



Moving from Knowledge to Action:

Blogging research and outcome highlights



RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



CCAFS is led by



Strategic partner





Editors:

Patti Kristjanson
Chris Jost
Nafisa Ferdous
Joost Vervoort
Cecilia Schubert

Blog Book coordinated by:

Cecilia Schubert

Graphic Design:

Andrea Herrera Talero

Photograph credits:

Cover Page: Cecilia Schubert

Second & Back Page: Prashanth Vishwanathan

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• Photo above: Cecilia Schubert (CCAFS)
Photo next page: Georgina Smith (CIAT)

Bloggging an Impact Story

by CCAFS Theme Linking Knowledge with Action

This blog book tells the story of CCAFS research theme 'Linking Knowledge with Action'; its approach and lessons learned throughout the years, while illustrating its many achievements through blogs and photos.

Linking Knowledge with Action was established at the outset of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) as a theme aimed at enhancing the impact of the program's research efforts. The goal was to catalyze new and innovative high impact research amongst strategic partners in all CCAFS regions and research areas, and enhance their knowledge of social learning, gender transformative research, and other innovative approaches leading to measurable scale and impact. Strategies leading to actions that improve food security were explored with these partners, and new knowledge, tools and capacity developed for research on gender and innovation that transforms smallholder agricultural systems - making them more equitable and resilient to a changing climate.

The Linking Knowledge with Action research team has taken an iterative approach to learning. The guiding and over-arching research question has been '*How do we achieve large-scale smallholder agricultural development in the urgent context of climate change?*' And more specifically, '*What are the tools, approaches, strategies and institutions that can help increase the likelihood that*

CCAFS research will create knowledge and actions that sustainably and equitably enhance livelihoods of the poor?

These questions have been addressed through a focus on three critical 'cross-cutting' research areas, those described in this book, namely: Innovations in Research and Communications; Gender and Social Differentiation; and Future Scenarios.

Linking Knowledge with Action works both ways - actions inform research as much as the knowledge generated through research informs actions. Research in this area shows that there are some critical principles or foundations required in order to be successful in catalyzing research into actions for sustainable and equitable development on the ground.

What are key lessons learned from the research theme?

In the medical field, this research area is referred to as 'translational' research. Many researchers continue to see the challenge as one of doing a better job

of 'translating' research results into language or actions that are more easily taken up by others. But a key lesson from this work is that it is about much more than just translating or better explaining and communicating complex issues and research findings. It is about making sure the ultimate users – government agencies, policy makers, researchers, non-governmental organizations, private sector actors – are involved in defining the research questions from the outset, as well as in the co-design and strategic targeting and communication of products arising from the research (i.e. papers, policy briefs, reports, maps, presentations, blogs, and more).

Time poses one of the biggest challenges to this innovative type of research. The kinds of behavioral and institutional changes that need to occur, and are occurring, take longer than the typical 2-3 year project cycle. "Messy" partnerships pose another challenge. The team has found that institutional constraints and poor incentives for collaborative work (most organizations still have greater incentives for competition rather than collaboration) are different for all partners, but they all face them.



But the opportunities are also great. The team has learned a lot about how to more effectively and efficiently deal with the challenges over the last few years. For example, we have streamlined collaborative impact pathway development approaches for better project and program implementation strategies and plans. The forward-looking joint adaptation and mitigation planning that is happening with influential partners in many CCAFS countries is another example. We have made a point of developing and sharing innovative training materials to help build partners' capacity in outcomes-thinking and gender-targeted research approaches.

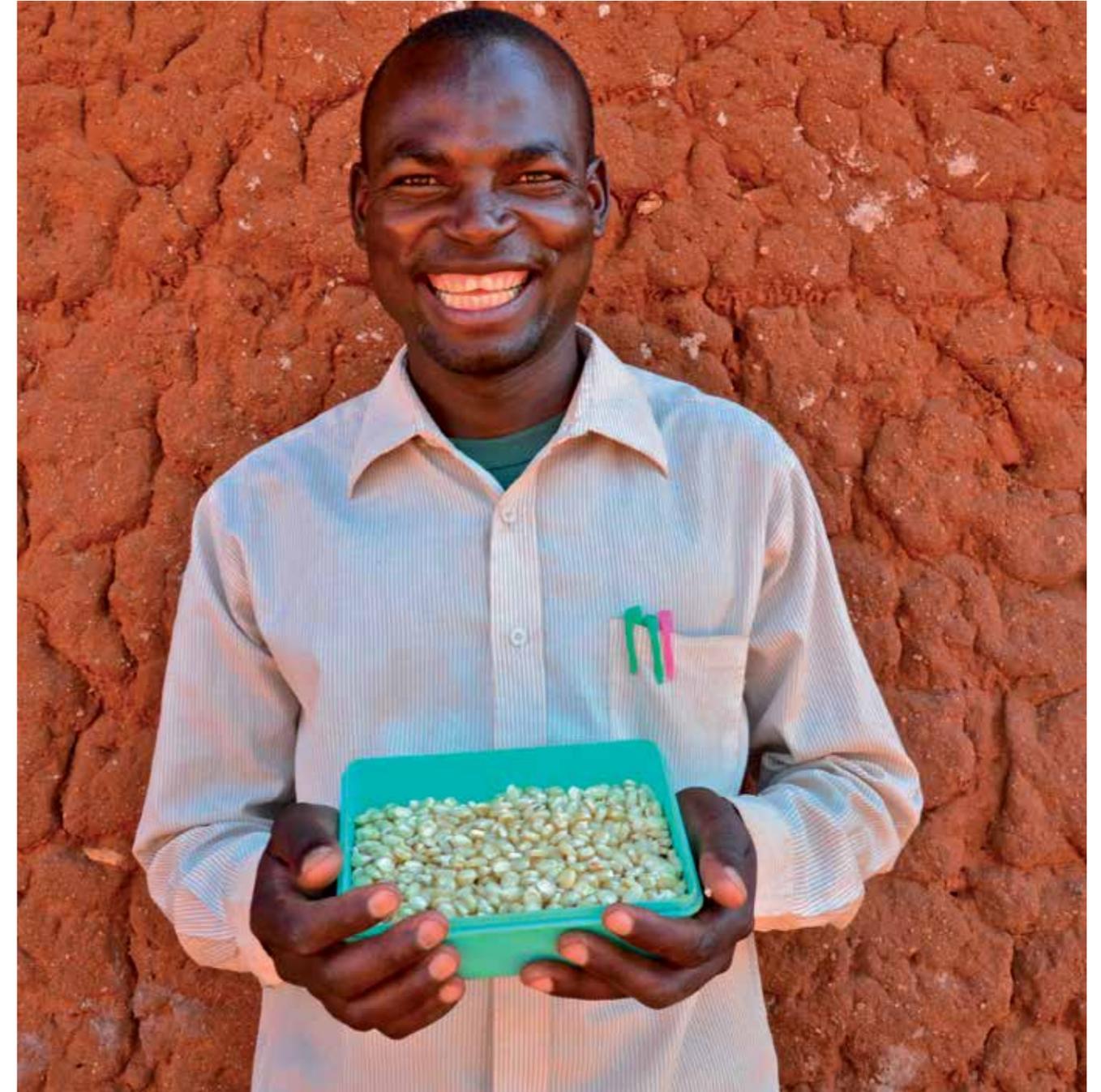
The Linking Knowledge with Action team has also learned that partnering with private and public sector communications firms may be challenging, but very rewarding and gets to a scale of impact that transcends earlier work by reaching thousands and millions of farmers rather than the hundreds that traditional research approaches affect.

Social media and mobile phones offer new opportunities for two-way communication replace with between researchers and users, and crowd-sourcing approaches can get feedback from huge numbers of farmers — importantly including women for practically the first time. And we cannot underemphasize the importance of the ongoing shift in the science world to open access. This is aiding the widespread sharing of knowledge that previously was restricted to a relatively small number of people that had access to academic journals.

Linking Knowledge with Action works both ways —actions inform research as much as the knowledge generated through research informs actions. Research in this area shows that there are some critical principles or foundations required in order to be successful in catalyzing research into actions for sustainable and equitable development on the ground. These include:

1. Structured, outcome-oriented participatory engagement processes with diverse, strategic partners;
2. Innovative communication strategies co-developed with partners from the outset;
3. 'Boundary-spanning' strategies focusing on incentives and rewards and creating 'safe spaces' for people to come together from organizations and environments that are very different to jointly develop solutions;
4. Investment in capacity strengthening efforts;
5. Taking transdisciplinary and iterative learning approaches (including 'social learning' using information and communication technologies) to address these complex problems.

