organized on climate change x biotic stress in West Africa with support from CORAF in first half of 2014	Workshop	2014	Complete	

Partners:

1- Centro Internacional de la Papa (CIP):
Jurgen Kroschel <j.kroschel@cgiar.org>

2- CGIAR Systemwide Program on Integrated Pest Management (SP-IPM):
Irmgard Hoeschle-Zeledon <i.hoeschle@cgiar.org>

Location(s):

Regions: East Africa (EA), West Africa (WA),

Activity 948-2014

Assessment of cocoa and coffee based agricultural systems for carbon sequestration potential to mitigate risk of climate change and enhance food security, including both direct (on-farm) and indirect (land-use changes) mitigation potential and options.

Status	Cancelled	Milestone	3.3.1 2014
Start date	2013 Jan	End date	2015 Dec

Description: GHG emissions due to agriculture-induced land-uses changes are contributing strongly to the GHG emissions that can be attributed to agriculture. IITA and partners will try to quantify these changes and related emissions in the perennial-based cropping systems in the East African highlands and the West African humid forest lowlands. In a nutshell, the activities include: (i) establish collaboration with cocoa sector partners to actively explore and implement REDD+ options in West Africa. (ii) collaborate with SAMPLES in Uganda for the quantification of GHG stocks and emissions from land use (changes) over the past 60 years. (iii) write a Report on drivers of smallholder farmers to encroach and/or protect highland forests in Arabica production zones in EA with recommendations to reduce forest loss.

Status: Cancelled. In 2014, we continued collaborating with ILRI and CIFOR on SAMPLES in Uganda through a joint PhD student (Ibrahim Wanyama). Through an MSc study, we quantified the potential impact of land use changes (particularly the draining of wetlands) in the Rakai Climate Smart Village. A report is available. In addition, we got some support funding (15k USD) to help organise a workshop on agricultural intensification and deforestation in the Congo basin in Nov 2015 in Kinshasa.
Although some of this work is still ongoing within IITA, we will no longer receive CCAFS support FP3 in 2015, since deforestation and coffee/cocoa value chains were no longer considered a priority in the new RBM phase. Hence, the reason for listing this activity now as 'cancelled'.
IITA will still continue to support PhD work on SAMPLES from its own resources

Gender Component: Not defined

Objectives:

1. To quantify the GHG emissions from the perennial-based cropping systems in the humid highlands and lowlands of East and West African, respectively.

Deliverables:

Description	Type	Year	Status	Justification
Collaborations established with cocoa sector partners to actively explore and implement REDD+ options in West Africa	Workshop	2014	On going	IITA in partnership with CIFOR and ICRAF is working on the REALU project in Cameroon. In addition, IITA received 15k USD funding to organise a workshop on agricultural intensification and deforestation in the Congo basin. CIFOR and IITA will try to explore finding bilateral funds for 2015 - possibly reporting to CCAFS if it would be interested to further explore this. IITA is no longer receiving direct support for this work in 2015, but did receive some one-off funding to organise a workshop on deforestation and agricultural intensification in Kinshasa in Nov 2014
SAMPLES in Uganda -> quantification of GHG stocks and emissions from land use (changes) over the past 60 years	Books	2014	On going	The PhD student (Ibrahim Wanyama) is still ongoing, but no (longer) receiving support through IITA-CCAFS. The MSc research was in collaboration with KUL and has been finished. The status cancelled refers to the fact that this activity will be discontinued within CCAFS from 2014 onwards.
Report on drivers of smallholder farmers to encroach and/or protect highland forests in Arabica production zones in EA with recommendations to reduce forest loss.	Peer-reviewed journal articles	2014	On going	A student report was produced in 2014, but the activity no longer received CCAFS support and deforestation was no longer retained as an important theme for GHG in EA.

Partners:

Partners not defined

Location(s):

Countries: Ghana, Uganda,

Benchmark Site: Kagera Basin (Rakai),

2. Succinct summary of activities and deliverables by Output level.

Output: 1.1.1

Summary: This work is going on very well, with strong bilateral support from BMZ, SNV and a number of internal and external PhD students (6 in total), further supported by MSc students and research staff. The project is collecting a lot of data, with numerous publications coming out by 2015-2016. Meanwhile, there is a strong engagement with the coffee and cocoa networks in both WA (cocoa) and EA (coffee)

Output: 1.1.3

Summary: One paper was published on coffee yield constraints (related to drought and pest&diseases). We still have a paper that has been submitted on the impact of climate change on banana weevil based on yield loss model and one on banana and drought modelling that came out in 2014. In addition, 5 papers are planned on cassava pest/diseases through RTB in 2015, following up on work that was initially started jointly with CCAFS. For coffee pest and diseases, we have some exciting research going on with 5 PhD students ongoing (many with CIAT), but unfortunately no publication out in 2014. Investments in plant health and climate change through CCAFS may be very limited in 2015.

