

# Lessons in theory of change: monitoring, learning and evaluating Knowledge to Action

## Key messages

- **Reflection** on the theory of change (TOC) is just as important as measuring indicators of progress in a monitoring, **learning** and evaluation (M&E) plan.
- Developing a brief **outcome story** for your impact pathway helps you to think through the necessary changes in next-user behaviours, why those changes are important, and what results those changes can generate.
- **Outcome indicators** provide clear evidence of progress towards development outcomes.

## Impact pathway development for theme Knowledge to Action

In 2010 the research theme on Knowledge to Action (K2A) at CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) developed a plan of work, using a log frame structure. Our objective was to explore and jointly apply approaches and methods that enhance K2A linkages with a wide range of partners at local, regional and global levels. Since then, the K2A theme has supported a variety of projects with the potential to catalyse action from research-generated knowledge. These projects were cutting edge; high risk but with potential for real impact should they succeed.

The success rate of individual projects was substantial.<sup>1</sup> What we found as a research theme, however, was that mechanisms were not in place to scale-out from these initial, project-based successes. We attributed this to the absence of a clear pathway to impact.

Impact pathways were inherent in our log frame approach. However, explicit “result chains” connecting research products to development outcomes and monitoring and evaluation (M&E) strategies were missing. In 2013, we converted our log frame into an impact pathway with accompanying theory of change (TOC). This allowed us to shift from a project orientation to a focus on behavioral outcomes.

Our log frame had one objective and four outputs. For our TOC we stated each of these as explicit outcomes with specific and measurable changes in next-user knowledge, attitude, skills and practice. Each output was converted into an impact pathway. CCAFS requires its research themes to achieve and report at least one outcome per year. Searching for ways to be innovative and clarify our outcomes-thinking process, we decided to summarize each of the specific stories we wanted to tell per behavioral outcome. Our overall Knowledge to Action outcome story became:

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## About Us ••

The CGIAR Research Program on Climate Change, Agriculture and Food Security (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 tradeoffs between 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). [www.ccafs.cgiar.org](http://www.ccafs.cgiar.org)





**By 2016, decision-makers are enacting food security and climate resilience strategies and policies favoring highly vulnerable groups so as to enable innovative smallholder farmer adaptation and mitigation in 20 CCAFS countries, 5 CCAFS regions and in key global processes.**

The story clearly articulates necessary changes in next-user behaviors, why those changes are important, and what impact those changes should enable. The story is accompanied by four

