



RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security



# CCAFS Theory Of Change Facilitation Guide



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# CCAFS Theory Of Change Facilitation Guide

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CGIAR Research Program on Climate Change,  
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Titles in this series aim to disseminate interim climate change, agriculture and food security research and practices and stimulate feedback from the scientific community.

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## INTRODUCTION

This facilitation guide was developed to support the training of scientists who are members of the CCAFS Working Group on impact pathways and M&E for results-based management. The group attended a highly participatory introductory training from 1-5<sup>th</sup> April 2014 in Segovia, Spain. The objectives of the workshop were:

1. To introduce working group members to outcome thinking;
2. To present elements of the CCAFS theory of change (TOC), impact pathway (IP) and monitoring and evaluation (M&E) framework;
3. To provide working group members with tools that will allow them to guide their units in completing their TOC/IP/M&E plan in a way that will allow for a consistent, harmonized product for all of CCAFS; and
4. To establish a CCAFS working group on TOC/IP/M&E.

Because of their training, participants in the workshop are now able to:

1. Work with members of their respective units (flagships and regions) to document their TOC, write their IP in detail and draft their M&E plan;
2. Design and facilitate consistent TOC/IP reflection and revision for their unit;
3. Be an active member of a CCAFS practice and discussion group on TOC/IP/M&E; and
4. Explain and promote the CCAFS TOC/IP/M&E plan to others.

The training was conceptualized to accommodate three different groups of participants: CCAFS flagship representatives, CCAFS regional representatives and representatives from CGIAR centers who will or want to work on or lead projects under the CCAFS program. Therefore, we developed three tailored sets of facilitation notes for each group.

The training itself was experiential and hands on, during which participants honed their skills by developing first drafts of their unit's TOC and IP. Those first drafts are now available to each unit for consideration and revision.

CCAFS anticipates completion of its TOC/IP/M&E development process by the end of 2014, through a series of impact pathway project mapping meetings to be held in each region between September and November. The Working Group will attend a second training near the end of the 2014 with the purpose of reviewing M&E and ensuring group members can spearhead implementation of their unit's M&E plan.

Following the April training, these facilitation notes were substantially revised based on feedback from training participants and the experience of the training facilitators. Yet they remain a work in progress. We believe this guide can be valuable input for users outside of the CCAFS program who face similar challenges of mapping, with the participation of key stakeholders, the pathways to development impact of research projects. Even more so if many different pathways must "nest" to aggregate at a programmatic level. We encourage our partners and stakeholders from CGIAR centres, CRPs, NGOs, NARs and others to adapt these notes to their own needs, and let us know how you do!



As you use this guide, please send us feedback on what is working for you and what isn't, with suggestions for revisions: [c.jost@cgiar.org](mailto:c.jost@cgiar.org).

You can follow the progress of the CCAFS Working Group on impact pathways and M&E for results-based management on our Wikispace. For permission, please contact Cecilia Schubert at [c.schubert@cgiar.org](mailto:c.schubert@cgiar.org).

## FACILITATION GUIDELINES FOR FLAGSHIPS

CCAFS has four flagships of research:

- Climate smart agricultural practices
- Climate information services and climate-informed safety nets
- Low-emissions agricultural development
- Policies and institutions for climate-resilient food systems

Social differentiation and catalyzing action from research-generated knowledge is mainstreamed into all of our research.

Below is a series of questions that will help you work through developing a Theory of Change (TOC), impact pathway and monitoring and evaluation (M+E) plan for your **flagship**. These notes are designed to facilitate the development of an impact pathway. You can use them for your own work, or you can use them to facilitate others in the impact pathway design process.

### TIPS

- Work through the questions in order.
- We recommend breaking your meetings up into short sessions of 1-3 hours so that people stay fresh and have time for reflection. The questions below are divided into suggested sessions.
- The flagships have many partners, so you may want to do this work with them in a workshop setting.

These sessions are designed with the assumption that you are starting from the beginning. But some of the CCAFS flagships have already made significant progress towards designing their impact pathway. If this is the case for you, then you will find that going through the sessions will help you review and revise your work, while some sessions will allow you to take a step forward.

### TIPS

- Work through a question to the end, and don't let uncertainty "bog you down". Where there is confusion or disagreement, note down the ideas that come up, and then return to that question later.
- Remind your colleagues that:
  - Developing a TOC and impact pathway is an iterative process that will lead to improvements in the product **over time**,
  - Your impact pathway is a piece nested in a wider CCAFS impact pathway, and
  - Your impact pathway brings together all of the regions in your flagship through your 2025 outcome to contribute to the CGIAR intermediate development outcomes (IDOs).
- Review, discussion and negotiation will be necessary to ensure the nesting occurs and all the impact pathways are harmonized in their contribution to the IDOs.

These facilitation notes provide you with examples. *All examples are in italics.* Tables are provided in each session to compile your notes and results. Please add more rows to capture all of the information you are developing.

You can also create a graphic impact pathway that captures the most important elements. This allows you to see linkages more readily. DoView (<http://www.doview.com/>) is an easy to use graphic software for impact pathways. Power Point or any other flowchart design program also works.

There are some terms used in these notes that may be new to some users. Please see the **glossary** annexed at the end of the document.

### TIPS

You will find tips boxes throughout these facilitation notes. They remind you of key points, and provide you with facilitation recommendations. The methods you choose to facilitate different steps in a session will depend on what you're comfortable with, and social-cultural norms. But always encourage everyone to speak up, and always try to use active exercises. Be creative!

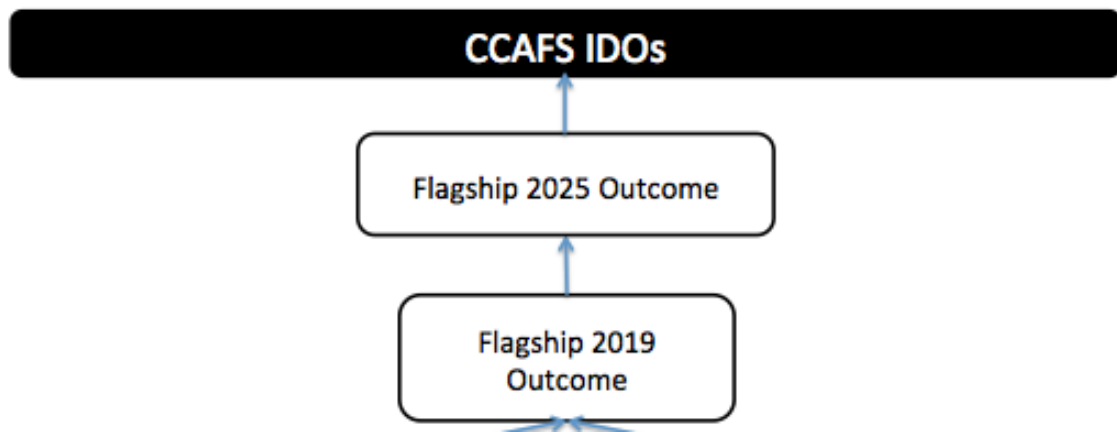
- You can use several methods to facilitate a session:
  - **Large group:** Sometimes it helps to have everyone in the session working all together. This works well if you have up to 10 people. It can cut down on time because you don't need to harmonize small group work during the session. But if the group is too large it will increase time because you need to capture everyone's ideas one-by-one.
  - **Small group:** If you have more than 10 people, consider breaking them into groups. The different groups can address the same task and you can harmonize the work in plenary afterwards. Or if there are multiple tasks, each group can do a separate piece of the work. For example, developing the impact pathways for different 2019 outcomes in the flagship.
  - **Note cards:** Each participant can write their idea on a note card. Then each person can present the idea. This is a helpful technique when there is a divisive issue under discussion, because everyone listens to the presenter without criticizing. You can also collect the cards and present them yourself. This makes the ideas anonymous, which can also be helpful when there are competing ideas in your session.
- This guide has lots of tables to complete. Focusing only on tables in a computer can be exhausting. Consider creative ways to engage the discussion and develop the information, and then capture it in the tables afterwards:
  - **Drawing:** Small groups can draw a map or a picture, for instance of the outcome they would like to see.
  - **Reporter:** You can have a small group elect a 'reporter' that interviews the other group members to draw out the ideas and then present them to the larger group.
  - **Note cards and sticky notes:** When dealing with complex topics, like many different projects leading to different major research actions, people can write the different components of the impact pathway on note cards, sticky notes, etc. and move them around on a board to see different relationships.
  - **Symbols:** To capture nuanced information, symbols like colors, shapes, the thickness of lines, etc. can be used to capture them.

## Building the Upper Levels of your Impact Pathway

### Summary

The first 3 sessions will help you build the upper (aggregate) level of your flagship impact pathway (Figure 1). You will produce a visual looking something like Figure 1 below, but keep track of all of your notes as background to the diagram of your impact pathway! Much of this background information will form your theory of change (TOC). The first 3 sessions lead into each other and involve the same participants. Therefore, consider conducting these 3 sessions as a short workshop of 2-3 days, depending on the level of experience your participants have with outcomes thinking.

Figure 1. Schematic representation of the upper levels of a CCAFS flagship impact pathway. Each flagship will have between 1 and 3 2019 outcomes.



## Session 1: 2025 and 2019 outcomes

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards and sticky notes (optional)
- Computer with graphic software and these facilitation notes

**Background Documents:**

- CCAFS Phase 2 draft proposal
- Impact Pathway for East Africa
- Impact Pathway for South East Asia
- Impact Pathway for West Africa
- Impact Pathway for Latin America
- Impact Pathway for South Asia

**Participants:** At a minimum CCAFS staff in your flagship and key advisors (from CGIAR centres and countries). Try to also include the RPLs and other stakeholders from the regions where you are working.

**Objective:** To develop outcomes for you flagship targeting the years 2019 and 2025, linked to the regional 2019 outcomes for your flagship in the regions where you are working.

**Output:** The outcomes for the flagship impact pathway.

**Steps:**

1. Ask the participants to consult the CCAFS Phase 2 draft proposal and identify your flagship's 2025 target.
2. Who are the next-users relevant to your flagship that must take decisions that will lead to achievement of the 2025 target? Be as detailed as possible, making a long list of specific people and organizations. Make sure you are identifying next-users, not end-users:

**Next-users:** actors such as national research institutions, extension organizations, governments, NGOs and others, which access CG products directly. Next users can create an environment that enables the target impact for end-users; also decision makers that we want to influence to achieve outcomes.

- **End-users:** The beneficiary population; usually quite massive, making it unfeasible for a project or program to work with them directly.
3. Group your next-users. Group them by how they will use CCAFS products/ outputs to generate outcomes, and try to achieve a short list of no more than 5-6 groups. Now think: how do you expect each next- user group to use CCAFS products to change their practices in order to contribute to achieving the vision for the region?

4. Now return to your 2025 target. You need to rephrase it as an outcome statement that specifically incorporates these next-user groups. Use active terms, like – are using, are implementing, are accessing, are writing... An outcome is written as:

Exactly **who** is doing **what...differently**?

Outcomes are changes in **next-user** knowledge, attitudes, skills and practices.

- **Do not!** Write an impact statement: *6 million climate resilient smallholder farmers in Kenya* (this is an impact, and it deals with **End-users**)

**Example outcome statement:**

*International organizations like IFAD, WB, FAO, UNFCCC, etc. are engaging member countries to learn what their climate smart food system priorities are, and appropriately direct their investments.*

2025 Outcome statement:

5. Ask the participants to consult the CCAFS Phase 2 draft proposal and identify your flagship’s 2019 target. Now to return to the list of next-users. Why aren’t those next-users already making decisions leading to the 2019 target? What barriers do they face in terms of incentives, agency, norms and external factors?

- **Incentives** – relates to more ‘rational choice’ concepts of behaviour analysis that state that decisions to adopt specific behaviours are based on perceived costs and benefits. This applies to both individuals and institutions, and is related to the development of attitudes and values regarding the importance of, or potential returns from a particular action.
- **Capacities and competencies** (real or perceived) of an individual or an institution to achieve an outcome by the adoption of certain behaviours, access to information, knowledge, skills and other financial and infrastructural resources.
- **Norms** – relates to social norms, traditions and habits that shape the actions of individuals and institutions. Many individuals and institutions experience a certain amount of inertia, or mimicking that can shape actions even in the presence of other influencing factors.
- **External factors** – relates to factors outside the individual or the institution that affect behaviours. In the case of CCAFS this more frequently involves the behavioural changes in other institutions within the system that affect the behaviours of another. This would traditionally be called the enabling environment, yet in the CCAFS programme many of these systems and institutions are also stakeholders in the programme itself, and thus are less ‘external’.

Capture these barriers by completing columns 1 and 2 in the following table:

Next-user	Barriers	Practice change
-----------	----------	-----------------

group		
<i>Example: International organizations relevant to climate change, agriculture and food security: IFAD, WB, FAO, UNFCCC, WTO, WFP</i>	<ul style="list-style-type: none"> <li>- Do not know what the CC priorities of the constituent countries are because successful engagement is blocked by bureaucratic structures and culture</li> <li>- Don't direct their investments towards the true CC priorities of constituent countries</li> <li>- Constituent countries lack the capacity to understand their own CC priorities, and to convey their priorities to funding organizations</li> </ul>	<ul style="list-style-type: none"> <li>- International organizations working in SEA need to seek to overcome negative bureaucratic structure and work with member countries.</li> <li>- These organizations invest in member country CC priorities.</li> </ul>

6. Ask the participants to discuss how each group needs to change its behavior and practices in order to create an environment where it can contribute what is necessary for achieving the 2019 target. These we will call “practice changes”. Capture them in the third column of the above table.
  