Output: 1.2.1

Summary: A banana crop growth model including response to drought stress was developed through a PhD project at Wageningen University. However, in general, IITA's GxE activities supported by CCAFS were being phased out during the second half of 2014 when it became apparent that no funding would be available for 2015. IITA is still interested in GxE, particularly for crop (modelling) of yam, cassava and banana.

Output: 3.3.1

Summary: IITA is still engaged in the REALU project with a.o. CIFOR and ICRAF in Cameroon. We are also still engaged in a joint PhD project in the framework of CCAFS on land-use change / management and the impact on GHG emissions in Rakai. In addition, IITA still received some special funding (15k USD) to conduct a workshop in Kinshasa late Nov 2014. In the future, emphasis will be put on continued investment in this theme, but with a much stronger portfolio on the Congo basin and adaptation/mitigation co-benefits. IITA is very keen to move forward on the latter!

3. Communications.

Media Campaigns:

No special media campaigns, though a lot of effort went into launching the learning alliances of the PACCA project in 2014.

Blogs:

IITA did a few feature stories on CCAFS activities, particularly related to PACCA (FP4-EA).

http://iitanews.blogspot.com/2014/09/iita-led-policy-action-project-launched.html
http://www.iita.org/2014-press-releases/-/asset_publisher/CxA7/content/tanzania-receives-support-to-strengthen-policies-on-climate-change-and-food-security?redirect=%2F2014-press-releases#.VOpEDjozRJ0

http://womenandclimate.ifpri.info/2014/05/26/exchanging-perspectives-on-gender-and-climate-change-in-kenya/

http://blogs.iita.org/learning-alliance-on-climate-change-launched-in-tanzania/

Websites:

Stories about IITA's involvement in CCAFS policy research featured on several websites, e.g.:

http://www.iita.org/news-asset/-/asset_publisher/9MZf/content/tanzania-climate-change-actors-form-a-learning-alliance?redirect=%2Fwhats-new#.VOpEXjozRJ0
www.forumcc.org/index.php/news/74-rapid-population-growth-on-has-bearing-on-climate-change

Social Media Campaigns:

No special media campaigns, though a lot of effort went into launching the learning alliances of the PACCA project in 2014.

Newsletters:

CCAFS work also featured in newsletters - examples below:
http://www.africasciencenews.org/en/index.php?option=com_content&view=article&id=1469:tanzanias-wants-to-recreate-new-environmental-policy-&catid=49:food&Itemid=113
http://issuu.com/iita/docs/bulletin_2257

Events:

Particularly the PACCA-FP4 launching workshop got in the news.
http://www.dailynews.co.tz/index.php/local-news/36564-pacca-tanzania-chapter-launched

Videos and other Multimedia:

http://www.slideshare.net/cgiarclimate/ccafs-fp4-ea-project-ampaire

http://www.4c-coffeeassociation.org/uploads/media/climate_change_IITA_4C.pdf

https://www.youtube.com/watch?v=IEs4sCe8aU0 - Feature story with IITA being interviewed to explain about coffee and climate change on Ugandan national television (NTV)

Other Communications and Outreach:

Through our collaboration with national partners, we also managed to tap into a wide range of websites when we needed PACCA staff / students - for example:

http://news.mak.ac.ug/2014/06/ccafs-phd-student-gender-inclusion-climate-change-adaptation-policies

4. Case studies.

Case Study #1

Title: Policy advocacy: Policy Action for Climate Change Adaptation - PACCA - CCAFS FP4 project in EA

Author: E.Ampaire, P.Laderach, P. van Asten, T. Rosenstock, M. van Wijk, Michael Halewood … and more

Type: Policy engagement;

Project Description:

The project is a CCAFS initiative that aims to use interdisciplinary science-based recommendations to influence policy implementation that encourage adoption of climate-smart agricultural practices across multiple scales and actors. Participants include: national and international research agencies, government technocrats from central and local governments, private sector, NGOs, media and communication, and other civil
society organizations. Policy actions will be implemented through:

a. Creation of Learning Alliance: National level platform with multiple stakeholders that will serve as the focal point for the implementation of policy engagement actions and will develop a policy engagement strategy.

b. Engagement with National Climate Change Units (CCU): To encourage communication and dialogue with local policy makers and implementers on climate change issues.