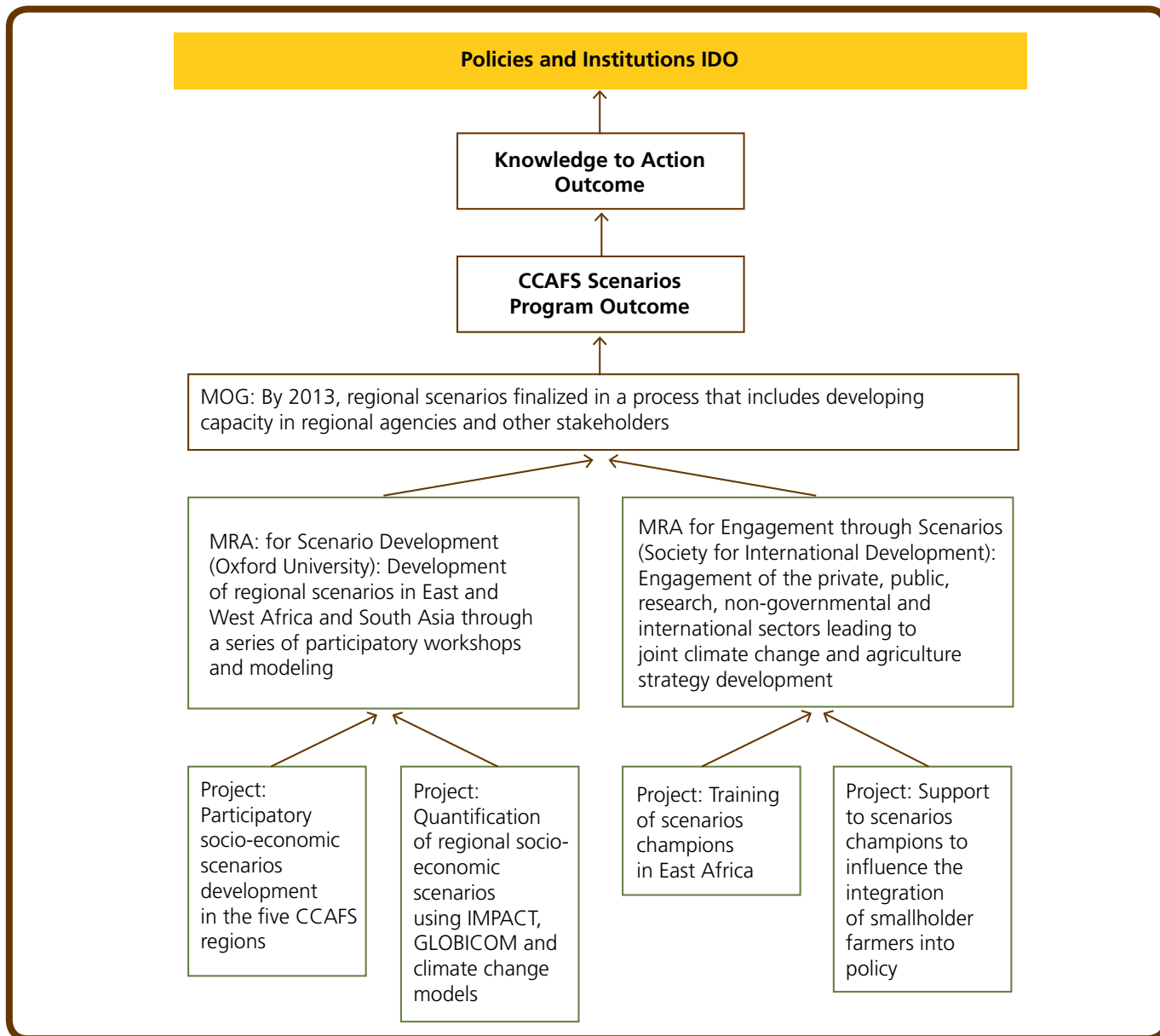
outcome stories representing each of our impact pathways. For example, our outcome story for the CCAFS regional socio-economic scenarios program<sup>2</sup>, completed in 2013, was:

**By the end of 2013, national and regional stakeholders in the five CCAFS regions are focusing on developing more appropriate adaptation and mitigation strategies and policies using forward-looking climate change focused socio-economic scenarios. In at least two of our**

**regions, economic communities and international organizations are collaborating to invest in this process for creating an enabling policy environment.**

The Knowledge to Action impact pathways also contain major output groups (MOGs)<sup>3</sup>, major research actions (MRAs)<sup>4</sup> and specific projects. Thus, the CCAFS Scenarios Program impact pathway contained the elements shown in Figure 1.

Figure 1.





### Identifying indicators<sup>5</sup>

Initially, we brainstormed monitoring and evaluation indicators based on what would be the most holistic and convincing evidence of progress along our impact pathways, and achievement of our outcomes. We identified progress<sup>6</sup>, change<sup>7</sup> and impact<sup>8</sup> indicators, paying particular attention to change and impact indicators that would provide evidence of contribution to the CCAFS intermediate development outcomes (IDO)<sup>9</sup>.

We found, however, that these higher-level indicators cut across themes

and regions in CCAFS, and had to be arrived at through a time-consuming consultative process involving all CCAFS stakeholders (e.g. Flagship leaders, Regional leaders, Coordinating Unit, etc.). So we decided to work with the main partners in each impact pathway to identify indicators and develop an outcome-focused monitoring, learning and **evaluation** (ML&E) plan, specific to their pathways. We assume that these indicators will also provide evidence of progress towards and achievement of our overall outcome story.

An example is the CCAFS Scenarios program monitoring, learning and

evaluation system. Several meetings were held with the scenarios team to develop the system with the program's research question in mind. In 2010 we started with the double question: "Can a participatory approach be used to develop regional socio-economic scenarios for use in climate change and agriculture planning, and if developed will stakeholders use them?" The impact pathway ended in 2013 with an external evaluation<sup>10</sup> using the ML&E indicators, providing the results in Table 1.