7. Now review the list of practice changes for overlap and synergies. Combine these into the 2-3 main practice changes that address the most important or even all of your flagship’s next-users and allow these next-users to make decisions and take actions leading to the 2025 outcome. Capture these practice changes in the first column of the table below:

Practice changes	2019 Outcomes

8. Now rephrase the practice changes so that they are **outcome statements**. Use active terms, like – are using, are implementing, are accessing, are writing... An outcome is written as: Exactly **who** is doing **what...differently**? Capture these 2019 outcomes in the second column of the table above.

**TIPS**

- Keep the number of 2019 outcomes small. You will be required to develop a flagship program with all the work necessary to meet these outcomes. By keeping the number of 2019 outcomes small you are challenging yourself to capture the vital **essence** of your flagship and the **most important** work for achieving impact in a timely fashion and at a massive scale.
- You have just created 2 levels of outcomes, a small set of 2019 outcomes leading to a major 2025 outcome. The projected timeframe on achieving these outcomes are:
  - 2025: 10 years
  - 2019: 5 years

**TIPS**

- The following steps (8-10) are designed for when you need to harmonize flagship outcomes with regional ones. Keep in mind that harmonizing the regional outcomes with your flagship may be something done outside of this session if the necessary RPL(s) and regional stakeholders are not participating in the session.
- Using ICT may be a good way to tackle these steps. At a minimum, in addition to you the RPLs and the flagship leader should be ‘virtually’ present. Consider using Skype and/or Google Docs so that everyone can participate in a real-time discussion that doesn’t require extensive back and forth (for instance via email), every participant can see the outcomes that are being considered, and everyone can see the changes as they are being made.

9. Now ask the participants to review the impact pathways from the regions where your flagship is working. Identify the regional 2019 outcomes relevant to your flagship, and capture them into the first two columns table below:

Region	Regional 2019 Outcome	Flagship 2019 outcome(s) relevant to the regional 2019 outcome
<i>Example: SA</i>	<i>National and sub-national governments develop CSA policies and programs and strengthen related institutions based on evidence from case studies, data, tools, and models.</i>	

10. Consider the first regional 2019 outcome and your flagship’s 2019 outcomes. Which of the flagship outcome(s) does this regional outcome contribute to? Capture the relevant outcome(s) in column 3 of the table above. Continue through the table and complete all the regions.

11. Now take a step back and consider the regional 2019 outcomes for your flagship and your 2019 outcomes. The regional outcomes are essential for making progress towards your 2019 outcomes. **The regional outcomes are the most important element in achieving your goals for your flagship.** Work with the RPLs to ensure that the regional outcomes for your flagship are captured in your flagship 2019 outcomes. If all of the regional outcomes for your flagship are achieved, will your 2019 outcomes also be achieved? Collaboratively revise the regional outcomes for your flagship and your 2019 outcomes until they are well harmonized.

**TIPS**

- You will have seen that developing you outcomes required close collaboration with the regions to harmonize outcomes. This will true throughout the process. Likewise, close collaboration with regions is critical when developing your impact



pathway indicators. This is because the regional impact pathway will be providing the most important evidence in terms of your flagship outcomes and eventually the impact. Therefore, the data from the different regional impact pathways must:

- Harmonize across the regions to provide convincing evidence of progress towards the flagship outcomes, and
- Harmonize across the flagships to provide convincing evidence of progress towards the CCAFS IDOs (or programmatic impact).
- This level of harmonization requires good coordination, negotiation and compromise from all flagships and regions to create a system that provides CCAFS with the best possible evidence regarding progress towards impact.
- The process is iterative. You will find that as the coordination occurs changes will be necessary. The same is true for the regions.
- Completing the CCAFS regional and flagship impact pathways will involve the art of compromise.
- The end result will be a nested system of impact pathways that represents the complexity of the CCAFS program of a science driven agenda to meet regional climate change, agriculture and food security priorities!

## Session 2: Review and harmonization

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards and sticky notes (optional)
- Computer with graphic software and these facilitation notes

**Participants:** At a minimum CCAFS staff in your flagship and key advisors (from CGIAR centres and countries). Try to also include the RPLs and other key stakeholders from the regions where you are working.

**Objective:** To ensure that the upper levels of the flagship impact pathway are harmonized.

**Output:** A complete upper-level impact pathway for the flagship.

**Steps:**

1. Ask the participants to review the flagship's 2019 and 2025 outcomes. Make sure that the lower levels truly contribute to the upper levels. Consider how you will measure each outcome by asking yourselves: How will we be able to know that this outcome has been achieved? Or: What are some indicators of achieving this outcome? Consider the 2019 outcome indicators you have brainstormed. Will they also contribute, in some part, to the 2025 outcome indicators? If not, your outcomes are not logical steps from one to another, and need to be better harmonized thought out. Capture your indicator ideas in the table below. You can use them in later sessions.

Flagship 2019 Outcomes	Potential indicators for 2019 outcome	Flagship 2025 outcome	Potential 2025 outcome indicators

2. Now review the individual outcome statements. Make sure they are truly outcomes (not impacts or outputs): Exactly **who** is doing (action terms) **what...differently**?
3. Now break down each outcome statement into its individual components, asking yourself for each component: Is this really what we want; can we measure it; how?

**Example:**

*National/sub-national governments, in collaboration with the private sector and civil society,*

- These are the specific next-users (public, private and civil society) that must come together. If one next-user is missing, the behavior change won't happen. In each CCAFS country we can survey ministries involved in CSA policy, and agribusinesses and civil society groups (e.g. national

farmer associations), best placed to provide CSA information, technologies and support.

*enact*

- We want to measure evidence of actual policies, either revised or new, and their implementation.

*equitable food system policies that take into consideration climate smart practices and strategies*

- The issue of equity must be front and centre in any policy, so as to guide implementation towards poor and vulnerable members of society, particularly women. The policies we consider must be broad enough to reflect that it is the interactions of policies in the food system (agriculture, food security, infrastructure, trade, etc.) that must work together to support the adoption of CSA. The basic issue is CSA.

4. Review your 2019 and 2025 outcomes again, making sure, one more time, that they are harmonized and reflect the essence of your flagship.
5. What are your strategies? *How will your flagship contribute* to making these changes happen? What are your ideas on how to help people change? What will your flagship do that is different? Better? *Strategies* can be the way (e.g., co-develop instead of impose) you do things. Strategies are also the timing, methods, partnerships, 'language', etc. you choose to use to make sure any negative assumptions are managed and each is achieved.

Strategies:

6. How will you monitor to ensure those strategies are fruitful?

Monitoring:

7. These strategies and monitoring plan are part of your TOC! Review them to make sure they are correct and will create an enabling environment for achieving your flagship outcomes.

### Session 3: Linking to the Intermediate Development Outcomes (IDOs)

**Time:** 1 hour

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards and sticky notes (optional)
- Computer with graphic software and these facilitation notes

**Participants:** At a minimum CCAFS staff in your flagship and key advisors (from CGIAR centres and countries). Try to also include the RPLs and other key stakeholders from the regions where you are working.

**Objective:** To identify the IDOs that the flagship will contribute to.

**Output:** IDOs linked to the flagship.

**Steps:**

1. Ask the participants to consider your flagship’s 2025 outcome, possible ways to measure achievement of that outcome, and the 5 CCAFS IDOs.

CCAFS IDOs:

- 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**”).
- Increased carbon sequestration and reduction of greenhouse gases through improved agriculture and natural resources management (“**Mitigation**”).

2. To which IDOs does your 2025 outcome contribute?

**TIP**

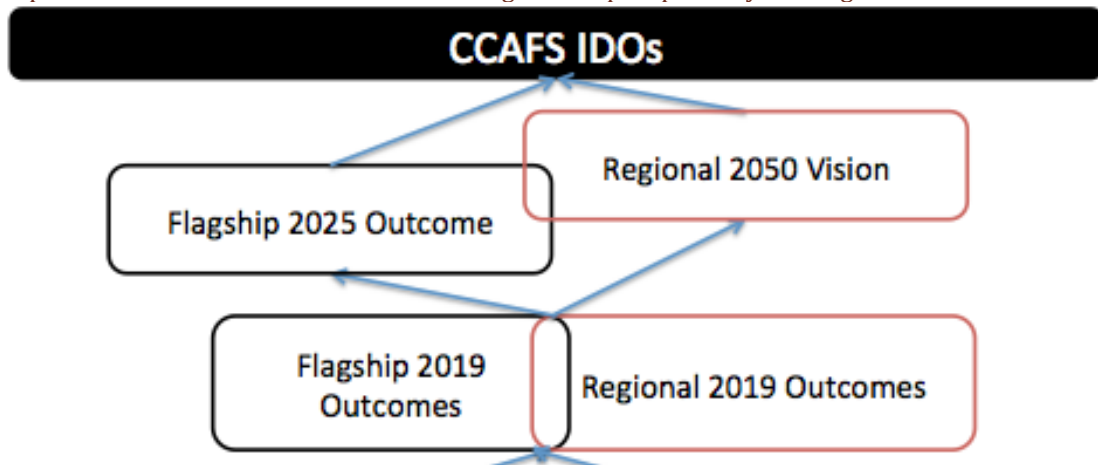
Remember, don’t do this as a theoretical exercise about your flagship! Find the IDOs that you can contribute to based on your 2025 outcome and its supporting evidence (potential indicators you can measure). No single flagship will contribute to all the IDOs. Usually a flagship will contribute to 2-3 IDOs. The more IDOs you claim to support, the more evidence your team will have to collect, analyze and report!

3. Review your upper level impact pathway one more time to make sure it flows, is harmonized, and it is meaningfully contributing to the CCAFS IDOs.

## Conclusion

Congratulations, you have now completed the upper level of your flagship impact pathway! In doing this work you will have noted how important it is to harmonize the flagship impact pathway with the pathways of the regions where you are working. The upper levels of your flagship impact pathway, when harmonized with the pathways of the regions where you work, will link directly with the regions at the 2019 outcome level, while the flagship 2025 outcome will be a step in the progress to the regional vision statements (figure 2).

Figure 2. Schematic representation of the upper levels of a harmonized CCAFS impact pathway. Each flagship will harmonize with between 4 and 5 regional impact pathways through the 2019 outcomes.



This close harmonization will continue into the lower levels of the impact pathway.

Ideally, the CCAFS flagship and regional impact pathways would not have been developed separately. Instead the different flagship and regional teams would have come together from the very beginning to co-create their impact pathways. But CCAFS has been at the forefront of innovative programming in the design of its second phase, and elements such as the Phase II proposal and components of some regional and flagship pathways were already in place before we formally began working on an overall impact pathway that embraces all of our themes and regions.

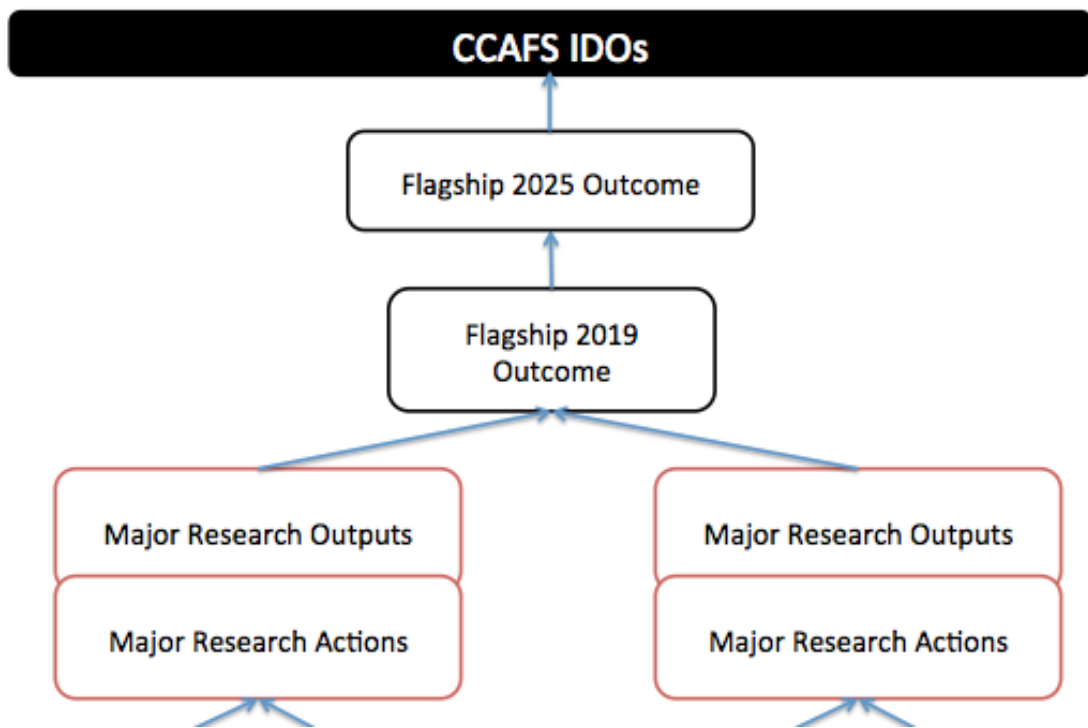
The process that we are using allows us to draw upon and include this previous work while completing an overall pathway towards impact for CCAFS that is fully owned by all team members and stakeholders. When possible join together with the regional teams when you are doing this work so as to co-design these elements, and you will find that the process is easier and more creative because all priorities are explicit and managed at the same time by all parties.

## Making sure you have the Right Partners and Strategies

### Summary

The next session will help you identify the research outputs and actions you need to successfully achieve the goal of your flagship: meaningful contribution to the CCAFS IDOs through research in your thematic area that addresses the priorities of the CCAFS regions. In this session you will add major research outputs (MOGs) and major research actions (MRAs) to your impact pathway (figure 3).

Figure 3. Schematic representation including the middle levels of a CCAFS flagship impact pathway. Each flagship (black) 2019 outcome will be supported by a small set (1-3) of major research outputs (MOGs) and major research actions (MRAs) that will occur mostly in the regions (red).



Keep track of all of your notes, as most will be incorporated into your TOC.

#### TIP

If you are working on the upper parts of your impact pathway in a workshop setting, you should consider combining this session with the previous 3 in a single workshop.

## Session 4: Major Output Groups (MOGs) and Major Research Actions (MRAs)

**Time:** 2-3 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Computer with graphic software and these facilitation notes

**Background Documents:**

- Impact Pathway for East Africa
- Impact Pathway for South East Asia
- Impact Pathway for West Africa
- Impact Pathway for Latin America
- Impact Pathway for South Asia

**Participants:** At a minimum CCAFS staff in your flagship and key advisors (from CGIAR centres and countries). Try to also include the RPLs key actors from the regions where you are working. For this session it can be very helpful to have a larger group of stakeholders (research, government, private sector, farmer representatives, etc.) present.

**Objective:** To identify the major output groups (MOGs) and major research actions (MRAs) that are necessary for achieving the flagship 2019 outcomes, and harmonize them with the impact pathways of the regions where the flagship is working.

**Output:** Flagship MOGs and MRAs either in the regional components of the flagship’s impact pathway or in a global component.

**Steps:**

1. Ask the participants to review the flagship’s 2019 outcomes. What major 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*) does your flagship need to produce to achieve this outcome? These are your major research outputs/products/deliverables. We will call them MOGs for short. Capture them in the first 2 columns of the table below.

**Example:** *Decision support systems developed, evaluated and usefulness demonstrated, introduced to decision-makers and being used by them to create national strategies and policies in support of CSA.*

2019 outcome	Corresponding 1-3 major output groups (MOGs)	Corresponding major research actions (MRAs)
	1. 2.	1. 2.
	1. 2.	1. 2.
	1.	1.



	2.	2.
--	----	----

**TIPS**

Keep the number of MOGs per outcome as small as possible, 1-3. There is a lot of work to do with these MOGs, and the more you have the more cumbersome the impact pathway is to design and manage.

- If you have more than 2-3, identify their relationships and bring them together into a shorter list. Remember, these are **MOGs!** It will take several research projects and partners to complete any one group.
- Avoid going into details, tasks, etc. That will be done when we start looking at individual projects.
- Think big picture.

2. Now think about the major research activities necessary to create the first MOG. These we will call your MRAs. Again, try to keep the number of MRAs per MOG as small as possible. Capture them in the last column of the table above.

***Example (continuing from above):***

*(i) Develop tools and case studies to inform decision-making on prioritized investments in climate smart agricultural technologies and practices.*

*and*

*(ii) Develop recommendations for policies and institutions for scaling out the models of climate smart development (the latter arising from Flagships 1 to 3).*

*and*

*(ii) Improve engagement and communication with stakeholders, and support them in using these tools and recommendations for taking strategic decisions.*

**TIPS**

- One **MRA** per MOG is best!
- Remember the projected timeframe for achieving the outcomes in the upper level of your flagship impact pathway.
- This means you want to have completion of some MOG components in 3 years so that you can begin to measure progress towards your 2019 outcomes in a timely fashion.

3. Return to the regional impact pathways and review the MOGs and MRAs in the regions where your flagship is being implemented. Are there synergies between some or all of your MOGs and MRAs, and one or more of the regions? Discuss these synergies with the RPLs and ensure that the needs of the flagship and the region(s) are both met, revising both the flagship and regional MOGs and MRAs as necessary, based on the agreements taken in these discussions.