Major activities:1. Network analysis, 2. Trade-off analysis, 3. Scenarios, 4. Gender analysis and mainstreaming, 5. Policy analysis, 6. Applied information economics, 7. Implementation of jointly proposed policy engagement strategies by the Learning Alliance.

OUTPUTS

Policy briefs, analysis tools and approaches, communication tools, participatory workshops, strategy documents & research publications.

Reports/documents showing gaps in policy formulation and implementation, status of gender.
Communication products that promote reform of policy
implementation strategies or institutions.
Adaptation strategies, CSA* practices and high return investment options.
Gender guidelines that include women and other marginalised groups in decision-making

The project aims to improve engagement and outcomes with policy actors to improve the enabling environment for climate change adaptation by smallholders.

Introduction / objectives:

The Policy Action for Climate Change Adaptation (PACCA) project is an initiative that uses knowlegde gained by scientific research to shape policy on climate change and food security. Information gathered through research provides us with solutions that can encourage adoption of climate-smart agricultural practises. Together, we are working to ensure that goverments and institutions in Uganda and Tanzania make better informed adaptations in order to be climate-smart.

Project Results:

The focal ministries - ministry of agriculture and ministry of water and environment in Uganda and ministry of agriculture and Vice President's Office in Tanzania wre successfully involved and started work. In both Uganda and Tanzania, the project was formerly launched and learning alliance inception workshops were held, from which thematic areas to work on were developed and institutions committed. In Uganda, MAAIF held 3 regional bottom-up consultative workshops, gathering evidence from the grassroots to inform the development of climate change mainstreaming guidelines for the agriculture sub-sector. The process has generated a lot of interest and the donor community is requesting meetings with MAAIF to exploring ways of getting on board. In Tanzania, MAFC held 2 regional consultative workshops training district officials in developing climate resilient district development plans. In addition, MAFC commissioned a PACCA supported study on cost-benefit analysis of water use technologies, prioritized from the Agricultural Climate Resilient Plan.

To make sure that the research is tailored to the policy process, the project only focuses on those policies that current have a 'window of opportunity' in terms of their final format and the possibility to influence the process. Besides local policy actors, we have 5 CG partners (IITA, CIAT, ILRI, Bioversity, ICRAF) as well as many NARS partners. Also additional expertise brought in through Oxfordf for the scenarios work. The project is also building on the expertise and success that the EA theme leader and his policy engagement experts has had so far.

Partners:

Governement parnters: VPO-Tanzania, MAAIF CC task force- Uganda, DCC - Uganda
Local district officials in CSV in Rakai and Lushoto
CG centres; CIAT, ICRAF, ILRI, Bioversity, IITA
Advocacy partners: e.g. PELUM, NGO-Forum
NARS: NARO

Links / sources for further information:

http://www.icccad.net/wp-content/uploads/2014/12/Farmers-food-and-climate-change.pdf
http://www.iita.org/news-asset/-/asset_publisher/9MZf/content/tanzania-climate-change-actors-form-a-learning-alliance?redirect=%2Fwhats-new
http://ccafs.cgiar.org/scenario-guided-policy-development-uganda-context-climate-change
http://www.bioversityinternational.org/uploads/tx_news/The_role_of_networks_in_diffusion_and_uptake_of_climate-smart_technologies_in_Rakai_Uganda_1849.pdf
http://www.forumcc.org/index.php/news/74-rapid-population-growth-on-has-bearing-on-climate-change
http://217.77.189.136/web/iita/news-asset/-/asset_publisher/9MZf/content/creating-future-scenarios-to-inform-new-tanzanian-environmental-policy;jsessionid=3CA60EDEBB6E7B75435D288B1F38DD1D?redirect=%2Fweb%2Fiita%2Fwhats-new
http://issuu.com/iita/docs/bulletin_2257
http://humanitariannews.org/20141007/tanzania-receives-support-strengthen-policies-climate-change-food-security-press-releases-i

Case Study #2

Title: Innovative non-research partnership: Climate change adaptation through the private and public actors in the coffee/cocoa actors

Author: L.Jassogne, P. Laderach, P.van Asten, S.Muilerman, M.Lundy,

Type: Innovative non-research partnerships;

Project Description:

We have a number of projects ongoing at IITA on coffee, cocoa and climate change. What's new is the way how we are operating with the private and public sector authorities in these value chains. We're engaging through them through platforms, by backstopping the development of training materials, and by developing new joint projects, such as the CCAFS-FP1 on cocoa and climate smart technologies with RootCapital and Rainforest Alliance. In Ghana, through an SNV funded project we're brining CSA technologies to the largest cocoa cooperative Koapa Kokoo.

