RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security

CGIAR

CCAFS

Unlocking the potential of social learning for climate change and food security

Wicked problems and non-traditional solutions

About CGIAR

CGIAR is a global partnership that unites organizations engaged in research for a food secure future. Its 8,000 scientists and staff work with small-scale farmers and partners in the developing world to reduce rural poverty, increase food security, improve human health and nutrition, and ensure more sustainable management of natural resources. With unparalleled research infrastructure and dynamic networks across the globe, and the world's most comprehensive collections of genetic resources, CGIAR is the only institution with a clear mandate on science and technology development for the eradication of hunger and poverty at the global level.

Unlocking the potential of social learning for climate change and food security

Wicked problems and non-traditional solutions

Climate change is a crisis not only because of its vast global impact, but because it is so difficult to do much about it. Four degrees of warming are projected for this century under a business-as-usual scenario. In agriculture, this would mean the end of farming as we know it in the developing world. But to adapt agriculture, ensure food security and prevent deepening poverty, we must deal with a highly complex socio-ecological system whose mechanisms and effects are uncertain. Constraints and challenges evolve over time and are altered every time people change the ways they produce food.

And no one decision maker or institution can put this problem to rest. Effective mitigation and adaptation requires cooperation between a dizzying array of stakeholders: scientists and poor rural farmers, agribusiness leaders, development agencies and government planners, among many others. Unfortunately, values, views and cultural framings of the problem often clash wildly among these different parties and across the globe.

Problems that have these features — complex, uncertain, ever-evolving, complicated by a multiplicity of stakeholders and perspectives — have been termed 'wicked' because they resist traditional approaches to leadership and management. With a wicked problem, it is not sufficient to direct experts to evaluate the issue and advise policy makers or affected people how to respond. Instead, we need ongoing, flexible, consultative processes that develop a collective understanding and response.

In 2010, CGIAR thoroughly reorganized its research framework to get a better grip on four wicked problems in developing countries: poverty reduction, food security, nutrition and health, and sustainable resource management. CGIAR scientists are now collaborating across research centres worldwide on 16 interdisciplinary Research Programs. The leadership has called for "massive" improvements in CGIAR's work with partners, and attention is focusing on research outcomes and impact pathways in order to meet demanding numerical targets for development impact.

These changes are moving CGIAR away from linear pathways of research and engagement, and towards learning in networks of diverse partners. And the new emphasis on outcomes raises the incentives for participatory and community-based research methods. Many approaches being tried in different research centres line up with the idea of 'social learning' – a powerful tool for tackling wicked problems.

Social learning approaches connect the knowledge of communities with that of scientists and other stakeholders, so that poor farmers are empowered and research agendas become more relevant and nuanced. Social learning supports CGIAR's development goals and could help untangle climate change and sustain the world's food supply. In the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), a new but rapidly growing body of work is exploring this potential.

What is social learning?

Social learning is a term covering a range of approaches for knowledge sharing and joint learning. The literature on social learning spans several disciplines and the concept has been defined in different ways — but certain elements stand out as keys that could unlock dilemmas like climate change.

- Social learning brings together stakeholders with diverse perspectives to learn together and form a common understanding.
- It works in iterative cycles of action and reflection.
- The iteration can encompass double- and triple-loop learning (see "Multiple-loop learning").
- The result is learning and behavioural change that spread beyond individuals into their households, communities and institutions.

Multiple-loop learning

When a learning process loops back to examine not only the problem we are trying to affect but the way we approach that problem, we can expand from single-loop learning to double- or triple-loop learning.

- Single-loop learning asks "Are we doing things right?" and can improve the efficiency of existing routines and actions.
- Double-loop learning asks "Are we doing the right things?" and can reframe the problem and change our goals.
- Triple-loop learning asks "How do we decide what is right?" and can alter values and beliefs or governance systems.

In CCAFS's efforts to aid decision making based on the latest research:

- The first loop is simple dissemination of information.
- The second loop is reflection about what activities allow us to be more effective.
- The third loop is transformative change through social learning among multiple stakeholders.

" We are seeing better collaboration and cooperation among centers than had been the norm over my long full-time involvement with CGIAR — so I'm cautiously optimistic about improved uptake of [social learning] approaches. I think the relevance certainly remains as high as ever. *"*

Carol J. Pierce Colfer, Center for International Forestry Research

How CCAFS defines social learning

Through meetings, discussions and research reviews, CCAFS and its partners have been developing a description of social learning to guide work going forward. Since this is itself an iterative, collaborative social learning process, our definition is still evolving. Here is the most recent version:

Social learning approaches help facilitate knowledge sharing, joint learning and co-creation of experiences between particular stakeholders around a shared purpose taking learning and behavioural change beyond the individual to networks and systems. Through a facilitated iterative process of working together, in interactive dialogue, exchange, learning, action and reflection and on-going partnership new shared ways of knowing emerge that lead to changes in practice.

The value added for CGIAR of the social learning approach is that it provides a way to address complex socio-ecological problems by integrating diverse 'knowledges' and value systems at many different levels and through different learning cycles. Social learning engages relevant stakeholders in co-framing challenges at community, regional, national and global scales with the aim of mobilising technical, institutional and social knowledge to unlock the potential that can accelerate change. Social learning is a step change because it is more than just a process of inclusivity, it is a continuous iterative process of co-learning and engagement.

The key elements of social learning show up in approaches like participatory action research that have decades-long track records. But we think the concept of social learning adds value to these well-known methods. The social learning umbrella covers a rich spectrum of tools and techniques, including action research. Social learning need not focus on smallholders and communities — the co-learners could be financial institutions or international negotiating teams, for example — and it requires more than participation or inclusiveness. In action research and other social learning approaches, we ask not only who is invited to the table, but who is generating and using knowledge. There is give and take as the various stakeholders both contribute knowledge and learn from others.

Exploring social learning at CCAFS

Mandate for social learning

CCAFS research is structured under four themes. The first three focus on mitigation, adaptation and risk management. The fourth theme, "Integration for Decision Making" — which includes developing decision aids and linking knowledge with action — is driving exploration of social learning at CCAFS.

Social learning has become important to CCAFS under its mandate to support people who are rethinking agriculture and food security in a warming world. Strategies for addressing climate change ultimately depend on unique local contexts, so linking knowledge with action and exploring tools for local decisions are critical goals. We are trying to help policy makers, development partners, researchers and farmers make choices with a greater understanding of the many factors in play — local conditions, local knowledge, national policies and programmes, international development paradigms, and the increasingly diverse drivers of global change.

CCAFS wants its engagement at the local level to have as much relevance as possible for local communities. And this won't happen if we think of our task in terms of conveying information to a target audience. Communities affected by climate change need to deploy their own specific knowledge of local systems as well as engage with scientists, policy makers and others who bring different expertise. To support this process, CCAFS research and the tools it produces have to be designed based on the needs and knowledge of local actors. We must learn from — and with — different stakeholders.

The CCAFS team on Integration for Decision Making is looking at how the principles and techniques of social learning might help us get there. We are interested in learning from innovative work across CGIAR — and in the next five to seven years, if social learning really proves its value, we will seek to mainstream new ways of working in climate, agriculture and food security.

> Decision makers need partnerships that support learning and negotiation platforms that allow for transparency and accountability in information dissemination, decision making, and resource allocation.
>
> 2012 survey respondent

Learning from innovations across CGIAR

Julian F. Gonsalves

- Participatory communications (ICT, participatory video, etc.)
- Participatory market chain analysis/value
- Decision-based approaches eg. Adaptation Pathways-WorldFish
- Participatory plant breeding, and participatory varietal selection, community biodiversity management
- Multi-stakeholder dialogue platforms
- Impact pathway approaches, horizontal evaluation
- Gender analysis/gender differentiation
- Learning alliances
- Adaptive collaborative management, CBM, and co-management and conflict resolution mechanisms
- Farmer field schools/CIALS

Social learning in research on climate change and food security

To embrace a social learning approach right from the start, the CCAFS initiative on Climate Change and Social Learning (CCSL) has formed a community of people working in learning and communications, participatory processes, knowledge management, partner engagement and social learning, as well as agricultural and climate scientists. This community has been thinking together about the implications of such a strategy for CGIAR and its partners, and how CCAFS might begin to take this forward.

Five 'change areas' for CCAFS

Adopting social learning as a central strategy in CCAFS would mean fundamentally changing our patterns for creating and sharing knowledge. At a workshop in May 2012, communications and social learning experts identified five key areas where CCAFS can start working towards this change, and recommended next steps.

1. **Document social learning processes and their results**
   The evidence base around social learning is too thin and scattered. CCAFS should organize, analyse and communicate existing evidence — and CGIAR, with its diverse projects and methods, can provide a testing ground for studying and documenting new ways of working.