Now - explore our research highlights and successes from 2014!



• Photo: Cecilia Schubert (CCAFS)



Achieving impact: exploring new ways of doing research in development

Helping farmers adapt to climate change requires innovative approaches to research design and communication. We need to try new things, think outside the box and take risks by testing completely novel ideas where the potential for impact - should an idea work - is high.

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) theme on Linking Knowledge with Action's objective is to build an evidence-base of innovative approaches to climate change related agricultural development and food security decision-making. The theme wants to see thousands to millions of farmers adapting to

climate change and supporting agriculture that is considered 'climate-smart'. Such a transition should also involve the public and private sectors, encouraging them to make investments to meet the supply and market demands of climate-smart farmers. These are some of the activities unfolding under the research area "Innovative Research and Communications".

Communicating climate-smart agriculture across East Africa

Part of the effort is to identify and support partners testing innovative ways to connect with farmers and disseminate climate-smart agriculture information. The research question has been, 'At what scale can agriculture research and development stakeholders reach smallholder farmers with climate-smart technologies and practices using

innovative technologies, and what is the impact in terms of adoption and adaptation?'

Here the Linking Knowledge with Action team is working with Mediae, a company "dedicated to improving the livelihoods of large audiences in Africa through the development of educative, entertaining and effective media" to include research results on climate-smart agriculture in the popular East African television program called Shamba Shape Up.

Shamba Shape Up is an innovative communications success story, reaching over 10 million viewers in East Africa in both English and Kiswahili with climate-smart agriculture practices and technologies, and much more. The results from the work are going beyond the team's expectations, as the viewers are really taken by the show and have started to implement what they learn.

Researching innovation requires us to embrace complexity and understand how culture, norms, rules and practices regulate interactions as institutions take on new ideas like climate smart agriculture and allow them to become widespread.

• Spielman et al., 2009 *Technology in Society*, 2009. doi:10.1016/j.techsoc.2009.10.004

A 2013 evaluation study on the TV-show found that 98% of viewers reported having learned something new, such as techniques to rear cattle and dairy cows to practices that improve soil quality. The same study found that nearly 87% of the viewers also incorporated the new practices they learned onto their farms.

These findings align with the results the team found while interviewing smallholders watching the show in Kenya's Machakos County in 2014. Here it was found that farmers were adopting such diverse technologies as rainwater harvesting, irrigation and agroforestry, which they learned from watching the TV-

show. While making improvements on their own farms, viewers are also sharing their new knowledge with neighbouring farmers and community members, further expanding the reach of Shamba Shape Up.

Linking Knowledge with Action wants to see thousands to millions of farmers adapting to climate change and supporting agriculture that is considered 'climate-smart'.

Moving towards results-based management

The Linking Knowledge with Action team has also worked extensively on building capacity for innovation in CCAFS, focusing on an impact pathway-based design to the program's research. The question leading the work has been 'Can CCAFS as a research program be designed using a theory of change process, what would be the results in terms of outcomes and impacts, and how would the process impact the culture of CCAFS and CGIAR as a research institution?'

In 2014 the theme supported the move towards a science-driven agenda to meet regional climate change priorities by training CCAFS staff and partners in outcomes thinking, and helping to facilitate the development of a CCAFS theory of change.

By now, all flagships have created impact pathways that have been nested within the regions' plans. CCAFS has a robust theory of change, set to start in 2015. The team has shown that climate change, agriculture and food security research can be designed using a theory of change process, creating deep ownership of target outcomes by

program scientists as well as research and development partners.

The monitoring, learning and evaluation framework allows CCAFS to reflect on how well regions and flagships are progressing towards target outcomes, and re-plan the approach if they find that the assumptions and strategies in the theory of change need to be improved.

Developing social learning approaches for impact

The team is bringing research and development actors together to continuously learn from one another and address complex problems. In 2014 the theme began to support climate change and social learning research to identify best practices and opportunities for innovation. Here the leading research question is, 'Under what conditions are social learning approaches effective, replicable, scalable and sustainable?'

The Linking Knowledge with Action team has found that social learning approaches are effective in multiple contexts. Important to success is a co-development approach to creating and sharing new knowledge, and embracing iterative learning between actors to transform behaviours and change institutions. Investing in and facilitating engagement on a level playing field appears key to addressing complexity and solving wicked problems like climate change in a timely fashion.

To identify factors that are key to social learning, CCAFS has partnered with the International Institute for Environment and Development (IIED) to follow a group of partners taking social learning approaches to their development projects. A workshop in June 2014 brought these partners together with monitoring and evaluation experts to discuss ways to measure the value of social learning.

• Photo by Cecilia Schubert (CCAFS)

These are some of the impacts an agriculture TV-show can have

Does the farm 'edu-tainment' show Shamba Shape Up have any lasting effects on its viewers and the farmers featured in the programs?

During their first visit to farmers Cecilia and Philip's farm, Shamba Shape Up presenters Tony Njuguna and Naomi Kamau got to talk to the couple about a never-ending topic for all farmers: water.

Machakos, the area where Philip and Cecilia live in Kenya, can get very dry, and water is a big problem.

"We get water from dams and the nearby rivers, and when it is very, very adverse, we buy from the vendors who take it around," explained Philip gravely to Naomi during their first encounter.

When it came time for the traditional 'farm make-over', the couple learned about water management from Boniface Githai, agriculture extension officer from International Fund for Agricultural Development (IFAD). Together with the presenters, Cecilia and Philip constructed a small water pan, secured with bricks and lining, to catch rainwater.

During the re-visit, both Tony and Naomi were excited to learn how the experience with the water pan had been since they left the couple.

"We don't go and fetch water in the dam, as now we use the water that is

here," Cecilia tells Tony and Naomi with a big smile. Tony fills in that it must save them a lot of trips, time they can now spend on the farm, which she strongly agrees on.

For them, having a nearby water pan has really helped secure their farm activities. The couple mentions that they use the pan to irrigate the trees planted during the team's last visit. The animals are also enjoying the short-distance water source. Philip adds that he is planning to look into micro-irrigation, to water his vegetables and crops, further boosting the farm production.

Step-by-step illustrations with lasting impacts

Shamba Shape Up is an educational agricultural program that airs in Kenya, Uganda and Tanzania to up to 10 million people. The TV-show aims to assist small-scale farmers with recurrent agricultural challenges such as lack of water, pests and diseases on crops and

animals, boost crop production, and find ways to reach markets.

Aired both in English and Swahili on the weekends, it is supported by not only us, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), but also International Livestock Research Institute (ILRI), the The International Crops Research Institute for the Semi-Arid-Tropics (ICRISAT), World Agroforestry Centre (ICRAF) and International Potato Centre (CIP). The CGIAR Centres and Programs provide information about climate-smart farm practices, the latest agriculture research and lend experts that are featured during episodes.

Many of the farming practices showcased are so called "climate-smart practices". Practices include agroforestry, integrated livestock and crop management, cross-crop and livestock breeding, and intercropping methods, use of fruit trees and diversification on the farm to build resilience against a changing climate.

"The objective of the Shamba Shape Up program is to provide farmers with the "know-how" and step-by-step illustrations on how they can improve their farm activities with few means and resources, while having fun at the same time."

Evaluating the impacts of the 'edu-tainment' show

Cecilia and Philip both mention that the activities and information they got from experts Tony and Naomi really helped make a difference on their farm. A few months down the line, the cows are vaccinated, the water pan is filled to the brim and the trees are growing steadily.

For them, the experience has been very positive. And this is also in line with a recent evaluation report of the TV-show, which shows that farmers watching the episodes are making changes similar to the ones they see featured on Shamba Shape Up.

The study found that 98% of viewers reported having learned something new, such as techniques in cattle and dairy cows rearing to practices that improve soil quality. The same study found that nearly 87% of the viewers also incorporated the new practices they learned onto their farms.

We believe disseminating the needed agriculture knowledge and know-how is one part of the climate change – food security puzzle, and through partnering with Shamba Shape Up, and other communication and media partners, we can reach more farmers than otherwise possible.

CCAFS looks forward to continuing to see the results from their partnership with Shamba Shape Up unfold, as more farmers, particularly women, take up climate-smart agriculture practices and techniques over the coming years.

• Story by Cecilia Schubert and Timothy Mburu, both working with communication for theme Linking Knowledge with Action. Photo: Susan MacMillan (ILRI).
Learn more: <http://ccafs.cgiar.org/blogs/ssu>





How to best create long-term impact that matters to smallholder farmers?