Introduction / objectives:

1. Coffee/cocoa x climate change hotspot maps that alert stakeholders on important coffee/cocoa areas that need strong adaptation efforts.
2. Existing diversity of coffee/cocoa production systems characterized along climate and intensification gradients
3. Productive coffee/cocoa systems identified by using biophysical response functions and models
4. A methodological framework for coffee/cocoa stakeholders to assess climate change adaptation and mitigation potential of various production technologies

5. A dissemination toolbox to help inform and train farmers on best-bet climate change adaptation/mitigation options
6. Recommendations for coffee/cocoa certification bodies and policy makers that highlight gaps and opportunities for climate-smart agriculture

Project Results:

Besides the research partners, we're particularly delighted with the interaction with the local crop platforms, as well as with key private sector partners such as RootCapital and Rainforst alliance Key coffee constraints analysed and communicated - there is much interaction throughout he coffee platforms and IITA-CCAFS has been asked to come and present at local and regional fora and to setup a collaborative relationship with HRNS. THe latter group is leading the implementation of the C&C toolbox.
Improved insight into gender and cc adaptation in coffee in EA - here we are conducting a study to see how farm resource assets and control influence women engagement in agriculture. This is done through the gender behaviour change program that our partner HRNS is implementing at scale in Uganda.

Partners:

Particularly through the BMZ-funded project on trade-offs and synergies in climate change mitigatino/adaptation, this project has linked with local partners and platforms that has not been done traditionally. Through workshops, reports and press releases,we try to bring information relevant for key sector stakeholders to the table. This project has opened our eyes on how traders take their business and how they do their resource endowment. This has led to more research, and hopefully a publication by end 2015

Links / sources for further information:

http://www.fairtrade.org.uk/en/farmers-and-workers/cocoa/kuapa-kokoo
http://www.snvworld.org/en/regions/africa/news/snv-and-iita-launch-the-cocoa-eco-project-in-cameroon
https://twitter.com/snvredd/status/393672108699828224

Case Study #3

Title: Capacity enhancement: Training post-graduate students across Africa based on North-South collaboration

Author: P. van Asten

Type: Capacity enhancement;

Project Description:

In the CCAFS activities that IITA is conducting, we are training 10 PhD and 8 MSc students on climate change and smallholder agriculture systems, varying from in-depth work on pest and disease dynamics, to climate smart technology development, household decision making, trade-off analysis across scales and policy and gender related research.

Introduction / objectives:

The students are being trained in collaboration with local universities and partners. The PhD students are often embedded in the projects and (partially) funded by them. The MSc students are normally embedded in the PhD student projects. They are being supported with accommodation and

operational support, but they will have to foresee in their own living costs and flight tickets (when/where relevant) - for local students, IITA sometimes covers the student fees (registration and some allowances).

Project Results:

All MSc students successfully conducted their MSc research work. The PhD student work is all ongoing. Students from across contingents and disciplines have been working together, allowing them to develop multi-disciplinary skills. Economists, social science students and those doing their work on biophysical research are learning about their respective tools for data collection and data analysis.

Partners:

The students are being trained in collaboration with local universities and partners (e.g. Makerere University, University of Kumasi, CRIG, NACORI, NARL) as well as universities in Europe, including University of Goettingen, Wageningen University, KUL, SLU. The students originate from Uganda, Zambia, Ghana, Costa Rica, Colombia, Netherlands, Belgium and Germany

Links / sources for further information:

https://www.facebook.com/groups/670411306386573/?ref=br_tf
http://wpar12.iita.org/?p=1557

5. Outcomes.

Outcome #1:

Outcome story is again due next year

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

Outcome story is again due next year

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

Outcome story is again due next year

What partners helped in producing the outcome?

Outcome story is again due next year

Who used the output?

Outcome story is again due next year

How was the output used?

Outcome story is again due next year

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?

Outcome story is again due next year

7. Outcome indicators.

8. Leveraged funds.

Leveraged funds #1

Title:

USAID-FtF project on climate change adaptation

Partner Name: National Agricultural Research Organisation

Budget: $1,000,000.00

Theme :1

9. Publications.