Next steps: Create an inventory of case studies and analyse lessons.

2. **Promote and embed social learning within CCAFS**
   By using, documenting and championing social learning in CCAFS we can validate the approach and encourage institutional change across broader research networks. We envision that by 2020 a significant portion of CGIAR initiatives will deliberately design social learning into projects.

Next steps: Use case studies to build a list of good practices for social learning; organize an advisory group and identify partners; use trainings, mentoring and other tools to catalyse change.

3. **Understand endogenous social learning processes where CCAFS is working**
   At the community level — where social learning has great potential to improve impacts — local institutions, traditions and customary laws can support or undermine collective change.

Endogenous social learning is social learning firmly rooted in these local frameworks.

Next steps: Evaluate where there are good opportunities for co-learning with communities, and create guidelines for designing and assessing projects.

4. **Understand how social differentiation is addressed in social learning processes**
   Within communities, differences in sex, age, caste and other factors shape people's interests and knowledge, and may prevent some voices from being heard in social learning processes. Social learning projects need to recognize the complexities of social differentiation and related power relations, and know how to deal with them.

Next steps: Study experience with and opportunities for working with social differentiation, and build a network for practitioners to share knowledge in this area.

5. **Understand how different perceptions of timescales hinder or encourage social learning**
   Farmers worry about the next harvest, politicians worry about the next election, and climate scientists worry about the next 50 years or more. Partners working to different time scales will clash over purposes and priorities. The CCAFS mandate to support decision making puts us at the interface between local and global, and short- and long-term issues. We can look at how these different perspectives affect social learning and try to develop solutions that bridge them.

Next steps: Craft a theory of change encompassing short- and long-term adaptation to climate change, and develop frameworks for thinking about time scales in social learning projects.

Highlights of work so far

In 2011, CCAFS commissioned a review of current approaches to climate change communication and social learning. Since then, two workshops and additional research projects have contributed to several outputs:

- **Scoping study.** Researchers from the International Institute for Environment and Development (IIED), the Institute of Development Studies (IDS) and the University of York reviewed current theory and practice by looking at the literature, surveying practitioners and mapping case studies. The working paper describes incentives for CCAFS to support social learning and the likely challenges. See: **http://cgspace.cgiar.org/handle/10568/24456**

- **The Sandbox**. After a May 2012 workshop, an online platform was created where people could keep working with ideas that were bubbling up. The Sandbox acts as a safe space for nurturing and exploring innovative, risky ideas, as well as for peer review. And it is not just talk — the Sandbox offers seed funding for projects proposed on the forum. We see this as a step towards a self-organized 'community of practice' that tackles questions and assignments posted by CCAFS and others. See: **http://ccsl.wikispaces.com**

- **Stocktaking study.** A CCAFS working paper is underway that reviews social learning-related initiatives and capacities already in place at CGIAR. The aim is to identify exciting approaches and connect pockets of innovation.

- **Social differentiation study.** Another CCAFS working paper is looking at projects across CGIAR that emphasize the knowledge and needs of different social groups, such as women.

- **Impact study.** A third working paper in preparation at IIED and IDS builds on the scoping study of social learning frameworks, and further examines the impacts of social learning projects and models for monitoring and evaluation.

- **"Transforming food systems" narrative.** A November 2012 workshop produced the outline for a 'narrative' — a way to tell the story of how social learning can enhance research and development outcomes (see "Transforming food systems: a CCAFS narrative on social learning", overleaf). This will be developed in multiple formats, including animation.

- **Piloting endogenous social learning.** CCAFS is collaborating with the Prolinnova network of partners (www.prolinnova.net) to pilot social learning activities at CCAFS research sites. This includes inviting relevant partners in multi-stakeholder platforms to build local resilience to change in a farmer-led process.

- **Partnering for innovations in communication.** CCAFS is partnering with Shamba Shape Up, a Kenya - based participatory research initiative built around a 'makeover'-style television show with an audience of 11 million (www.shambashapeup.com). The Shamba Shape Up crew follows and assists farmers making changes in their practices and business models. CCAFS will be helping to incorporate climate change messages into future episodes.

Challenges and opportunities

Social learning comes naturally to individuals who are exchanging perspectives, but within institutions it takes a lot to shift practices and ways of knowing. The initial studies from CCAFS emphasize that it would not be easy to bring social learning into the mainstream of work in CCAFS and its partners or into the wider CGIAR. These approaches are resource-intensive — face-to-face interactions with multiple actors at different levels require longer timelines and higher budgets. We need new models for scaling up these ways of working, and changes in institutional culture to spread social learning through research and development institutions. And we also face methodological issues such as learning how to work with different social groups and power dynamics, or how to reconcile the different time scales that stakeholders care about.

But if researchers and practitioners take on these challenges, we may be able to multiply our development impacts faster. Social learning is a good match for 'wickedness' because it meets a complex, multi-stakeholder, evolving problem with complex, multi-stakeholder, adaptive assessment and action. Such 'wicked solutions' are already being pursued, and social-learning thinking can bring together and build on this expertise and experience. We see this as an opportunity to find shared language and tools, and to define common goals for outcome-based research. Are behaviours changing based on new, shared understanding among different stakeholders? Are we ourselves changing our practices based on what we learn?

More work is needed to convincingly assess the cost-effectiveness of social learning, but there is an expanding body of case studies demonstrating that these approaches work in many contexts. Furthermore, there is plenty of evidence that traditional, linear, top-down approaches to designing and communicating research do not work well enough. Even though the impacts of CGIAR research are measured in billions of dollars per year, many scientific advances of the past decades have left behind the world's poorest and most vulnerable areas. CGIAR is committed to delivering development outcomes, and to make that difference we will have to experiment with new pathways. Evidence suggests that social learning methods are among the most promising possibilities.

Transforming food systems: a CCAFS narrative on social learning

In "Transforming food systems", a seven-point 'narrative' that CCAFS will be producing in multiple formats, CGIAR's Boru Douthwaite and Patti Kristjanson argue that social learning offers an opportunity to "sharpen our edge". In brief:

1. People can be amazingly resourceful and innovative, given a supportive environment. Social learning draws on this **untapped potential**.

2. **Unlocking this potential** requires going beyond 'business as usual' and making use of diverse partnerships, multi-way communication, cooperation and collaboration.

3. If we want food security in a hotter world, we need to seize **new opportunities for doing research differently**. We can take participation further, to more proactive social learning through action and reflection — leading to changed behaviours.

4. "**Why bother?**" Doing this can sharpen our edge and help us become better problem solvers of bigger, more complex problems.

5. The next steps involve shifting towards partnerships for joint observation, trials, modelling and experimentation. Trying new approaches is **how we learn to make this happen**.

6. **We are asking people** to embrace the idea of joint transformative learning and the co-creation of knowledge. Incentives and institutions also have to change.

7. In our **vision of success**, more scientists are engaged in broad partnerships, producing information that is more useful and more widely used. There is more mentoring of young people, more interactive science, and we all share our knowledge more generously.

> One of the challenges I see is how to integrate participatory communications into scaling up strategies that are both effective and sustainable. All of this is deeply embedded in social learning theory and practice.
>
> Kevin Kamp, WorldFish

Case studies

Pockets of work with social learning or related approaches are scattered across CGIAR centres, partners and beyond. Here are a few examples of what social learning looks like and what it can do.

Developing women's seed enterprise

The project: Eighty per cent of smallholder farmers in Africa get their seeds from neighbouring farms. This initiative is helping women rice producers in Benin, Togo and Senegal organize small community-based seed enterprises and produce high-quality seed. The aim is to strengthen the informal seed-exchange system and improve the women's livelihoods.

Who's involved: CGIAR's Africa Rice centre, partnered with the West and Central African Women Rice Farmer Group Association (WORIGA)

Social learning looks like: A participatory learning and action approach, including videos produced by and for farmers, using local languages. National extension programmes track and disseminate changes the seed farmers are making in response to the videos.

Impacts: The farmer-to-farmer videos — some dealing with gender-specific issues for women farmers — have led to at least 80 per cent greater adoption of new technologies and practices, compared with more traditional communication methods tried previously.

Learning alliances

The projects: In traditional training courses where knowledge flows in one direction, participants usually end up adapting what they learn to their day-to-day work — but researchers rarely understand and document these creative and useful innovations. Learning alliances were designed as a better way to connect research and development, in the context of rural agroenterprise projects that link farmers to markets.

Who's involved: CGIAR's International Center for Tropical Agriculture (CIAT) and CARE Nicaragua piloted the learning alliance model in 2000. The approach has now been used in over 40 countries.