CCAFS needs a plan. A plan that will guide the program towards achieving real impact for smallholders around the world.

Research deliverables, such as articles and briefs, are aimed to change the way people do things, and in the end help create something better. But we already know that outputs will not automatically lead to impact, which in our case would be improving the well-being of smallholder farmers. So, what we need is a vision and a solid plan for

the steps involved between ensuring an output - a report or tool - also achieves impact for smallholders.

This plan is something we call an "Impact Pathway", which is supported by a Theory of Change. The Theory of Change recognises the strategies needed, the assumptions we make,

and the actors we must involve to move from one step to the next on the pathway.

In an effort to practice what is being preached - openness and transparency - the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is now publishing

a Learning Brief that captures the lessons learned while working on building a Theory of Change and an Impact Pathway.

Take-away message from the Learning Brief: An impact pathway is a living document that requires flexibility in the design and space for new insights along the way. "Your Impact Pathway is a living beast, it is not a fixed product." - Workshop participant.

The hope is that the brief will assist other programs and organisations that are going through similar changes, and guide partners and staff members at the same time.

This Learning Brief is part of a series, produced together with the International Institute for Environment

and Development (IIED), that showcases lessons learned through various internal program activities and the work CCAFS does on Climate Change and Social Learning.

Why change the way we do our research?

This research overhaul springs from CGIAR's new vision to conduct agriculture research differently, both at the higher levels and within the Research Centres and Programs.

"Differently" here means allowing the research to be guided by an explicit Theory of Change, including a detailed Impact Pathway that will support better monitoring and evaluation of outcomes and impacts.

CCAFS has already started adopting CGIAR's research reform, and is now in full-swing planning for the next phase of the program. This includes the establishment of four Flagships that contribute to five different Intermediate Development Outcomes in all of our regions.

What we are learning through the process

Truth of the matter is, when CCAFS started this process there was a lot the team didn't know, related to what makes a Theory of Change realistic or an Impact Pathway effective. But as CCAFS is pushing the finalization of these activities, it is becoming clear that the internal capacity is being built up step-by-step.

For us, we've also realized that our regions need to develop their outcomes and actions before our flagships can build their Impact Pathways (IPs). Most of the four Flagship pathways will actually be captured in the regional pathways.

This process has also taught us how important it is to develop a monitoring

and evaluation system (M&E) in parallel with our impact pathway, so that they feed into each other.

During the training in April 2014 it became clear that many are starting from scratch, without previous knowledge of how to ensure all project activities lead to set mid-outcomes and overarching outcomes that are the same across the CGIAR. More importantly, how do you monitor and evaluate effectively to measure impact and success? And for CCAFS Flagships, which indicators do you use, that are the same across regions, to compare results?

Despite feeling overwhelmed and everyday having to break new ground to better understand our own transformation, many were still able to put together draft Impact Pathways, while building on the underlying theories on how these changes will occur, and setting a time line for when this process will have to produce some final results.



In the photo: Workshop participants discussing ways to further strengthen their impact pathways.

• Story by Cecilia Schubert. Photos by Annie Bungeoth (CAFOD) and Cecilia Schubert. Download the brief: <http://hdl.handle.net/10568/35184>

Which factors are key for successful social learning?

A workshop in June 2014, helped put the final touches on an upcoming monitoring and evaluation framework, summarizing key factors that influence social learning processes.



The Social Learning event, organised by the International Institute for Environment and Development (IIED), was held as part of a broader activity on gathering social learning case studies and evidence while shaping a framework that will help evaluate these projects in a unified way.

Through building this framework and finding appropriate climate change-related case studies to evaluate, we, the Climate Change and Social Learning initiative, are pioneering social learning research in a way. This makes it very hard and confusing at times.

Although mentioned a few times during the event – how complex social learning and its many dimensions is – many of the conference participants agreed that we need to continue on our journey, with the conference forming a crucial part in doing so.

The Climate Change and Social Learning initiative has made progress on the theories and understanding of social learning, and is now moving towards building an evidence base for the approach.

Starting from the beginning: what is social learning?

Social learning is a very theoretical concept that should be re-visited and continuously discussed in order to match reality. So what is it? A fad, fairy tale or even a fallacy? Is it even functional? And when is it appropriate or interesting to use social learning?

Social learning for us is all about doing things differently, moving from a top-down, non-inclusive development approach to participatory, bottom-up where stakeholder insights and expertise infiltrate outcomes and decisions made.

Social learning doesn't stop there though, as it is much more than participation. It is about re-visiting decisions, re-iterating what has been learned and changing practices to be even more inclusive, analysing who is participating, why and much more.

Through iterative social learning, institutions and governance system can be pushed to change and to do things differently, become more transparent, open, participatory and listen to its stakeholders.

Our ambitions for social learning are set high, as we believe these processes can facilitate and contribute to smarter, more effective, research-for-development institutions and help these institutions achieve more sustainable results, measured as development outcomes.

The goal is for organisations and institutions to know where social learning approaches can improve a project process and help achieve set outcomes, and where social learning is not the way to go.

While having said that, social learning could be seen as having a few drawbacks such as high transaction costs (how do you monitor learning processes efficiently within a set timeframe?). The concept is still quite elusive and abstract, and the CCSL initiative needs to ensure it is applicable in the real world.

How do you know if a project is 'doing' social learning?

We evaluated which social learning characteristics or areas were the most important to the group at the learning event. This in order to understand what a social learning project is and monitor it better.

These areas will shape a monitoring and evaluation framework to be released later this year by the Climate Change and Social Learning (CCSL) initiative:

1. Looped learning: mechanisms are in place to ensure an iterative and ever deeper process of collective reflection and learning;
2. Power dynamics: analysis of how power dynamics shapes relations and decision-making among and between stakeholders is included or at least reflected upon;
3. Engagement: analysis or reflection over who is engaged, why and how;
4. Institutional opportunities and barriers:

Social learning approaches can:

1. Contribute to smarter, more effective, research-for-development institutions (related to performance & governance);
2. Help these institutions achieve more sustainable results, measured as development outcomes



analysis or reflecting over what in organisations and institutional systems is hindering or helping social learning;

5. Capacity: the capacity of the people participating in the project to contribute meaningfully to social learning processes, and how to develop that capacity.

Without featuring these key areas, which eventually will lead to project indicators, it would be hard to argue that a project is 'doing' social learning.

We believe that by putting together this framework, and subsequently evaluating and monitor case studies that we think are doing social learning and see what results they are achieving, we will be able to show how social learning is adding value to climate change projects!

• Story by Cecilia Schubert, CCAFS Communications Officer. Photo in the story by Z. Sewunet (ILRI) and Cecilia Schubert (CAAFS). Read more social learning blogs: caafs.cgiar.org/blogs/ccsl



All lights on real-life social learning case studies

A social learning event held in June 2014, drew together social learning case studies from across the world.

Social learning in essence builds on fairly theoretical and abstract ideas. To reduce the risk of social learning remaining a high-flying concept without linkages to reality, the Climate Change and Social Learning initiative has searched the globe for social learning projects in action.

These were presented during a Social Learning event, organised by the

International Institute for Environment and Development (IIED) and held in the midst of a windy but still surprisingly warm and sunny London in June 2014.

Some participants had come as far away as China and Brazil, eager to further present their project activities. In two-days the group went through 11 climate change projects with social learning approaches embedded in them.

Why a social learning evidence workshop?

Apart from putting the final touches on an upcoming social learning monitoring and evaluation framework, to show how social learning can add value to a climate change project or program, the ambition was also to get buy-in from the case study representatives, further

expanding the Climate Change and Social Learning network.

Social learning approaches attempt to spread lessons, experiences, and knowledge widely through social networks, or communication channels such as radio, TV, and social media. These approaches seek to change behaviour beyond the individual, through networks and social interactions. "This is what puts the social in social learning," said Liz Carlile from IIED during her presentation to the group.

Presenting social learning case studies

Joost Vervoort who works for the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), joined the learning event to showcase his work on Scenarios.

His work is a participatory, stakeholder driven activity where involved delegates together develop future climate scenarios that can support decision-making in countries. Scenarios are in short different "what-if" accounts of the future that can be told in words, numbers, images, maps or interactive learning tools.

Through creating opportunities for participation which includes building needed skills and capacities, empowering people throughout the workshops to feed their expertise into the process, and continuously discussing ways to improve the scenarios, we believe there is a lot to be learned from this work from a social learning perspective. Without a doubt it incorporates several

key social learning traits within its structure.