**Table 1.**

Indicator type	Impact pathway linkage	Indicator	Results
Change	Milestone to outcome story	Number of partner organizations that are participating in the scenarios process by region	240 organizations (governments, regional economic bodies, private investors, farmers' organizations, CSOs and NGOs, academia and the media) have participated in regional scenarios processes in the five CCAFs regions.
Progress	Activity to milestone	Number and type of participants in each workshop	The 240 organizations participating in the scenarios processes were represented by 361 individuals ranging from mid-level to senior individuals in their organizations.
Change	Milestone to outcome story	Increasing demand for scenarios process: number of actors that have requested or are supporting the scenarios process in the CCAFS regions	4 global partners (FAO, UNEP WCMC, Oxfam Great Britain and GFAR) are supporting scenarios processes. In the regions, 15 regional and national organizations (regional economic bodies like ECOWAS, EAC, ASEAN and SICA, governments, civil society organizations and NGOs) have provided active support for scenarios processes.
Change	Milestone to outcome story	Funds provided for scenarios process by partner organizations in CCAFS regions	Global and regional partners have provided 660.000 USD (and an additional estimated 80.000 USD for smaller meetings) to the development of scenarios and their use for policy and investment guidance.
Progress	Activity to milestone	Increasing use of scenarios in CCAFS regions; number of champions emerging; number and types of partners engaged in forward planning for climate change adaptation and mitigation	81 impact pathways to guide policy and investment were proposed to be taken forward by participants across the five regions, of which 24 have been initiated so far.
Progress	Activity to milestone	Number of champion success stories	The evaluation report refers to its regional outcomes where many success stories are underway. The report highlights 5.



**Table 1. (continued)**

Deliverable	Deliverable	Number of views, forwards and tweets of scenarios blog	Scenarios pages all together (including documents, landing page etc.) were visited 11,073 times since the inception of the programme in 2010, of which 4,299 visits were in 2013. Overall, the 16 blogs about CCAFS scenarios were visited 4418 times (since January 2010), of which 1821 visits were to the seven blogs published in 2013. There have been 18 reposts of scenarios blogs/reports/papers including on DFID, UN main page, FAO, GFAR, Reuters, Al Jazeera and in regional/national newspapers. Videos on the scenarios processes had 1025 views.
Change	Outcome story to overall theme outcome	New institutional arrangements resulting from scenario champions' work	CCAFS has been included as part of the ECOWAS task force, thus internalizing CCAFS in the ECOWAS decision making process. In Central America the 'the strengthening of the relations of the Executive Secretary of CCAD with other public and private entities in the region' was highlighted by CCAD.

**Table 2.**

Type	Indicator
Process	(i) increasing demand for scenarios process (regions, globally), (ii) Increasing use of scenarios outputs or methodology in CCAFS regions
Process	Increase engagement in forward planning for climate change adaptation and mitigation
Process	Increasing capacity for scenarios champions to generate successful policy results
Process	Increasing public interest in the CCAFS scenarios program
Impact	Proportion of CCAFS Scenarios Program budget met by partner organizations
Impact	Increasing number and diversity of partners engaged in the CCAFS Scenarios program
Impact	Increasing number of agriculture and food security policies, plans and investments that address climate change adaptation and/or mitigation

**Next steps**

By including a process of reflection in our ML&E, we discovered that explorative scenarios and normative back-casting methods require facilitation and capacity building over the longer-term<sup>11</sup>, because making these processes impactful requires more than a single intervention or workshop. Based on our positive initial results, in 2014 we started a

second phase of research for the CCAFS Scenarios program. Based on the new question, "Can the CCAFS socio-economic scenarios be used by partners to improve decision-making for better food security, livelihoods and environments in the CCAFS regions?," we have designed a two-year research program of bounded, partner-led policy case studies in five regions, using pre-defined policy objectives and consensus indicators.

In addition to the indicators we are

using for the case studies – policies under revision, improved capacity to plan from a systems perspective, credible planning, integrated perspectives and collaborative action, partner constellations, and changes in decision-making – we will monitor the indicators outlined in Table 2 along the impact pathway.

Our theory of change for this research assumes that policy and institutional change occur because of the availability of objective, science-



based evidence and the ability of key stakeholders to understand and use that evidence, but more importantly because these stakeholders are capable of advocacy from the top down and bottom up. The Coordinating Unit and Themes of CCAFS have a strong focus on policy change at the top. Therefore, a gap exists in identifying and supporting ways to influence strategies, planning and process from the bottom.