Social learning looks like: A joint learning process involving research organizations, policy makers, businesses, and donor and development agencies — sometimes collaborating with farmer groups. Learning alliances use a double-loop learning cycle to identify, share and adapt good practices. After defining research questions and designing, implementing and evaluating interventions, participants reflect on the results and use them as inputs to inspire new questions and reshape methods.

Impacts: The learning alliance pilot in Nicaragua followed a major CIAT programme to develop manuals and trainings that would help bring cassava producers into new supply chains. Although the guides were used by partners around the world, these tools never reached the anticipated numbers of farmers. The work with CARE Nicaragua led to much greater reach, plus multi-organizational partnerships and increased support for learning alliance partners in Central America.

Coffee Under Pressure

The project: To make a real difference for agriculture, sophisticated climate modelling capabilities should be paired with specific contexts, priorities and knowledge on the ground. Coffee Under Pressure (CUP) creates this kind of interface, working with smallholder coffee producers in Central America and Mexico to understand the effects of climate change on coffee and help farmers adapt.

Who's involved: Scientists from CIAT and other CGIAR centres are working with Catholic Relief Services (CRS), national coffee organizations and farmer cooperatives.

Social learning looks like: Bringing sophisticated modelling of climate impacts to community level, in a context that is relevant and useful for farmers. In this 'push-pull' model, awareness is raised about climate change (push) by focusing on coffee resilience, a livelihood issue farmers care about (pull). Double-loop learning is emerging as CIAT and CRS learn how to foster interest and react to the resulting demands for information. Farmers are also discussing how to better communicate to peers about climate change and coffee adaptation.

Impacts: CIAT studies over the last three years have demonstrated that climate change threatens coffee systems, with impacts on yields, quality and pests, among others. The findings had extensive media coverage, and now a roundtable dialogue is planned in Nicaragua, new research is being funded, and the largest coffee roaster in the United States is considering investing in adaptation to climate change among smallholder farmers in its supply chains. However, scaling up CUP's time-intensive process has proved a challenge.

Regional socioeconomic and governance scenarios

The project: What might be the future of food security, environments and livelihoods in Southern regions? Working in East and West Africa, South Asia, and set to start in Latin America and Southeast Asia, a regional scenario-building initiative helps decision makers explore the key uncertainties and start thinking about how to transform policies, institutions and governance for agriculture and food security over the next decades.

Who's involved: Oxford University, CCAFS and the International Institute for Applied Systems Analysis (IIASA).

Social learning looks like: A set of possible future scenarios is designed through a participatory process involving a team of policy makers, technical advisers, agricultural scientists, industry, finance sector, media and other stakeholders. An international team of modellers collaborates with the scenario team to quantify these narratives and bring various climate change scenarios into the picture. The process is iterative, with close exchange between the two teams until the scenarios are fully understood and represented. Then policy and planning meetings look at options for responding to these possible futures.

Impacts: As the process for East Africa nears completion, decision makers say they have learned how to scope future uncertainties and use them to frame strategic planning. Ideas from planning workshops, such as the need for more empowered farmers' organizations at the subcontinental level, are being taken forward. And the Southern stakeholder perspectives captured here are attracting attention from the largely Northern and academic community of global scenario builders.

Get involved

CCAFS invites research institutions, policy makers, NGOs and others interested in research for development to join in this exploration of social learning. Decades of work have already made the case for participatory research methods — but can we take this further? Beyond seeking out local people's views and preferences, can we think deeply about co-learning and try to combine different sources of knowledge into better-informed solutions?

We urge researchers and practitioners to consider where social learning is resonant and relevant to their work, and what would be needed to test its full implications. Are there ways to foster social learning through programme designs, strategic innovations, reaching out to new partners or engaging differently with CGIAR and other donors?

One way to get involved immediately is by joining the Sandbox, our online forum on social learning. With diverse participation and an emphasis on brainstorming and tinkering, the Sandbox itself is intended to reflect how social learning works in practice. This is a place to share your experience, forge partnerships with CCAFS and others, develop innovative ideas and find seed funding for those ideas. You can learn more about the Sandbox at **http://ccsl.wikispaces.com** and contact Ewen LeBorgne (E.LeBorgne@cgiar.org) if you want to join our Yammer network.

> "We need partners from the countries in the South who have a more detailed understanding on context. If capacity is a constraint we should build that."

Ruth Meinzen Dick, International Food Policy Research Institute

For more information

More information on the CCAFS Climate Change and Social Learning initiative can be found at **http://ccsl.wikispaces.com**