Another interesting case study was Prolinnova, represented by Ann Waters from the head office in Netherlands.

Prolinnova, a multi-stakeholder program and key partner of CCAFS, is promoting local innovation in agriculture and natural resource management. The focus is on recognising the dynamics of indigenous knowledge and building on farmers' own capacities, which is done using social learning-type approaches.

A farmer-led Innovation Fair held last year, is one example of the work that Prolinnova does. The fair, led and coordinated by farmers' themselves, creates space for knowledge sharing, learning and engaging with each other beyond immediate network and provides a platform the further evaluate climate adaptation within farming.

Did we make any progress on social learning?

At the end everyone expressed a genuine interest in participating in the Climate Change and Social Learning initiative and keep sharing progress on their projects and social learning activities.

People also agreed to further ponder on how they can either implement additional social learning processes - increase participation, self-reflection, add learning loops, analyze power dynamics better - or use the upcoming social learning framework to evaluate and monitor their own work. Hopefully this will turn into action on the ground while pushing the research on social learning further.

Some workshop participants had come as far away as China and Brazil, eager to further present their project activities. In two-days the group went through 11 climate change projects with social learning approaches embedded in them.



Photo from the farmers' fair held in 2013.

• Story by Cecilia Schubert, CCAFS Communications Officer. Visit the CCCL Sandbox: ccsl.wikispaces.com and download recent article: 'A Social Opportunity' hdl.handle.net/10568/45936. Photos in the story by: E. van de Grift and S. Makau (CCAFS).



Making progress on gender and social equity research in the context of climate change and food security

Generating gender and socially differentiated knowledge on climate adaptation and mitigation in the context of agriculture and food security is very much a new and emerging field. For the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) this has meant embracing gender and socio-economic analysis, adopting and developing innovative quantitative and qualitative gender-sensitive tools

and methods, and strengthening gender strategies and capacities for scaling out gender research overall.

The Linking Knowledge with Action research team, which is working closely on gender and social equity issues, has made a lot of progress in terms of exploring these questions, some of which are highlighted below.

The gender and equity research process has been led by some of the following

questions: *‘How do we target climate smart practices and knowledge to women?’ ‘What have we learned about gender and climate change so far? What do we still need to learn and how can we make use of this information?’ ‘Can participatory approaches increase the capacity of stakeholders to implement gender and socially responsive climate change, agriculture and food security programming?’*

Exploring men’s and women’s realities

As part of a collaboration between CCAFS, the International Food Policy Research Institute (IFPRI), the International Livestock Research Institute (ILRI) and other participating CGIAR Centers, a global quantitative intra-household survey tool has focused on key research questions related to gender and climate change. Intra-household surveys have the potential to uncover how men and women, young and old, behave, think and act within the same household – that is, how decision-making and practices are gendered. This allows researchers to better understand the different contributions that women and men make to agricultural production, their decision-making process, and ultimately identify the gender differences in what shapes their vulnerability and ability to adopt climate-smart agriculture practices.

Quantitative data from 800 households in Senegal, Uganda, Bangladesh and Kenya is being gathered and will soon be made available later this year. Preliminary findings have been shared throughout the year, bring new knowledge to bear not only on gender and climate change, but also prompting discussions on their implications for practitioners and policymakers.

Developing gender research tools and methods

Central to supporting gender-targeted climate smart agricultural research is how to conduct research itself. In October 2014, the Linking Knowledge with Action team, together with key partners World Agroforestry Centre (ICRAF) and Care International, published ‘The Gender and Inclusion Toolbox: Participatory Research in Climate Change and Agriculture’ as an effort to scale out and help develop partners’ capacity to use gender-sensitive tools and methods.

The toolbox is an example of collaboratively constructed research methods and capacity building activities focused on supporting the design and implementation of gender-responsive research and development programs. The tools themselves were developed using social learning approaches integrating farmer-feedback, expert consultation and multiple cycles of testing, reflection and revision in East and West Africa, South East Asia and Central America. The toolbox continues to be shared and revised through capacity building workshops targeting partner organizations.

With 2,000 downloads in the first month, the Knowledge to Action team also hosted a live toolbox lecture and webinar event in Nairobi, Kenya, bringing together gender experts from CCAFS, CARE International, ICRAF, and the United Nations Food and Agriculture Organization (FAO). The event was well attended by nearly 160 online watchers and key 50 gender stakeholders from ILRI, the International Center for Tropical Forestry (CIFOR), the Stockholm Environmental Institute (SEI), and local NGOs and universities in Nairobi attending in person.

Participants who have been trained on the tools include 10 different local NGOs within the Adaptation Learning Programme (ALP) under CARE Ghana, over 17 local NGOs working in Mexico, Nicaragua, Guatemala and Honduras through the Tropical Agricultural Research and Higher Education Centre (CATIE), and most recently with CCAFS regional partners working in Cambodia, Laos and Vietnam.

With the ultimate goal of building capacity for improving the adoption of climate-smart agricultural practices

in inclusive and participatory ways, the toolbox project has been a direct means of linking scientifically rigorous gender practices with development partners engaged in pro-poor adaptation and mitigation programming. The toolbox has been translated and tested in the field in Spanish and French. There is also a website that is live with multiple resources and links, as well as media and video documentation of trainings, lectures and events.

Building a gender network

CCAFS has been looking strategically at development partners and key decision-makers in food security and resilience so that a sea change to support integrating gender and the participation of highly vulnerable groups can be scaled out. In October 2013 scientists and NGO partners from over 20 countries across the five CCAFS regions came together in Nairobi, Kenya for a Gender Training and Strategizing Workshop. During the week, CCAFS partners co-developed regional gender strategies and participated in capacity building seminars taught by several gender experts from CCAFS, ICRAF, Emory University (USA), Makerere University in Uganda, and CARE International on 3 main tracks: 1) Integrating gender into program cycles; 2) Conducting qualitative gender research and analysis; 3) Conducting quantitative gender research and analysis. The workshop helped establish the CCAFS Gender Network on LinkedIn, which now has over 300 professionals regularly discussing gender and equity issues in the context of climate change and agriculture.

• Learn more: <http://ccafs.cgiar.org/gender>, and join the Gender LinkedIn group: <http://ow.ly/F82nM>.
Photo by Thierry Falise (ILRI).



Gender analysis suggests differences in how men and women farmers adopt climate-smart agriculture practices

Upcoming gender study reveals how men and women are adopting climate-smart agriculture practices and strategies.

A Gender workshop held in May of 2014 attracted a large number of participants to the World Agroforestry Centre (ICRAF), in Nairobi, Kenya. The workshop was organized by CCAFS and International Food Policy Research

Institute (IFPRI) with the ambition to present initial findings from a joint gender-household survey in Uganda, Kenya, Bangladesh and Senegal to be released in 2015, as well as other ongoing gender research projects and emerging findings.

The household surveys were conducted in three of CCAFS baseline sites in East Africa, Nyando and Wote in Kenya, and Rakai in Uganda. The study covers 200 households per site and interviewed men and women separately.

Presented by Joash Mango, CCAFS and ICRAF researcher and Edidah Ampaire, also a gender researcher within CGIAR, the initial findings show that more male farmers in Nyando and Rakai have adapted to climate change through implementing climate-smart agriculture practices. The results also reveal that men have higher access to capital and community services as compared to their female counter parts.

However, the team found that “women in Wote Kenya have changed planting dates, planting variety of crops in order to minimize the risks of crop failure and some have even gone to an extent of planting trees on their farms,” according to Joash Mango.

As we know, women can adapt and sustain climate change strategies and good agricultural practices when given the opportunity. In many cases they are just as likely as men to adopt climate-smart practices. However limited adoption of agriculture practices among women is tied to the unequal access of resources between men and women, including limited decision-making abilities for women in rural households, explained Joash Mango

“When aware, women are just as likely as men to adopt climate-smart agriculture practices”

One very interesting finding that came out was that men in Nyando are more aware of different climate change practices as compared to men in Wote and Rakai. This explains why men in Nyando have adopted climate change strategies as opposed to men in the other sites.

Another study that was presented was a PhD project by Marther Ngigi from the Center for Development Research (ZEF), University of Bonn, Germany. Ngigi has investigated the adaptive



capacity for both husbands and wives in one household and their preferred climate-smart agricultural practices.

She conducted this study in three different regions in Kenya. The data collection involved individual- and intra-household

level data, where the couple was interviewed separately.