We need to support the capacity of stakeholders in the CCAFS regions to use the CCAFS socio-economic scenarios, combined with back-casting planning approaches as tools for guiding decision-making. In addition to monitoring indicators of progress and behavioral change, we also need to review our theory of change and impact pathway annually by asking ourselves, "Given the experience of the past year, do these assumptions continue to hold true?" and "Is our strategy to support policy processes from the bottom-up enabling progress along our impact pathway?"

### Lessons learnt

Achieving sustainable food security in a world of growing populations, changing diets and climate change requires rapid shifts in food systems at a global scale involving billions of poor and vulnerable people. Changes at this scale require new and innovative approaches to climate change and agriculture research, information dissemination, networking and behavior change. Changes in next-user knowledge, attitudes, skills and practices will have to happen to enable smallholder farmers to adopt new climate-resilient agricultural practices, which mandates timely, high impact research with stakeholders. This is the overall Knowledge to Action theory of change.

We have learned through the process of developing a way to monitor our impact pathways that annual reflection on the TOC is just as important as measuring indicators of progress and change. On the outcome story we wanted to tell challenged us to

review the evidence being generated by our projects, and to redesign our portfolio by revising our research questions. Outcome indicators that measure changes in next-user behavior provide much clearer evidence of progress towards impact than do output indicators. Thinking about the potential contribution of a collaborative research program's (CRP) current work and future impact pathways to the CGIAR IDOs provides realistic information about what kinds of evidence individual projects can provide, compared to more aggregate approaches to indicators and evidence.

A glossary of terms used in this learning note can be found in CCAFS Theory of Change facilitation guide as well as a set of questions that a CRP can use to develop its own impact pathway based ML&E system.<sup>12</sup>



Notes

1. See presentation Tackling Innovation in Climate Change Research for more information: <http://ow.ly/B4YID>
2. The CCAFS Scenarios Program focuses on the use of combined climate/socio-economic scenarios to guide policies and investments at regional and national levels in the CCAFS regions. The CCAFS regional scenarios are developed from diverse stakeholder knowledge and quantified through agricultural economic and land-use models.
3. The large groups of outputs, products and deliverables (e.g. new knowledge from research together with new capacity in a specific group of stakeholders to use that knowledge and enact CSA policy) that are necessary for achieving an outcome.
4. The large groups of activities that are necessary to create a major output group.
5. A quantitative or qualitative variable that represents an approximation of the characteristics, phenomenon or change of interest (e.g. efficiency, quality or outcome). Indicators can be used to monitor research or to help assess for instance organizational or research performance.
6. A metric that provides evidence that the different components of the impact pathway are being **implemented**, leading to production of **MOGs** critical to achievement of the planned outcome.
7. A metric that provides evidence that **sustainable change** in next-user **behavior** has occurred that is consistent with the planned **outcome**.
8. A metric that provides evidence that a sustainable development impact has occurred that is consistent with the planned **IDO**.
9. Increased and stable access to food commodities by rural and urban poor ("**Food security**"); Increased control by women and other marginalized groups of assets, inputs, decision-making and benefits ("**Gender and social differentiation**"); Increased capacity in low-income communities to adapt to climate variability, shocks and longer term changes ("**Adaptive capacity**"); Additional policies and institutions supporting sustainable, resilient and equitable agricultural and natural resources management developed and adopted by agricultural, conservation and development organizations, national governments and international bodies ("**Policies and institutions**").
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11. Joost M. Vervoort, Philip K. Thornton, Patti Kristjanson, Wiebke Förch, Polly J. Ericksen, Kasper Kok, John S.I. Ingram, Mario Herrero, Amanda Palazzo, Ariella E.S. Helfgott, Angela Wilkinsong, Petr Havlik, Daniel Mason-D'Croz, Christine Jost. 2014. Challenges to scenario-guided adaptive action on food security under climate change. Global Environmental Change. DOI: 10.1016/j.gloenvcha.2014.03.001
12. Access the Theory of Change facilitation guide here: <https://cgspace.cgiar.org/handle/10568/41674>



Acknowledgements

We aim to practice what we preach. This briefing series is the product of an on-going social learning process — the Climate Change and Social Learning initiative (CCSL) — between the CCAFS team and its partners, in which knowledge has been co-constructed through many different channels, including workshops, the CCSL 'Sandbox', and social media. Many thanks to everyone who has participated in this process so far and to those who continue to do so.

CCSL Partners:

