



CCAFS East Africa Regional Science Workshop Report

June 26-28th, 2012

Mount Meru Hotel, Arusha, Tanzania

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RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



This report documents the **CCAFS East Africa Regional Science Workshop** held between 26th and 28th June 2012 at the Mt. Meru Hotel, Arusha, Tanzania. The report is a documentation of the proceedings and outcomes of the workshop without interpretation. It serves as a reference document for CCAFS East Africa Program and workshop participants, providing details of what transpired. The results of the working groups and plenary discussions are reported as they were presented.

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1 Background

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) addresses the increasing challenge of global warming on agriculture and food security through a strategic collaboration between the Consultative Group on International Agricultural Research (CGIAR) and the Earth System Science Partnership (ESSP). The partnership seeks to overcome the threats to agriculture and food security in a changing climate, exploring new ways of helping vulnerable rural communities adjust to global changes in climate.

The CCAFS program brings together the world's best researchers in agricultural science, climate science, environmental and social sciences to identify and address the most important interactions, synergies and trade-offs between climate change and agriculture. The program is structured around four closely inter-linked global research themes: 1) Adaptation to Progressive Climate Change; 2) Adaptation through Managing Climate Risk; 3) Pro-poor Climate Change Mitigation; 4) Integration for Decision Making. CCAFS is initially focusing on three regions to carry out its research: East Africa, West Africa, and South Asia (see more at: <http://ccafs.cgiar.org/our-work>).

Across East Africa, the variable nature of rain-fed agriculture and the smallholder subsistence production base increases vulnerability to climate risks — primarily drought. The frequency and severity of climate shocks such as drought, heat and cold stress as well as floods are likely to lead to major food crises. For example, the Horn of Africa drought in 2011 affected most of the dry lands of East Africa. The region, therefore, requires long-term actions to build the capacity of its people and institutions to better adapt to climate change and climate variability. In order to integrate the work of CCAFS themes and research as well as non-research partners, CCAFS has established six learning sites across four countries, where place-based research will be conducted in Kenya (Nyando and Wote), Uganda (Hoima and Rakai), Tanzania (Lushoto) and Ethiopia (Borana). The learning sites were chosen to represent areas that are becoming both drier and wetter, and are focal locations where participatory action research (PAR) efforts are expected to generate results that can be applied and adapted to other regions worldwide (for more information see <http://ccafs.cgiar.org/where-we-work>).

The regional program hosted a three-day workshop to engage with partners from agricultural research, agricultural extension, climate services and products, food security, and early warning systems in East Africa. The overall objective of the workshop was to plan and develop thematic research to support climate risk management, adaptation and mitigation options in East Africa, resulting in four to five project concepts that can be supported as seed participatory action research (PAR) activities. From these seed activities, CCAFS intends to build longer term projects from those with the greatest potential to deliver bigger outcomes and impact. The workshop built on the regional needs for research and priorities identified from previous national and regional workshops in 2011.

2 Introduction

The meeting started with welcoming remarks from James Kinyangi – CCAFS East Africa Regional Program leader; who thanked everybody and welcomed them to the meeting. He urged participants to feel free, relax, and use the meeting as an opportunity to know each other, share experiences, and forge new research partnerships. James then recognized and introduced the facilitation team.

2.1 Facilitation team



The regional program leader introduced **Maria Nassuna Musoke** as the meeting’s facilitator. Maria was assisted by **Robert Ouma**. Maria and Robert work for PICOTEAM which specializes in organizational development and change management. Maria expressed her pleasure at the opportunity to interact with a wide range of organizations and individuals working on climate change issues and promised to allow an interactive and participatory process designed to achieve the objectives of the workshop.

She described the role of the facilitators as ‘guiding the process’ and the role of participants as ‘generating the outputs’. Therefore the outcomes of the meeting would be largely dependent on the participants and their energy. She asked everybody to engage fully. Maria also introduced the logistics team composed of **Assenath Kabugi** and **Tabitha Muchaba**.

2.2 Setting the scene

2.2.1 Participants’ introduction and expectations

Under guidance from the facilitator, participants introduced themselves and their organizations. Working at tables of about 8 individuals, each group was then asked to discuss their expectations of the workshop and write them on cards. Task Box 1 below guided these discussions. A representative from each table presented these cards in plenary, which were then clustered as summarized in Table 1.

Task 1: Introductions and Expectations

1. Please share with us:
 - Who you are
 - The organization you represent & your position

2. In your table group, discuss and agree on:
 - Two major expectations in this workshop
 - Two things we should avoid

Table 1: Summary of participants' expectations and things to avoid

Participants' expectations	Things to avoid
1. Build regional and national partnerships	1. Personal interest
2. Plan for future work based on discussions	2. Cross talking
3. Develop concept notes for feasible climate change projects	3. Avoid sleeping
4. Learn what others are doing on climate change	4. Avoid unnecessary distractions
5. Network and knowledge sharing	5. Avoid ambiguity
6. Regionally agreed research agenda	6. No working after 5 pm
7. Know more about CCAFS and other regional programs	7. All laptops off during session
8. Establish & maintain contracts for networking	8. Long days
9. Better understand CCAFS current status	9. Follow agenda and avoid rubber stamping
10. Identify effective linkages for collaboration	10. Telephone interruptions
11. Share knowledge and experience	11. Avoid time wasting, do not over-explain issues
12. Come up with simple ways of	12. Turn off computers and phones
13. Network and develop partnerships	13. Avoid open ended discussions

2.2.2 Workshop objectives

The facilitator formally presented the workshop objectives of meeting. The objectives covered significant elements of the expectations of workshop participants.

The overall objective of the workshop was to plan & develop thematic research to support climate risk management, adaptation & mitigation options in EA. The specific objectives included:

- To share on-going CCAFS participatory action research (PAR) activities by different partners in the region
- To explore areas of collaboration amongst the players in the region
- To develop four to five project concepts focusing on thematic research areas to support climate risk management, adaptation and mitigation options in EA
- To identify climate risk management, adaptation and mitigation practices and plan for interventions in agriculture that are likely to benefit women and other socially differentiated groups

2.2.3 Anticipated workshop outputs

- Working groups on climate risk management, adaptation & mitigation in agriculture in EA
- Four to five research concept notes for activities ranging from 6 months to 2.5 years
- Climate-smart agricultural practices and interventions that are likely to improve gender equity and benefit poor women identified
- Agreements on partnership arrangements with implementation plans

A detailed overview of the workshop is summarized in Table A1 (Appendix).

2.2.4 Principles for working together

Maria introduced the participants to some key facilitation principles and rules as practiced by PICOTEAM (see Figure 1). The meeting agreed to adapt these core values to help create an atmosphere of effective interaction and collegiate sharing of ideas. In order to increase the interaction, the facilitator asked participants to sit at tables with people that they did not previously know.

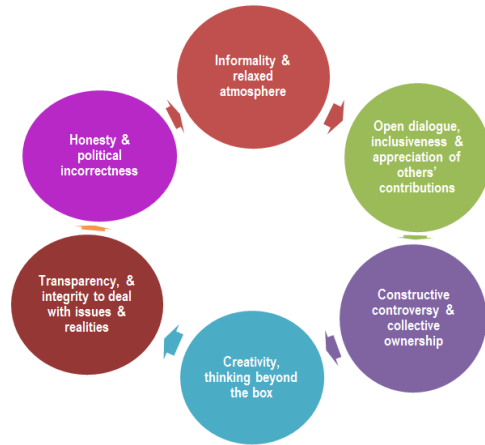


Figure 1. PICO facilitation principles and rules

Guidelines for interaction at the tables

- Listen more than you talk
- Avoid speeches – be straight to the point
- Encourage the quiet ones
- Share tasks during group work and presentations
- Be conscious about time management
- Avoid disruptions e.g. phone calls, e-things

2.2.5 Meeting co-management and programme

Process Steering Group

Maria Nassuna-Musoke
James Kinyangi
Maren Radeny
Henry Mahoo
Moses Tenywa
Robert Ouma
John Recha

Supporting the facilitator in conceptualizing and steering the workshop was a process steering group tasked with providing feedback on the process and helping ensure that things were on track, recalibrating the workshop program as necessary.

3 Overview and highlights of CCAFS East Africa Research Activities

In this session of the meeting, various presentations and discussions helped to familiarise participants with the key aspects of CCAFS work in the region. A select number of partner organisations made presentations detailing their work on climate change while participants offered feedback and sought clarifications.

Overview of CCAFS 2011 – 2012: Science and solutions to the climate change challenge

James Kinyangi, CCAFS East Africa Regional Program Leader



James noted in his presentation that many participants had heard of and interacted with CCAFS and therefore knew something about it. He gave an overview of the program, its vision, its framework. James took the participants through a detailed presentation of CCAFS work both in the region and internationally spanning across PAR, scientific research, policy dialogue, partnership development, and knowledge management among others (see <http://scienceworkshop-june2012.wikispaces.com/Workshop+Presentations>).

Issues arising from the plenary discussion are summarized below.

- *Availability of Agtrials data.* The Agtrials data is available to the public and CCAFS would be happy to link up interested researchers and others partners with relevant custodians of the data.
- *CCAFS has implemented 152 projects. Are there some good technologies that can be transferred to and across other countries in the region?* Participants were encouraged to document simple toolboxes to facilitate faster and easier transfer of technology. However, the transfer of tools and techniques learnt from CCAFS projects may be much easier on a project by project basis.
- *CCAFS sites.* The original CCAFS design targeted 36 sites globally. However, some sites were later dropped bringing the current number of sites to 15.
- *Availability of baseline survey questionnaires, methodology, and data.* The baseline survey questionnaires, sampling guides and data are available on the CCAFS website (www.ccafs.cgiar.org).
- *Collaboration with similar climate change initiatives in the region e.g. NEPAD.* CCAFS would like to work more closely with NEPAD, and especially within the Comprehensive Africa Agriculture Development Programme (CAADP) framework. CCAFS is also keen to partner and collaborate with the African Development Bank (AfDB). As CCAFS learns more about NEPAD we will be able to determine how to collaborate.
- *Way forward after developing the 5 Concept Notes.* This question was deferred until the last session of the meeting where 'Next Steps' would be discussed.

Participatory Evaluation of bean varieties in Hoima and Rakai Districts in Uganda

Clare Mukankusi, CIAT Uganda

The presentation provided information on an action research project at various sites in two districts in Uganda; collaboratively implemented with the Pan Africa Bean Research Alliance (PABRA). The project seeks to work with farmers to identify drought tolerant bean varieties. The research processes and some initial insights were presented. The plenary discussions are summarized below.



See <http://scienceworkshop-june2012.wikispaces.com/Workshop+Presentations> for the presentations.

- *Inclusion of traditional bean varieties in Uganda which are more resilient to disease and drought to address a wider range of constraints.* The project would include more varieties and in some sites the farmers actually ended up choosing the varieties that were their own local varieties.
- *Farmers dislike for undertaking ‘control treatment’ and keeping records.* The farmers were the experimenters and were asked to try out things and see if there will be improvements. Farmers were did not see themselves as ‘control vs. experimental’ farmers.
- *Use of inputs (fertilizer or manure) and soil testing.* The study used the local conditions and inputs that farmers would ordinarily use so as to reflect the normal conditions. Information on the soils is available and will be included in the final analysis.
- *Using climate outlook to inform project activities.* It seems drought resistant crops (beans) were planted during the rainy season. The beans were planted during the dry season and in some cases farmers were convinced to plant a little later and not when there was excessive rainfall. We should have greater collaboration and flexible project design to allow these changes in the work.

Integrating indigenous knowledge and scientific seasonal forecasts for risk management in Tanzania

Prof. Henry Mahoo, Sokoine University of Agriculture

The presentation was based on a study in Lushoto district of Tanzania. The study looked at bridging the gap between the need for location-specific seasonal forecasts and the more generalized forecasts available from meteorological services departments. To a large extent, the specificity of indigenous knowledge in forecasting plays a big role in the trust communities place on this kind of information (see <http://scienceworkshop-june2012.wikispaces.com/Workshop+Presentations>). Issues arising from the plenary discussions are summarized below.



- Similar situations exist in rural communities elsewhere e.g. in Ethiopia, where traditional and modern weather forecasters exist. The traditional seasonal forecasts are more reliable and trusted. But in giving information, the traditional forecast system does not provide advice on what to do given a particular scenario.

- In many cases indigenous indicators do not capture soil analysis or water stream flow information. In this study, the indigenous knowledge (IK) is what the communities brought up and they did not raise the soil, water and stream flow issues at all, but this can be probed later.
- The findings are consistent with what we observe in Kenya. The modern systems lack local context. However, some of the indicators listed as indigenous are actually biophysical and are captured in the modern science. The fauna and flora manifest signals built into them that indicate the weather patterns. As a follow, the project should investigate the scientific basis of what communities perceive as indicators so that we can have a basis for integrating these into modern science. We need to expand the input parameters to capture and integrate biological indicators into modern scientific forecasting. Good climate data is lacking in the region thereby the reliance on local people who also observe climate. Can the region develop observational stations based on IK? There is science behind the IK that needs to be investigated and we are requesting CCAFS to support us in this. To find out what is the reason behind the observations. But those with IK are dying and also the 'ants' and 'bees' are being driven to extinction.
- Other than forecasting the likelihood of the rainfall onset or season, IK needs to integrate rainfall variability and amount as well — as these are critical for agricultural production. This has been a major challenge in forecasting. IK forecasts also face problems of inaccuracy in predicting rainfall variability and amounts.
- Forecasting over longer time periods than short/single points in time to ascertain what system (modern or traditional), prevails over the other. While the meteorological departments generate long term analyses, there is no information on long term IK forecasting and even what exists is not standardized across different communities. There is need, therefore, to first document all the IK information, and analyze long term reliability of IK.
- Undertaking timely analysis and dissemination of forecasting information is critical. How can IK knowledge and scientific forecasting complement each other? What is the plan for undertaking an exhaustive study on this? IK and scientific forecasting can co-exist and complement one another, rather than debating which one is better than the other.

An assessment of agriculture and climate change policies in East Africa

Jonathan Nzuma, University of Nairobi

The study was based on a survey of 53 key informants across Ethiopia, Kenya, Uganda and Tanzania. The study analyzed the actor and policy landscape as they relate to climate change. The study concluded that while there is widespread recognition of the importance of including climate change perspectives in policy and policy making processes, there is poor coordination among the various agencies and players whose actions impact policy implementation. Discussions from the plenary are summarized below (see <http://scienceworkshop-june2012.wikispaces.com/Workshop+Presentations> for the presentation).



- *Contribution of the study in influencing policymakers.* We all recognize the need to link research to policy making. Researchers, however, have not been good at passing on information while

policymakers in the region are not known to appreciate scientific (research) evidence. We all have the responsibility to make sure that people who become policymakers appreciate and use research evidence, and this is a challenge for everyone.

- Policy process is informed by evidence, and policy makers may not understand the scientific language. The only way to influence policy is to be at the right place at the right time.
- *Current status of harmonization of policies across different sectors of the economy to enhance adaptation.* Agriculture as a sector should not be looked at in isolation. The way forward is to take a harmonized approach and integrate ministries. The regional bodies in Africa such as COMESA, NEPAD, and other Regional Economic Commissions are working towards harmonization of policies across sectors.
- The National Water policy for Tanzania is missing.

Enhancing Food Security by Managing Climate Risks in Lower Nyando, Kisumu

Amos Wekesa, VI Agro-forestry

The presentation highlighted a series of community development activities initiated in lower Nyando, Western Kenya. The activities are designed to identify and encourage climate-smart livelihood choices where the farmers in the area are engaged in selecting and evaluating different crop and animal breeds, soil and water conservation technologies, agro-forestry among other activities (see <http://scienceworkshop-june2012.wikispaces.com/Workshop+Presentations>).



Discussions from the plenary are summarized below.

- *Why is this relevant to CCAFS? Why should CCAFS do this work? I would be thinking that you should be identifying points of vulnerability to seek solutions for this. Is this typical CCAFS work and what can we extract from this in terms of climate change vulnerability and adaptation?* This looks like a basket of options from which farmers will pick what works for them. The area identified is highly vulnerable to climate change. A lot of ‘scientific’ work has been done in the area but the question of adaptation and diversification has been lacking. Also dissemination of strategies has been missing.
- *Researchers always use demonstrations, with low adoption rates.* There is need to explore other alternatives such as the Farmer Field Schools (FFS) to encourage adoption. Also, proper selection of areas and targeting of crops to appropriate sites is necessary to avoid the problem of non-adoption of technologies. There are demonstration groups where learning occurs in the site. The FFS approach is being used even though it had a problem when introduced because of the perception of it being a government project.
- *A basket of options for farmers is a good idea, but what happens to traditional crops and varieties that are being replaced? Are these being considered as part of the basket of options?* The local varieties are being used as part of the sustainable land management interventions and are not being replaced e.g. local vegetables and maize varieties.

4 Prioritizing regional needs for research

In order to identify the five key research topics for further development, the facilitators took participants through a participatory process to 1) understand the key research areas, 2) agree on criteria for prioritization of the needs for research and 3) rank and select five out of the many topics. This section below describes and summarizes the process.

4.1 Understanding regional needs for research and priorities

The CCAFS regional program has had several regional and national workshops and consultations in different fora. As a result, a total of 19 topics across four thematic areas were identified as the regional research priorities. In order to deepen understanding of these topics, participants were taken through each of the topics by CCAFS staff — James Kinyangi, Maren Radeny and John Recha. This was done through poster presentations (Figure 2).



Figure 2. Explaining regional needs and priorities at the workshop

With this refreshed understanding of the research areas, the participants were asked to comment on gaps and synergies that they may have identified, following guidelines presented in Box 2 below.

Task Box 2: Identification of gaps & synergies

Based on the presentation on regional priorities and needs, and also on your own experiences and knowledge, discuss and agree on:

- What you see as missing?
- Where (if any) you see synergies within or across the four thematic areas?

After 15 minutes, one person will read your ideas to the plenary

A small team was formed to review the generated lists of ‘missing’ and ‘synergies’ and incorporate them into the existing list of priorities. This process resulted into a revised set of priorities from which five

would be selected to be developed into concept notes. The modifications (highlighted in *blue italics*) by the small team were presented to plenary (Table 2).

Table 2: Revised set of regional research priorities

1. Climate Risk Management	
Project 1.1	Development of tools to assess impacts of climate change on crop yields, livestock production and fish at the local level e.g. APSIM & AQUACROP tools; <i>as well as tools for assessing effects/ impacts of climate change on genetic diversity, impacts of diversification etc.</i>
Project 1.2	Improve and downscale seasonal forecasts & climate predictions
Project 1.3	Timely, reliable and user friendly delivery of seasonal forecasts that effectively address the demands of the farmers
Project 1.4	Identification and documentation of local traditional risk-management strategies
Project 1.5	Integration and communication of indigenous technical knowledge (ITK) and scientific weather forecasting and early warning systems <i>including scientific assessment of ITK</i>
Project 1.6	Diversification for risk management and index-based financial risk transfer for crops and livestock
2. Adaptation	
Project 2.1	Crop and livestock breeding, and improvement of livestock feed resources for future climate; <i>for example: adequacy of soil and water adaptation strategies (NRM, hotspots etc.)</i>
Project 2.2	Integrated pest and disease management <i>for crops, forestry, fish and livestock</i>
Project 2.3	Mapping risks for targeting appropriate crop and livestock adaptation technologies
Project 2.4	Use of climate scenarios, spatial and temporal analogues for designing adaptation strategies in agriculture
<i>Project 2.5</i>	<i>Economic analyses (including trade-off analyses, cost-benefit, drivers, socio-economics) of adaptation options</i>
<i>Project 2.6</i>	<i>Map what is available in gene banks to appropriate climates and environments</i>
3. Mitigation	
Project 3.1	Sustainable agricultural intensification strategies through sustainable land management , and agro-forestry (<i>including through project 2.1</i>)
Project 3.2	Test institutional options and incentives <i>which includes developing market mechanisms such as those for carbon credits</i> for mitigation across socially differentiated groups and gender
Project 3.3	Quantification of greenhouse gas (GHG) emissions to inform mitigation interventions.
4. Linking Knowledge with Action	
Project 4.1	Communication and social learning approaches and knowledge networks for scaling up climate smart agricultural technologies; and
Project 4.2	Processes, approaches and tools to enhance science-policy dialogue and promote evidence-based policy outcomes through the Regional Learning Partnership (RLP)

Additional issues to be incorporated during concept development

- Each concept note should have a component of communication i.e. “how the results will be communicated”. Ultimately this will be linked to the CCAFS communication strategy.
- In each concept note, the following cross-cutting issues should be included as much as is applicable: Capacity building, Communication, Gender and other social differentiation, and monitoring and evaluation.
- Each research area is a main thrust but it is possible to have related sub-objectives linked to other themes and priorities.
- Engagement with the private sector is a case by case issue that should be discussed within the concept note to the extent that it is relevant to the topic.
- Value chain analysis can be a methodology or an approach in any one project if suitable.

Plenary discussions

- Aspects of socio-economics and vulnerability – i.e. understanding the relationship between vulnerability and socio-economics is still missing. It was agreed that vulnerability assessments should be considered within specific research proposals, as and if applicable.
- Adaptation theme, project 2 should still include other aspects of crop and livestock management. It was argued that this change would broaden the research area too much. There is need to capture major priorities and explore the synergies that the priorities have with other priorities. Crop livestock management as a priority would be too wide and therefore the need to narrow down and focus on what is specific and relevant.
- Post-harvest losses still missing. Since these set of priorities could not cover all possible topics, but represented ‘priorities’, the meeting agreed to move on with the revised list and develop 5 concept notes from them.

4.2 Identifying and agreeing on prioritization criteria

Following the amendment of the research priorities to reflect synergy and to include areas seen as important but missing, participants needed to agree on a basis for selecting five topics. This process was achieved by first agreeing on criteria. Task Box 3 summarizes the process of identifying the criteria for prioritizing the five topics.

Task box 3: Identifying and agreeing on prioritization criteria

On your table groups

- Think of criteria that should be used in prioritizing and selecting only five out of the many research projects, for climate risk management, adaptation and mitigation options in East Africa.
- Reflect individually for 3 minutes before you discuss.

Agree on only 2- 3 criteria and write them on cards.

The criteria were subsequently clustered and summarized into five categories (Figure 3) and included:

- Potential for synergy across and within research themes
- Regionality, both in outputs and implementation
- Direct contribution to livelihoods
- Feasibility
- Innovativeness; low cost for broad applicability



Figure 3. Criteria for prioritizing five research topics

Plenary discussions

- There are a number of comments on integration of research, especially on mitigation and adaptation across the themes. But there is also the question of focus. Would we be making a mistake if we made focus on adaptation a criterion? When a project has a focus on mitigation, you can estimate the adaptation potential and vice versa. Currently the developing countries want focus on adaptation but the developed countries want work to be done on mitigation issues. Our research can help to narrow this gap by showing that these are not mutually exclusive issues.

- By prioritizing adaptation we are not excluding mitigation. We are saying that here is where we stand currently, but we are looking at long term benefits.
- Are we sure what the benefits that accrue from mitigation and adaptation are? That is where the research comes in. But our position is that you cannot actually separate adaptation and mitigation. There are some doubts about where adaptation stops, and mitigation starts and what the relative benefits are.
- Everything can be evaluated in a different dimension. The aim at either ‘adaptation potential’ or ‘mitigation potential’ may be false because it really depends on how you analyze it.

4.3 Ranking and prioritization of research topics

The research topics were ranked and prioritized based on agreed criteria (in 4.2), through a simple and transparent process. Participants at each table agreed on the order of the criteria for ranking for each research area for them. The rankings from the different groups (tables) were grouped together, with the top ranked research areas as selected priorities. A fifth research area was chosen in plenary from the list of the remaining research areas. The results are summarized below (see Figure 4).

- *Climate risk management*: Projects 1.2, 1.3 and 1.5 had similar rankings, with some groups merging the two. It was agreed that they should be developed as one project. Project 1.6 ranked last and Project 1.4 ranked second last
- *Adaptation*: Project 2.3, Mapping risks and opportunities was ranked top along with synergies with Project 2.5. Project 2.6 ranked as least priority
- *Mitigation*: There was more emphasis on 3.1 and possible synergies with 3.3 should be explored.
- *Linking knowledge with action*: Project 4.2 was selected.

From this exercise the top priority project from each of the four thematic areas was selected. The fifth project was selected out of the projects that ranked second in the thematic areas of climate risk management and adaptation. The climatic risk management and adaptation themes had the highest number of research topics. The choice, therefore, had to be made between projects 1.1 and 2.4 (Figure 4). The process of choosing the fifth research area/projects was done through plenary discussion, and three schools of thought emerged as follows:

- First, the two projects were complementary and should be implemented as one project. Participants argued that project 2.4 seemed to be a methodology of project 1.1, and that climate scenarios should not be seen in a vacuum but based on geographical regions.
- Second, the two projects are not complementary, with preference for project 1.1. Participants argued that project 1.1 was more relevant since it involved working with farming communities. Moreover, many systems have not been characterized in terms of climate sensitivity. Developing the models proposed in project 1.1 requires long term work and more effort. While there is a lot emphasis on modeling, CCAFS East Africa program works on 1.1 at a lower level, while others organizations such as the CGIAR centers can work on the global models.



Figure 4. Results of the ranking and prioritization exercise

- Third, combining 1.1 and 2.4 would result in a big project. Participants acknowledged that while it's important and relevant to work on project 1.1, the effort required to accomplish the task is much larger and more difficult as crop modeling is not a simple and short term work. Furthermore, the models proposed in 1.1 do not necessarily have a direct link to the farmers. Already, there is a lot of work on 1.1 that is ongoing especially in the CGIAR. Project 2.4 was easier to implement, and beneficial to farmers as it involves developing adaptation strategies.

In conclusion, project 2.4 was finally chosen for further development through consensus (as the fifth project), and the second adaptation project.

4.4 Selected projects

The final list of selected projects for each of the thematic research areas is summarized below:

Adaptation

- *Mapping risks and opportunities for targeting appropriate crop and livestock adaptation strategies in East Africa.* The project will identify linkages between biophysical, environmental and socio-economic nature of risks and opportunities brought by climate change in major farming systems and agro-ecological zones that are vulnerable to climate in East Africa for targeting adaptation interventions and technologies to appropriate biophysical and socioeconomic environments. The study sites will include the existing CCAFS sites in the region (<http://ccafs.cgiar.org/where-we-work/east-africa>).
- *Use of climate scenarios, spatial and temporal analogues in designing adaptation strategies in agriculture.* The objective is to build capacity of smallholder farmers, researchers and development partners in using the climate analogues tool to design adaptation strategies and to provide feedback on the efficacy of the analogues tool. The study will be carried out in Kenya, Uganda and Tanzania over three years. In each country, four sites will be selected representing different land use and farming systems.

Mitigation

- *Quantification of greenhouse gas (GHG) emissions to inform mitigation interventions in East African cropping systems.* The objective of the project is to build capacity for researchers in East Africa to measure GHG emissions from agricultural activities and to identify best-bet mitigation options. It will use CCAFS sampling frames and the Land Degradation Surveillance Framework (LDSF) developed by ICRAF at few selected sites. In addition, the study will make use of existing household data to select farm types and within those, agricultural practices to identify promising mitigation options.
- *Assessment of land management strategies for crop-livestock intensification for climate change mitigation.* The aim of the project is to develop and promote sustainable land management strategies that increase resilience, reduce vulnerability, increase land productivity and increase carbon sequestration. The study will be carried out in CCAFS sites in Kenya and Uganda taking into account agro-ecological zoning, soil types, and climate data. In addition, controlled experiments will be carried out by Kenya Agricultural Research Institute (KARI) and Makerere University.

Risk management

- *Reducing risk and capitalizing on opportunities created by variable climate through use of improved downscaled seasonal climate forecast.* The project will promote use of Seasonal Climate Forecasts (SCF) in planning and managing smallholder farms to reduce risks and capitalize on opportunities created by climate variability in East Africa. The project will be carried out in Ethiopia, Kenya, Uganda and Tanzania. In each country, four sites will be selected taking into account the close

proximity to synoptic rainfall stations with historic weather or climate data and proven community vulnerability to the adverse impacts of climate change.

Linking knowledge with action

- *Agriculture-climate knowledge interface for policy and action.* The objective of the project is to promote through a Regional Learning Partnership (RLP), innovative mechanisms for linking agriculture, climate change science and knowledge to effective formulation and implementation of policy and action at regional, national and sub-national levels in East Africa.

5 Concept note development

Task box 4: Forming Research Concept Note Writing Groups

There are 5 project topics that are going to be developed into concept notes

- Go and stand next to the project you would wish to contribute to in terms of concept development.
- Write your names, organization and the country you are working in, under the project.

Table 3. Results of self-selection into six groups developing concept notes

<i>Mapping risks and opportunities for targeting appropriate crop and livestock adaptation strategies in East Africa</i>	<i>Use of climate scenarios, spatial and temporal analogues in designing adaptation strategies in agriculture</i>	<i>Quantification of greenhouse gas (GHG) emissions to inform mitigation interventions in East African cropping systems</i>
Annuciate Nakiganda	Charles Wasonga	Crispus Mugambi Njeru
Dan Kiambi	Henry Mahoo	Mariana C. Rufino
Clare Tekla Mugisha Mukankusi	Juma Marwa Wickama	Simon Byarugaba
Florence Birungi Kyazze	Mary Mgonja	Winfred Mbungu
Samson Ndeshi Munisi	Maurine Kasuvu Ambani	
Samuel Tuffa Kawo	Munenobu Ikegami	
Sika Gbegbelegbe	Piet Van Asten	
Solomon Desta Woldeamanuel	Winfred Kore	
Songporne Tongruksawattana		
Wondwossen Tadesse Debelle		
John Ojiem		
<i>Assessment of land management strategies for crop-livestock intensification for climate change mitigation</i>	<i>Reducing risk and capitalizing on opportunities created by variable climate through use of improved downscaled seasonal climate forecast</i>	<i>Agriculture-climate knowledge interface for policy and action</i>
Amos Wekesa	Benard Chanzu	Ahamada Zziwa
Anita Msabeni	Cromwel Lukorito	Amanuel Kassie Yigzaw
Jane W. Wamuongo	Deus Bamanya	Dominic Ringo
Kizito Kwena	Doris Akishule	Dorothy Akinyi Amwata
Moses Makooma Tenywa	Girma Mamo Diga	Drake Mubiru
Pauline Birungi	Hashim Karim Ng'ongolo	Mainza Mugoya
	Kassaye Atsede Tedla	Jonathan Nzuma
	KPC Rao	
	Monica N. Kinuthia	
	Shirley Bushemere Gumisiriza	
	Tom Ouna	

Task 5: Developing the research concept notes

Each group will be working a research idea. CCAFS will consider funding these ideas. So this is a very important exercise. Each group will implement the research concept note by themselves. This task, therefore, requires concentration, innovation, openness and participatory sharing. This is a time for developing something together, and the ideas should come from the group.

In your groups

- Select a chairperson and rapporteur. The chairperson will lead discussions while the rapporteur will record the discussion and write what is agreed into the Concept Note using a laptop
- You will rotate the chairperson of the group every few hours
- Start by re-introducing each other and the organizations you come from. Talk about your individual skills and how they can contribute to the group's research topic
- Spend some minutes brainstorming on the various research questions and gaps that can be tackled under the chosen topic
- Agree, by consensus, on the main thrusts you want to pursue
- You have been provided with an outline of a Concept Note: begin to write out the concept note heading by heading, making sure that each member of your group agrees and is comfortable
- Follow the rules for table groups provided by the facilitator

Issues to be incorporated during concept development

- Each concept note should include the following cross-cutting issues if applicable: capacity building, communication, gender and other social differentiation, monitoring and evaluation.
- Potential synergies with other thematic areas and priorities
- Engagement with the private sector if applicable and to the extent that it is relevant to the research topic.
- Value chain analysis can be a methodology or an approach in any project if suitable.

Suggested outline of Concept Notes

- a. Theme (e.g. adaptation)**
- b. Project title**
- c. Problem statement**
 - What are the underlying issues in this topic?
 - Other or previous work
 - Gaps and opportunities
- d. Proposed intervention**
 - What would the project want to achieve and why?
 - What's new? Innovation
- e. List of promising strategies of achieving the proposed interventions**
 - Which of the strategies above are likely to benefit women & other socially differentiated groups
- f. For each of the above listed strategies propose ways of implementation**
 - Methods
 - Where
 - Activity areas
 - Proposed timelines for activities
- g. Expected outputs, outcomes & impact and risks**
 - Outputs e.g. journal articles, workshops, policy briefs, communication products)
 - Outcome
 - Impact Logic
- h. Recommendations for implementation modalities**
 - Participating institutions (partners) with their roles
 - Lead institution
 - Milestones and outputs to be accomplished every 6 months
 - A draft work-plan for the first six months

6 Next steps, workshop evaluation and closing

6.1 Next steps

The following next steps were discussed and agreed upon in plenary.

What?	When?	Who?
Workshop report	9 th July	Robert and Maria
Lead in the refinement and submission of the concept	Submit revised concept to by 13 th July to Maren Radeny	Champions: Dorothy Amwata, Dan Kiambi, Juma Wickama, Jane Wamuongo, Cromwell Lukorito
Avail email, Skype addresses	28 th June	All participants
Feedback from CCAFS on the concept notes - the review will come with additional guidelines for streamlining the budget lines and developing a full proposal.	Review will go out on the 20 th , delayed reviews by 25 th of July	CCAFS
Full proposals resubmitted	3 rd August	All teams
Negotiations on contracting	August	CCAFS/Teams/ lead institutions
Begin implementation	1 st September	CCAFS/Teams

Additional discussion on next steps

- In reviewing the concept notes, the reviewers may need to look at coherence across proposals. How to work together? Skype, teleconference, technology, telephone i.e. use of different communication media. Skype may not work well in Ethiopia.
- CCAFS will explore various ways to enhance communication within the groups.
- CCAFS will explore various avenues for groups to share experiences and meet or facilitate shared platforms e.g. through the regional learning partnerships.
- Having representation across the four in each of the research groups is good but needs to be justified. Similarly, other partners can be co-opted and this can be included in the proposal development.

6.2 Workshop evaluation

<i>What participants liked most in this workshop...</i>	<i>What they did NOT like was ...</i>	<i>Looking at the implementation of the project a positive thing they saw was</i>	<i>Their worry was...</i>
<ul style="list-style-type: none"> • Good facilitation • Excellent, conducted sessions • Interaction and what was achieved and time management • Open and honest discussions • Gender parity • Interactive, participatory way • Workshop cocktail 	<ul style="list-style-type: none"> • Ambiguity • Little out-of-pocket allowance without clear basis • Deficit in information before coming including agenda on wiki • Under-representation of farmers • No time to visit Arusha 	<ul style="list-style-type: none"> • We have had so much discussion – this is a step forward we will implement activities that address climate change • Benefits will be across different sectors • Networking, facilitation, synergies • Ownership of the process • Regionality • New knowledge 	<ul style="list-style-type: none"> • Coordination and budget • Whether developers will implement project • Time pressure where we are all tied up with other work. Need to find a way to coordinate and get things going • Loss of ownership by some • May not meet deadline for submission • Insufficient funds

6.3 Closing remarks

- The facilitator thanked the participants for being wonderful, engaging, CCAFS for the opportunity to facilitate the workshop, the hotel and their hospitality. She thanked Robert for the cordial working relationship.
- James Kinyangi, CCAFS East Africa RPL thanked PICO, and in a special way thanked Ed Rege for their support. He was grateful that participants had found time to participate in the workshop. He prayed that they return to their countries safely and convey CCAFS greetings. He identified most participants by name and thanked them.
- James reiterated that CCAFS would look very closely at the proposals that different groups were developing, their partnership arrangements, potential for scaling up, cost effectiveness, and work at CCAFS sites among other aspects. He thanked everybody once again and thereafter closed the meeting.

Appendix

Table A1. Workshop overview

SESSION	TEUSDAY 26 TH JUNE 2012	WEDNESDAY 27 TH JUNE 2012	THURSDAY 28 TH JUNE
SESSION 1 08:30-10:30	WELCOME & SCENE SETTING <ul style="list-style-type: none"> ○ Welcome ○ Participant intros & expectations ○ Workshop process ○ Facilitation principles INPUT PRESENTATION <ul style="list-style-type: none"> ○ CCAFS overview 	RECAP OF DAY 1 CONCEPT DEVELOPMENT	RECAP OF DAY 1 CONCEPT DEVELOPMENT
	TEA BREAK		
SESSION 2 11:00-13:00	INPUT PRESENTATIONS (CONT'D) <ul style="list-style-type: none"> ○ 4 presentations OVERVIEW OF THE REGIONAL RESEARCH NEEDS & PRIORITIES IDENTIFICATION OF GAPS & SYNERGIES	CONCEPT DEVELOPMENT CONCEPT DEV'T PROGRESS - <i>REPORT BACK & FB</i>	CONCEPT DEV'T PROGRESS - <i>REPORTS & FB</i> CONCEPT DEVELOPMENT
	LUNCH BREAK		
SESSION 3 14:00-15:30	PRIORITISATION CRITERIA PRIORITIZING KEY RESEARCH AREAS	CONCEPT DEVELOPMENT	GROUP REFINING OF CONCEPTS
TEA BREAK			
SESSION 4 16:00-17:30	FORMING CN NOTE WRITING GPS & GUIDELINES FOR CONCEPT DEV'T	CONCEPT DEVELOPMENT	CLOSING

Table A2. List of participants

No	Names	Position	Organization	Email Address
1	Ahmed Zziwa	Lecturer	Makerere University	engzziwa@gmail.com; ahmed.zziwa@yahoo.com; zziwa@forest.mak.ac.ug
2	Amanuel Kassie Yigzaw	Pastoralist Livelihoods Initiative Operations Manager	CARE Ethiopia	AmanuelK@care.org.et; amanuelkassie@yahoo.com
3	Amos Wekesa	Environment and Climate Change Advisor	VI Agroforestry	amos.wekesa@viafp.org; amowwek@yahoo.com
4	Anita Msabeni	Deputy Head of Agribusiness Partnerships and Lobby	Kenya National Federation of Agricultural Producers (KENFAP)	msabeni@nelleon.co.ke
5	Annuciate Nakiganda	Research Officer	National Livestock Resources Research Institute (NaLIRRI)	aknakiganda@yahoo.co.uk or annunciatenakiganda@yahoo.com
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7	Charles Wasonga	Post-Doctoral Fellow	ICIFE	cjw56c@gmail.com; cwasonga@mbita.icipe.org
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11	Deus Bamanya	Principal Meteorologist	Uganda Meteorological Department	bamanya@yahoo.com
12	Dominic Ringo	Director	RECODA	eliweda@yahoo.com
13	Doris Akishule	Programme Assistant, Partnership and Capacity Development Unit	ASARECA	d.akishule@asareca.org
14	Dorothy Amwata	Assistant Lecturer	University of Nairobi	damwata@seuco.ac.ke
15	Drake Mubiru	Senior Research Officer	NARO	dnmubiru@kari.go.ug; drakemubiru@yahoo.com
16	Florence Birungi Kyazze	Lecturer	Makerere University	fbirungikyazze@agric.mak.ac.ug; fbirungikyazze@yahoo.com
17	Girma Mamo Diga	Coordinator, National Agromet Research	Ethiopian Institute of Agricultural Research	mamogirma@ymail.com
18	Hashim Karim Ng'ongolo	Meteorologist	Tanzania Meteorological Agency	hngongolo@mail.ru; hngongolo@hotmail.com

No	Names	Position	Organization	Email Address
19	Henry Mahoo	Professor	Sokoine University of Agriculture	mahoohenry@yahoo.com
20	Jane W. Wamuongo	Assistant Director (NRM)	KARI - Headquarters	jwwamuongo@kari.org; jwwamuongo@yahoo.com
21	John Ojiem	Centre Director	KARI - Kibos	ojiemj@yahoo.com
22	Jonathan Nzuma	Lecturer	University of Nairobi	jonathan_nzuma@yahoo.com
23	Juma Marwa Wickama	Principal Agricultural Research Officer	Agricultural Research Institute-Mlingano Tanga, Tanzania	wickama@yahoo.com; wickama@gmail.com; juma.wickama@wur.nl
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25	Kizito Kwena	Research Officer	KARI- Katumani	kwenakizito@yahoo.com
26	KPC Rao	Scientist	ICRISAT	k.p.rao@cgiar.org
27	Mainza Mugoya	Program Officer (Policy and Advocacy)	EAFF	mmainza@eaffu.org
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29	Mariana C. Rufino	Livestock Systems Scientist	ILRI	m.rufino@cgiar.org
30	Mary Mgonja	Principal Scientist	ICRISAT	m.mgonja@cgiar
31	Maurine Kasuvu Ambani	Climate and Communication Officer	CARE International-Adaptation Learning Programme for Africa	akasuvu@careclimatechange.org
32	Monica N. Kinuthia	Animal Scientist	Ministry of State for Development of Northern Kenya & Other Arid Lands	kdp2050@yahoo.com
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35	Pauline Birungi	Research Officer	Bulindi Zonal Agricultural Research and Development Institute	pkbirungi@gmail.com; birungipolly@yahoo.com
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37	Robert Ouma	Facilitator	PICO	Robert.Ouma@picoteamea.org
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No	Names	Position	Organization	Email Address
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42	Simon Byarugaba	Soil Scientist	NARO	byarugabasimon@yahoo.com
43	Solomon Desta Woldeamanuel	Director	MARIL	solomon.desta82@gmail.com
44	Songporne Tongruksawattana	Climate Economist	CIMMYT	S.Tongruksawattana@cgiar.org
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49	James Kinyangi	East Africa Regional Program Leader	CCAFS	j.kinyangi@cgiar.org
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51	Maren Radeny	Science Officer	CCAFS	m.radeny@cgiar.org
52	Tabitha Muchaba	Research Assistant	CCAFS	t.muchaba@cgiar.org
53	Tom Ouna	Project Consultant	CCAFS	t.ouna@cgiar.org;

Concept Notes are available separately.