Her study confirms that men and women have different adaptive capacities to climate change: “Husbands have more access to extension agents, access to information on climate change, have higher control over assets and decision making and higher social capital index than their wives” said Ngigi.

The study suggests that in order to support women wanting to adopt and

test climate-smart agriculture practices, there is a need to empower women’s bargaining and decision-making power. There is also a need for scaling up group-based approaches to test and evaluate climate-smart agriculture practices.

“Gender-inclusive and differentiated pro-poor policies in agricultural development are important in order to implement effective strategies that improve both men’s and women’s welfare in the face of a rapidly changing climate” – Marther Ngigi.

• Story by Timothy Mburu, CCAFS Communications intern. Photos in the story Anna Fawcus (WorldFish) and Stephanie Malyon (CIAT).

Uncovering gender perceptions and beliefs in the hunt for climate information

Participatory sessions in Western Kenya reveal interesting gender-based roles, responsibilities, statuses and norms.



The men tell us that they weave baskets and ropes to sell? The women of Lower Kamula village look at each other and laugh. “They do, but they don’t sit down for long. For us, it is our main source of income.”

This difference in perceptions on roles and responsibilities did strike us, a team from CCAFS testing an upcoming gender manual, as very interesting. It is hard however to tell which tale is the right one.

What we do know is that for the women this income generating activity is central. One woman farmer said that when the drought was at its worst, she kept weaving baskets and making ropes in order to pay for food for the household. This was not something we caught among the men.

Finding potential gender differences through participatory methods

So how did these gender-based discussions around basket weaving

and rope making come about? Researchers from CCAFS have been testing an upcoming practitioner’s guide for gender and social research, in Western Kenya and Ghana together with partner CARE International.

The guide includes several participatory action research modules that will help researchers and development workers find and analyse gender and social differences in rural communities related to climate change and agriculture.

Are men and women experiencing climate change the same way?

The idea with this particular participatory session is to pick up on potential differences between men and women on how they perceive changes in the climate.

The session also helps researchers find out how men and women are responding to these changes - by turning to alternative income generating activities like basket weaving, and if gender in some instances might be a hindrance

expressed that they had to sell livestock to provide food for the family.

In another village, a bit further up the Kenyan high hills, we were able to pick up on a few gender-specific beliefs and perceptions on roles and responsibilities that we thought were interesting.

“There is just something about the woman’s biology that can make the crops rot”

In this village, the men decided on when and how to sell animals, whereas women could only make decisions on fodder and

would rot if they go near them, destroying the whole harvest. A risk they didn’t want to take.

Due to this belief the men try to keep women from producing tomatoes. But since many women do grow and sell tomatoes in Western Kenya, it might be safe to say that they are not being very successful!

What are the benefits of this gender-based participatory session?

In the end, this exercise was about capturing gender differences in how climate change is experienced, which alternative activities people are turning to, to meet the challenge and who in the household makes decisions related to which new farming practices to adopt. These methods can work both for gender-based research activities, but also for development practitioners searching for background information before they implement a new project.

The ambition of the session was also to generate a thought process about specific gender challenges of adopting climate-smart agriculture practices. Many women and men want to change, but some practices feel insurmountable to them, like getting a hybrid goat, or having the courage to test new fast-maturing crops.

This work forms a crucial linkage between more “traditional” scientific agricultural research, i.e. knowledge production and the work we do under Theme ‘Linking Knowledge with Action’, which is searching for ways to create change on the community level through communication, participation and partnerships. Learn more about the gender toolbox in our next blog.

• Story by Cecilia Schubert, Communications Officer for CCAFS. Photos by Cecilia Schubert. Learn more about the process of putting the Gender Toolbox together: <http://ccafs.cgiar.org/blogs/gender>



to the adoption of new climate-smart agricultural practices or other activities.

When we discussed how the weather has changed in the past 10 years, both the men and women in Lower Kamula village experienced these changes fairly similar. Both groups said they had experienced a decrease in rain but a higher intensity when the rains did come. Crops had failed the year before and many

milking, for example. Men and women could however both engage in sand harvesting, making gravel, selling vegetables and crops.

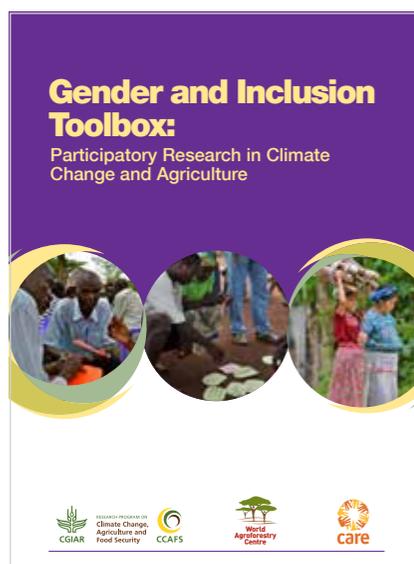
Some crops were also reserved for men, like tomatoes.

“You know, there is just something about the female biology that destroys the tomatoes,” one male participant said. In the end, they were afraid that due to women’s biology the tomatoes

“Despite being an old belief, the idea that women are unclean due to her biology, is still an idea that persists and is hampering progress around gender equality.”

New toolbox for gender and inclusion in climate change projects

Toolbox supports integration of gender and social perspectives in climate research and program development



The Gender and Inclusion Toolbox: Participatory Research in Climate Change and Agriculture is the result of a long-term partnership between the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), World Agroforestry Centre (ICRAF), and CARE International.

The Food and Agriculture Organization of the United Nations (FAO) has in addition provided considerable contributions that ensures a high-quality product that keeps in line what it is trying to achieve: represent the

knowledge, experiences and analyses of multiple actors.

Refining existing gender-sensitive methods and tools

The participatory toolbox builds on the previously released Gender and Climate Change Research in Agriculture and Food Security for Rural Development training guide produced by FAO and CCAFS in 2012, and later updated and translated into Spanish and French in 2013. The new toolbox cannot replace it, but instead contributes with additional participatory tools and methods and a focus on social learning approaches.

"We realized that the key gender-questions needed to be updated, and this time co-defined with local partners that are working closely with farmers – both women and men. We believe the rigorous testing in various contexts should make the modules presented highly useful, not just to researchers but development partners trying to figure out how to best support gender transformative approaches, said Patti Kristjanson, CCAFS Gender Re-

Methods included in the toolbox: village resource map and goal tree, perceptions of women's empowerment, climate-information ranking, information flow map, changing farming practices, co-benefit analysis and many others.

search Leader and Senior Scientists at World Agroforestry Centre (ICRAF)."

The participatory tools have been tested in Western Kenya through assistance from ICRAF, and Northern Ghana through the Adaptation Learning Programme (ALP) with CARE International. Based on results from each session, the tools have been refined and reworked. The ambition was to keep the tools practical, while supporting meaningful gender-research in the context of climate change and agriculture.

Building the needed capacity to conduct gender and social inclusion research

The manual focuses on increasing the research capacity, skills and knowledge of its users, including non-governmental organisations, research for development programs, researchers and rural development actors engaging in climate change and agriculture work.

"Capacity to engage in a sensitive way is critical but often lacking among development and research practitioners. CARE International's contribution to



this manual seeks to help fill this gap by providing some of our tried and tested approaches to gender and power analysis across different contexts, said Fiona Percy, Coordinator of the ALP programme for Africa within CARE International".

These sessions have also included capacity building of the various test-groups. The toolbox will continue to be tested throughout CCAFS research sites with partners like the Tropical Agricultural Research and Higher Education Center (CATIE) in the Trifinio biosphere in Guatemala and CCAFS research sites in Vietnam later this year.

The manual should be viewed as a living document that will be kept relevant by continuous input and feedback from practitioners using the methods in their work.

What does the gender toolbox contain?

The chapters are in modular format so that teams can assemble their own research toolbox specific to their needs. The participatory modules, aimed to spark discussions and engagement from participants, are: co-production of

knowledge, climate-resilient agriculture, climate information services, and climate change mitigation.

"We hope this training manual will be a major contribution to climate change interventions that further improve men and women smallholders' adaptive capacity and food security prospects," Margaret Kroma, Assistant Director General at World Agroforestry Centre (ICRAF).

• Story by Cecilia Schubert, Communications Officer for CCAFS. Download the Gender Toolbox: <http://low.ly/F1ZfS>. Photo by Cecilia Schubert.



Chapter 3

From context to action: investigating scenarios as a tool for planning climate-smart policies and investments

The use of scenarios to explore future uncertainties is becoming increasingly popular as governments and institutions start to explore more climate-smart agricultural and food systems in a rapidly changing world.

Scenarios are plausible stories of the future that can be told in words, numbers, images, or through other formats. A set of scenarios represents a diverse set of futures, each exploring a qualitatively different direction in which key drivers of

change, such as water and environmental degradation, conflicts, market structures or governance issues, may develop and interact.

The scenarios don't try to offer future predictions to decision makers but offer a way to test plans and investments under widely different future conditions. Each future may offer very different challenges and opportunities to a plan, strategy or policy. The plan is then re-created to be able to deal with these different futures,

either by going for "robust" options that work in all futures, by having a portfolio of options to adapt to different eventualities, or both. Since there are strong individual and organizational biases related to the future, it becomes very important to use scenarios to question limiting dominant frames – in order to avoid dangerous blind spots in strategies. Therefore, bringing in multiple perspectives in a well-facilitated process is important for the development of useful scenarios.

Scenarios, however, are not strategies, but provide contexts to strategic planning. It is therefore by no means a given that scenario development will lead to changes in planning. There are a number of examples of scenario processes that have successfully guided decision-making; but there are also many examples where this link has not been made, or is too anecdotal to provide real evidence.

In the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) scenarios project, regional combined socio-economic and climate scenarios have been developed for East Africa, West Africa, South Asia, Southeast Asia, the Andes and Central America. The development of these scenarios includes many different stakeholders linked to agriculture, food security, climate change and environments. The scenarios were developed by these stakeholders and then quantified through agricultural economic models such as GLOBIOM and IMPACT model.

The scenarios research process

Our work in linking scenarios to decision-making has led to a number of assumptions about best practices that we have put to the test in a number of case studies with national governments. The research question we used is: *"How can multi-stakeholder-generated, qualitative/quantitative scenarios be used to improve decision-making for better future food security, rural livelihoods and environments under conditions of climatic and socio-economic change?"*

There is clear, multi-dimensional potential for scenarios to be valuable for decision-making in the context of agriculture, food security and climate change. However, we were interested in how to realise this potential. What are the best approaches to use scenarios in decision-making, what makes a difference? We used a number of hypotheses:

1. When using scenarios for planning, a balance should be struck between inclusiveness and specificity - organize constellations of a few key actors across sectors and levels, focusing on specific policies, institutional arrangements or investments;
2. Scenarios methodology has to be internalized by users to ensure long-term impacts;
3. The use of scenarios for decision-guidance requires close collaboration with those in the position to prioritize, write and implement policies, but also engagement with decision-makers when policy directions are determined or improved policies have to be reviewed.

We identified one national case study in each of the CCAFS regions, based on expectations at its initiation that scenarios were likely to be useful for policy guidance in this case study if our hypotheses were right. The following blogs provide narratives about scenario-guided policy processes in Cambodia, Honduras, Bangladesh and Peru.

Scenario results and lessons learned

Our research on scenario-guided policy work has led to a number of policies and plans that have undergone fundamental changes, which have since been incorporated in the next steps of the policy development process, and in some cases, already finalized.

Taking a research approach to these case studies has yielded a number of key insights. In terms of specificity versus inclusiveness, it has been important to focus on a specific plan, policy or strategy. However, the involvement of key actors who are not themselves involved in the formulation of the policy has been crucial for a number of reasons. They have the ability to bring critical perspectives to the policy formulation, which sometimes proved to be troubling to the policy developers at first, but helpful once the analysis moved

forward and they recognized the need to improve their plans. External actors also provide complementary activities to help strengthen the implementation of the policy. They can also represent those who stand to gain or lose by the policy.

We can compare the benefits of this mix of specific policies with key outside perspectives to processes outside of our case studies, where there was a lack of focus on one or several specific plans. In such processes, the transition from scenario-guided analysis to policy outcomes is more difficult to achieve.

Another key insight is that scenario-guided policy development is a full-on, intense on-going process, where frequent interaction between decision-makers and researchers is crucial to gain trust, to target the right policies, and to engage with these plans at the best possible time. This is also important to encourage the decision-makers to be open to critical perspectives and sometimes fundamental changes needed once the plans are reviewed through the scenarios.

A third insight relates to ownership and developing strategic planning capacity. The need to let decision-makers themselves adapt and re-interpret scenarios so that they are perfectly tailored to be relevant to specific policy challenges is important for the decision-makers to truly engage with the scenarios, in order to get critical feedback on plans and policies. Moreover, there has been a widespread recognition among those organizing plans, policies and strategies that scenarios cultivate systemic, long-term thinking. Decision-makers in all case studies have requested support to help develop long-term, independent internal capacity in their ministries and organizations so that scenario-guided planning becomes part of their organizational cultures.

• Learn more: <http://ccafs.cgiar.org/scenarios>



Future scenario development now part of Cambodia's Action Plan for Agriculture

The dedicated work by CCAFS Scenarios team pays off as future climate and socioeconomic scenario development and climate-smart agriculture are now added to Cambodia's policy landscape.

Today, Cambodia's Climate Change Priorities Action Plan for Agriculture (CCPAP) features a scenario-guided priority-setting for Cambodia in the face of climate change, and a strong focus on climate-smart agriculture. In the plan, key practices and financial allocations have been set up to translate those words into actions.

This is the result of an intensive journey undertaken by the Cambodian Ministry of Agriculture, Forestry and Fisheries (MAFF) with the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and partners, the Food and Agriculture Organization's Economics and Policy Innovations for Climate-Smart Agriculture (EPIC) programme, and the United Nations

Environment Programme (UNEP) World Conservation Monitoring Centre, that started in the regional scenarios workshop in Ha Long Bay, Vietnam, at the end of 2013.

The scenarios developed in this workshop were quantified using the GLOBIOM model, developed by International Institute for Applied Systems Analysis (IIASA) and the IMPACT model,

developed by International Food Policy Research Institute (IFPRI).

In this workshop, decision-makers, researchers, private sectors and knowledge brokers from Cambodia, Vietnam and Laos joined forces to develop scenarios on future socio-economic developments and potential climate impacts for Southeast Asia. These scenarios were developed to help test policies, investments and priority setting in the face of uncertain futures.

Before this workshop, stakeholder and influence mapping was conducted to build a strong network and group of participants, using tools from the CCAFS Systemic Integrated Adaptation (SIA)

project. This helped CCAFS identify institutional forces and actors that make up official and de-facto decision and action spaces in Southeast Asia. It ensured a diverse group of participants in the workshop that could ensure action on climate-smart agriculture.

After the workshop, the Cambodian Ministry of Agriculture, Forestry and Fisheries expressed strong interest in building internal capacity on using scenarios for priority setting, as well as integrating CCAFS climate-smart agriculture research into their Action Plan.

Over the next nine months, CCAFS Scenarios team worked closely with the MAFF, building mutual trust and understanding to help develop the CCPAP and incorporate these elements. Translating the results of the scenario process into the key questions that decision-makers needed to ask was crucial, as was demonstrating the benefits of climate-smart agriculture and food system approaches.

After nine months of working together with the MAFF, it became important to ask, in a very active manner what the Southeast Asia scenarios would mean for Cambodia, what the key trade-offs were, and where the synergies lie with key policy makers. This translation process led to collaborative work on policy and budget design.

In the process, it was clear that the scenarios were offering structure to questions that decision-makers work with on a daily basis. The scenarios were used to create "safe spaces" to think freely about different policy

futures. Careful facilitation was needed to create such spaces.

With scenario-guided planning and climate-smart agriculture as a part of the Prioritized Action Plan, Cambodia is better prepared to deal with the uncertainties of climate change, in a society where 85% of the labor force is still engaged in agriculture. But this is just the start of the journey! In the next years, the plan will be implemented, and the collaboration between CCAFS and its partners and the Cambodian government will continue to grow.



• Story by Joost Vervoort, Scenarios Officer and Rathana Peou, Regional Scenarios Coordinator for Southeast Asia. Photos by Elisabeth van de Grift.

Helping Honduras build a more robust climate adaptation strategy for the agriculture sector

Future scenario development and modeling approach helps further strengthen Honduras' risk management and climate adaptation strategy.



Honduras' agriculture sector, the backbone of the economy, is extremely vulnerable to climate variability and change. Bad weather conditions and fungus from increasing temperatures are already tormenting farmers by crippling yields and profits from the previously successful coffee and banana plantations.

This is however only one of many concerns facing the government, which also has to tackle land degradation, hurricanes, rainfall-triggered landslides and floods, and now severe droughts, sweeping across the country. Need less to say, Honduras is one of the most climate-affected countries in the world. Between 1992 and 2011 the population

experienced 60 extreme weather events with hundreds of climate-related deaths following in their footsteps.

To reverse the situation and start building a more stable and equitable future, appropriate steps towards establishing forward-looking plans that take into account uncertainty and climate variability, are needed.

In line with this thinking, a Future Scenario workshop was held in one of the two most vulnerable regions of Honduras, Choluteca, in September this year to test and thoroughly revise a draft climate strategy by the Secretariat of Agriculture and Livestock. The "Strategy for risk management and climate change adaptation for the sector of agriculture and livestock" was tested against country-based socio-economic and environmental scenarios combined with climate impacts on the agricultural sector.

Organised by the University for International Cooperation in Costa Rica and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), the workshop managed to pull together key policy-makers and government officials that work directly with farmers. Having key stakeholders onboard for the workshop was really the result from extensive partnership building by the CCAFS Latin America Program.

What are scenarios?

Scenarios are not meant to be predictive, but instead help policy-makers and others acknowledge future uncertainty, and test current strategies and policies against different but highly plausible future worlds.

One can say Scenarios are different "what-if" accounts of the future that can be told in words, numbers, images, maps and/or interactive learning tools.



The scenario illustration represents one of the many future scenarios Honduras might come to experience, as imagined by participants in the scenario process.

The image represents a Honduras caught up in several internal conflicts ranging from depleting water sources and environmental degradation, to rising inequality, and steep urbanization and population growth, and reduced state power in favour of private businesses.

Participants take a critical look at the climate strategy

The country's policy makers can use scenarios to ask what needs to happen today, in order for Honduras to achieve its goals in the face of an uncertain future. In the context of the scenarios, policy makers try to re-design their plans to avoid catastrophic situations like the scenario above - if it becomes clear that they can be avoided.

On the other hand, they try to make sure the policies help people adapt to changes that are outside of the government's control, like climate change or global economic crises.

"Despite a tumultuous start, with original key stakeholders leaving the Secretariat of Agriculture and Livestock, we were finally able to bring everyone together in September for a workshop", says Marieke Veeger, scientist at the University for International Cooperation in Costa Rica, and Scenarios Coordinator for Latin America.

"We got participants to build various scenarios, and using back casting, the group came up with several items that had to change in the current strategy, such as the lack of long-term adaptation techniques and focusing too much on the national shrimp industry".

It quickly became very clear that the strategy had to be diversified, and include other types of livelihoods, such as cattle

and poultry businesses too. Participants also suggested including territorial planning in its objectives to guarantee most fertile lands for agriculture, since several of the scenarios showed drastic urban expansion, says Marieke Veeger.

"I was really happy to see that the participants, some of whom had led the strategy work themselves, were so open to the suggested changes. That is not always a given in this work," explains Marieke Veeger. "What's good about the Scenarios work is that it can really help policy-makers strengthen a current plan or policy, without requiring too much time and effort from them. I believe that is what our partners find the most attractive".

After the session, most of the suggested improvements to the ambition have been incorporated and the ambition is to implement them in the beginning of next year. The improved version of the plan has been used in the development of a broader government adaptation plan as well. The participants have also expressed an interest in using the same methodology in other national climate and agriculture plans, to help make them more robust, both great outcomes from these efforts.

"Success is many times dependent on good timing, something you might not be able to influence. But we have found that building the right relationships with key influential stakeholders and getting them to participate in the workshops is crucial in order for policies to change. Also, making sure that there is a plan or policy ready to be tested, which will be implemented regardless of the Scenario activities, is also key in order to achieve traction." concludes Marieke.

• Story by Cecilia Schubert, CCAFS Flagship Communications Officer, with significant contributions from Marieke Veeger and JoostVervoort, both working for the Future Scenarios team. Illustration by Laura Astorga. Photos by Neil Palmer (header), Marieke Veeger (workshop photo).

What does the future hold for Bangladesh?

Modeling scenarios for better climate policies

Future Scenarios hit a high-level policy note in Bangladesh's Planning Commission as they consider using scenario development and modeling in 5 Year Government Plan.

Both the World Bank and the IPCC have declared Bangladesh as one of the most climate-vulnerable countries in the world. As floods, tropical cyclones, storm surges and droughts start to become normal incidences for the country, the Government is trying its best to prepare and protect its population. But how does a country, with few resources and own governance challenges, best manage a climate influx?

One way to power through is to establish and implement forward-looking, flexible policies that take uncertainty, and current climate knowledge into account.

This is exactly what the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) Future Scenarios research group aims to achieve - more robust climate policies through modeling and scenario building with key, influential, local stakeholders across the program's five regions.

The regional South Asia Future Scenarios team has throughout the year established a partnership with the Bangladesh Planning Commission and the International Centre for Climate Change and Development (ICCCAD). A few months ago a two-day workshop was held in Dhaka to test the robustness of the 7th 5 Year Plan for the Government of Bangladesh through future socio-economic scenarios combined with climate impacts on agriculture.

The 5 Year Plan, prepared by the Ministry of Planning, follows a structured and flexible framework that helps the country stay on track of economic and social development policies and goals. Working together with the Scenarios team meant the Commission was open to generate new ideas and content for the upcoming Plan based on the challenges offered by the scenarios.

"We started off by downscaling and developing detailed scenarios for Bangladesh from the existing South Asian scenarios. The participants really felt these were useful as they helped them visualize what the future might hold for their country," says Maliha Muzammil, South Asia Regional Scenarios Coordinator and based with the University of Oxford.

"The downscaled, scenarios that were developed, with results from the advanced modeling programs Globiom and IMPACT, were then used to broaden the scope and test the feasibility of the Planning Commission's ideas for the Plan and make them more robust, flexible and concrete," says Maliha Muzammil, who also organized the workshop.

What does the future look like in Bangladesh in 2050?

Four future scenarios for the country were outlined, both positive, prosperous, scenarios along with really disastrous ones.

Stakeholders spent considerable time to create narratives for the various modeled scenarios, like the below ones:

Bangladesh as a role model for development

In this scenario, by 2050, after a long and difficult time of structural reforms, democratic and efficient governance systems are in place. The systems are climate inclusive, promote bottom-up and participatory approaches and the rule of law is upheld and followed. The industry and service sector are dominant in Bangladesh: there are high private sector investments and the government acts as a facilitator. Good regional trade relations are established, and good infrastructure, technical knowledge and research facilitates are in place to continue sustainable development.

Impact pathways to achieve key objectives and strengthen the desirable drivers of this scenario: Digitization of governance, taxation and information systems; Micro-climatic zone specific vulnerability assessment and interventions; Plans and policies that are adaptive to changing situations and incorporate the voice of vulnerable groups, following a bottom-up and participatory approach.

Living in a nightmare

In this scenario, high population growth and urban expansion contributed to



crises in energy, water and sanitation. Extreme climate events together with sea level rise hit Bangladesh sooner than expected, and with an unexpected magnitude, forcing millions to flee the coastal areas. Due to low level of state coverage of health care, and highly corrupted state services, Bangladesh sees private clinics boom, and also a growth in security services that can be only afforded by "privileged" groups. These privileged groups control all natural resources and dominate business. The gap between the rich and the poor is getting larger over the years.

Impact pathways; or HOW to AVOID the NIGHTMARE: A strong focus on fair land use planning through better monitoring and evaluation tools, as well as fairer conduct within civil service, avoiding corruption by raising normal pay and other means. Decentralization to be invested in, not only in terms of power but also population redistribution. Climate change: building institutional adaptation mechanisms to reduce loss and damage due to natural disasters, providing relevant and timely support.

From scenario development to policy change

"The workshop was really fruitful as commissioners and other stakeholders could discuss plausible futures, and which impact pathways to take in order to get there, or how NOT to get there. Having that visualization of different future scenarios under various conditions, can really help make for good policies today," says Maliha Muzammil.

The Planning Commission hopes to implement the major systemic interventions and suggested improvements that came out of the workshop into the 5 Year Plan, which is to be released next year.

In partnership with ICCCAD, Malhia got to present the workshop outputs to a wider audience in early December at their Learning Hub event, where members from the Planning Commission, Ministry of Finance, Ministry of Environment and Forest and other international and multilateral organizations were present.

Other outcomes from the workshop include establishing a long-term partnership with the Planning Commission and the Scenarios

Team. The ambition is to organize a follow up workshop early next year to help assess the actual draft of the plan.

The workshop also served as a successful introduction to scenarios planning for the Commission members, and built further capacity to use scenarios for such purposes. In addition, the stakeholders are also considering using the down-scaled South Asia scenarios and the Scenario process in the upcoming National Adaptation Plan (NAP) which is now being prepared.

"These type of opportunities and results are only possible when you work face to face with policy makers, building a level of trust, and making sure there is support throughout the process; from developing scenarios to implement suggested improvements and changes into high-level strategies and plans," says Joost Vervoort, Scenarios Officer for CCAFS Future Scenarios work based at Oxford University.

• Story by Cecilia Schubert Communications Officer at CCAFS with significant contributions from Malhia Muzammil and Joost Vervoort, both working for the Future Scenarios team. Header image by M. Yousuf Tushar (WorldFish).

Andean countries join forces to strengthen policies in the face of future scenarios

CCAFS Scenario team and partners help governments in Bolivia, Colombia, Peru and Ecuador plan under uncertainty.



In the Andean countries, policy makers looking into the future have to grapple with many changes – climate change, economic development, demographic changes, competition for land use, and numerous other pressures. The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) has joined forces with UNEP World Conservation and Monitoring

Centre (UNEP-WCMC) and University for International Cooperation (UCI) to help governments and their partners in Bolivia, Colombia, Peru and Ecuador plan under uncertainty.

In mid-November of 2014, key policy makers and stakeholders from these four countries met in Lima, Peru, to critically evaluate and strengthen

national agricultural, environmental and climate adaptation policies from a regional perspective.

The CCAFS Future Scenarios and Latin America program and the University for International Cooperation (UCI) who implement the Latin American scenarios processes have worked closely with UNEP-WCMC to develop socio-

economic, climate scenarios for the Andes. These scenarios were based on a first workshop with regional participants in Colombia in 2013.

The stakeholders' regional scenarios were developed into quantitative scenarios through the agricultural economic models IMPACT and GLOBIOM to explore what the scenarios would do to regional agriculture and food security in the context of global markets and climate change. The quantified scenarios were further developed by UNEP-WCMC and the University of Kassel to create maps for land use, biodiversity and ecosystem servicesthrough the LANDSHIFT model.

“One of the aims of this workshop was to review the scenarios that we have developed for this region. Also we wanted to evaluate the analysis that we have done based on these scenarios, in terms of what are the impacts of agricultural and other developments on biodiversity and ecosystem services in the region,” said Arnout van Soesbergen, Programme officer at UNEP-WCMC after the workshop.

“We also looked at policies that are planned or have already been implemented and try to look at how robust the policies are in light of these future developments that we have identified in the scenarios,” Van Soesbergen continued. “The aim of that is to try and see if we can get those policies to be more robust and take into account the potential impacts of these developments on biodiversity, ecosystem services and food security, also in the light of the impacts of climate change.”

Nestor Hernandez, who is leading policy work on adaptation at the Ministry of Agriculture and Rural Development (MADR) in Colombia found the workshop to be very interesting: “In the





difference between the policies that are being generated in climate change and food security issues.”

Using scenarios successfully

The successful use of scenarios to guide policy development depends on a long process of building trust between research organizations and decision-makers, to help identify opportunities for policy development at the right time, and ensure that governments are open to engaging in a critical process of testing their plans against challenging scenarios. It also depends on having plausible, relevant and engaging scenario stories, maps and model results.

Finally, it has proven crucial to give the decision-makers the ability to deeply engage with the scenarios, letting them re-tell the stories, data and maps in a way that speaks directly to the feasibility of the policies that are being examined.

CCAFS, UCI and UNEP-WCMC are working closely with the Andean governments and their partners to make sure the improved policies and plans are finalized and accepted, and that research needs for implementation are responded to.

Future Scenarios will continue its work in CCAFS five regions and globally in 2015, testing and moving towards regional policy outcomes, while supporting and building the capacity of partners working on global foresight studies and modelling scenarios.

• Story by Elisabeth van de Grift, independent communications consultant and Joost Vervoort, Scenarios Officer CCAFS. Photos by Elisabeth van de Grift.

More scenario blogs: <http://ccafs.cgiar.org/blogs/scenarios>

case of Colombia, an adaptation strategy for the agricultural sector to climate phenomena is now strengthened with visions and perspectives different to the ones we initially had, and these are for sure things we had not yet thought about. This makes it a more complete proposal.”

For Daguin Aguilar, from the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP) in Ecuador, the idea of comparing the scenarios with an existing policy was key. “What really caught my attention is how we addressed the current activities or the national strategies and contrasted them in a new framework to improve them and help us to reduce the risk of facing the adversities of climate change. There are some optimistic scenarios, but it was the worst case scenarios that allowed us to address the whole policy in a concrete way to determine whether we are doing it right; whether the current

policies are appropriate to reach positive environmental and mitigation goals.”

According to Dr. Daniel Larrea from Foundation Friends of Nature (Bolivia), the workshop offered a unique opportunity that brought together people representing different perspectives and sectors: “Together we could think about different issues in a collaborative way. We do not have opportunities like these very often in Bolivia.”

Larrea sees initiatives like this workshop play a very important part in addressing problems at a regional scale: “It is important to have a regional outlook on how to address problems. For me the workshop takes the lead of the current approaches of the last years. The policies that are being analyzed reflect that, still there are very different realities in each country and it is difficult to combine or find similar policies among close countries. This highlights the big



• Photo by Neil Palmer (CIAT)

Blogging an Impact Story

Theme shares outcomes, key lessons learned and how to best move forward with the research under CCAFS new program structure.

Knowledge to action principles and approaches have now been integrated into the new CCAFS flagship programs and regions. However, critically exploring how to achieve impact can't be lost in the process of implementing and communicating research activities. It will be important to keep up the momentum, ensuring that resources are dedicated to pursuing innovative knowledge to action research with objective and well-documented science. Some key outcomes and lessons from the past five years include:

Having impact with our research requires planning for impact from the beginning, and doing our research with stakeholders and partners in real-life settings. CCAFS is entering its second phase of implementation in 2015, with research impact pathways designed to meet the needs and priorities of the five regions in which it works. In addition to measuring how much each CCAFS research activity contributes to target impacts such as adaptive capacity and greenhouse gas mitigation, it will be important for the program to iteratively reflect on the process itself – how well are we doing in terms of our planned pathway, do we have the right strategies, what progress are we making towards our desired outcomes?

Development successes and research highlights

Partnering with a media company that airs a successful agricultural make-

over TV-show across East Africa has helped our scientists reach millions of farmers with climate-smart agriculture information presented in a fun and engaging way by local partners such as extension services and the private sector. Now we need to focus research on understanding the impact that televised climate smart information has on farmers' adaptive capacity. And we need to objectively explore the reach and impact of other forms of mass media (e.g. radio, SMS, internet) in all of the CCAFS regions.



Gender and socially inclusive participatory research methods co-created with farmers and local partners have proven to be most relevant to the needs of our research and development partners – a successful experiment in social learning. Now effort needs to be focused on analyzing and triangulating the wealth

of gender-disaggregated data being produced using the qualitative and quantitative tools provided by CCAFS, sharing findings that contribute to adaptation planning, and building the capacity of regional partners to use these new forward-looking gender-targeted approaches.

Future scenarios planning and modeling is being taken up by and influencing, national stakeholders to further improve climate strategies and policies across the five CCAFS regions. Now we need to focus on the context in which these scenarios are being built and used, to document and understand the nature of the decision-making environment that maximizes their use and impact.

Evaluating the contribution of agricultural research to development has always been a challenge. Research alone does not lead to impact, but research does generate knowledge that actors can put into use to generate development outcomes. Truly understanding and demonstrating impact can be elusive; linking knowledge generated by our research to concrete action should not be. *'How do we achieve large-scale smallholder agricultural development in the urgent context of climate change?'* The first step is to reduce the barriers that separate research from the development process; to do research *for development in development with* our development partners.



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
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The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership of CGIAR and Future Earth, led by the International Center for Tropical Agriculture (CIAT). CCAFS brings together the world's best researchers in agricultural science, development research, climate science and Earth System science, to identify and address the most important interactions, synergies and trade-offs between climate change, agriculture and food security. For more information, visit www.ccafs.cgiar.org



World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

CCAFS Research Theme Linking Knowledge with Action is hosted at the World Agroforestry Centre in Nairobi, Kenya.

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