**TIP**

Reviewing and harmonizing the flagship and regional MOGs and MRAs should be done in collaboration with the RPLs. If a relevant RPL isn't one of your participants, you may want to contact the RPL using ICTs to complete step three. Remember to use programs like Skype and GoogleDocs that allow participants in different locations to hear, speak and see the work as it is evolving.

4. Through this process of negotiation with the regions, most of the MOGs and MRAs you identified as necessary for your flagship will be taken care of in the regional impact pathways. But you may find one or two gaps in terms of MOGs or MRAs. Note these in a separate independent pathway for your flagship using the following table:

MOG not 'covered' in the regional impact pathways	Corresponding MRA not 'covered' in the regional impact pathways

5. What are your strategies? *How will your flagship contribute* to making these MOGs possible? What are your ideas on how to enable outcomes? What will your flagship do that is different? Better? *Strategies* can be the way (e.g., co-develop instead of impose) you do things. Strategies are also the timing, methods, partnerships, 'language', etc. you choose to use to make sure any negative assumptions are managed and each is achieved.

Strategies:

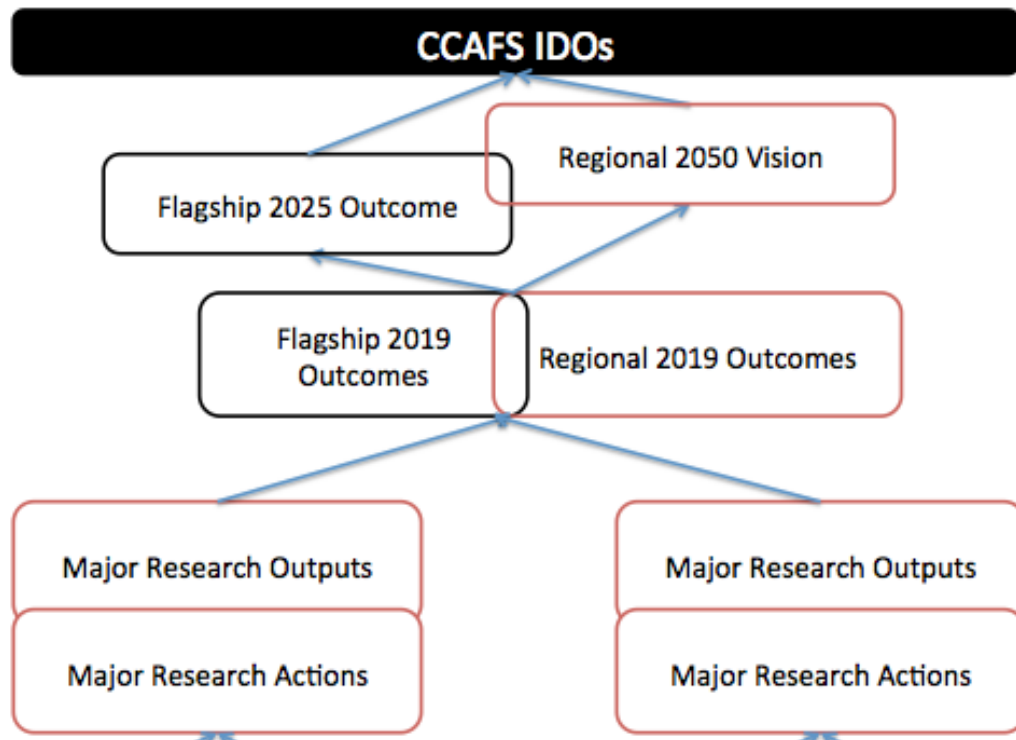
6. How will you monitor to ensure those strategies are fruitful?

Monitoring:

## Conclusion

Congratulations, you have now completed all of your flagship impact pathway except for mapping projects to the pathway! Again you will have noticed the close harmonization between your flagship impact pathway and the pathways of the regions where you are working. In this session we hope you have found that the majority of your MOGs and MRAs are actually presented in the regional components of your flagship pathway (Figure 4).

Figure 4. Schematic representation of a harmonized CCAFS impact pathway. The diagram shows how harmonization of the 2019 outcomes between flagships and regions has allowed these teams to identify common MOGs and MRAs for both the flagship and the region. Each flagship will share MOGs and MRAs with between 4 and 5 regional impact pathways.



You may find, however, that there are some MOGs and MRAs critical to your flagship that are not placed in any of the CCAFS regions. If you do, you will complete your pathway by creating a pathway component independent of the regions.

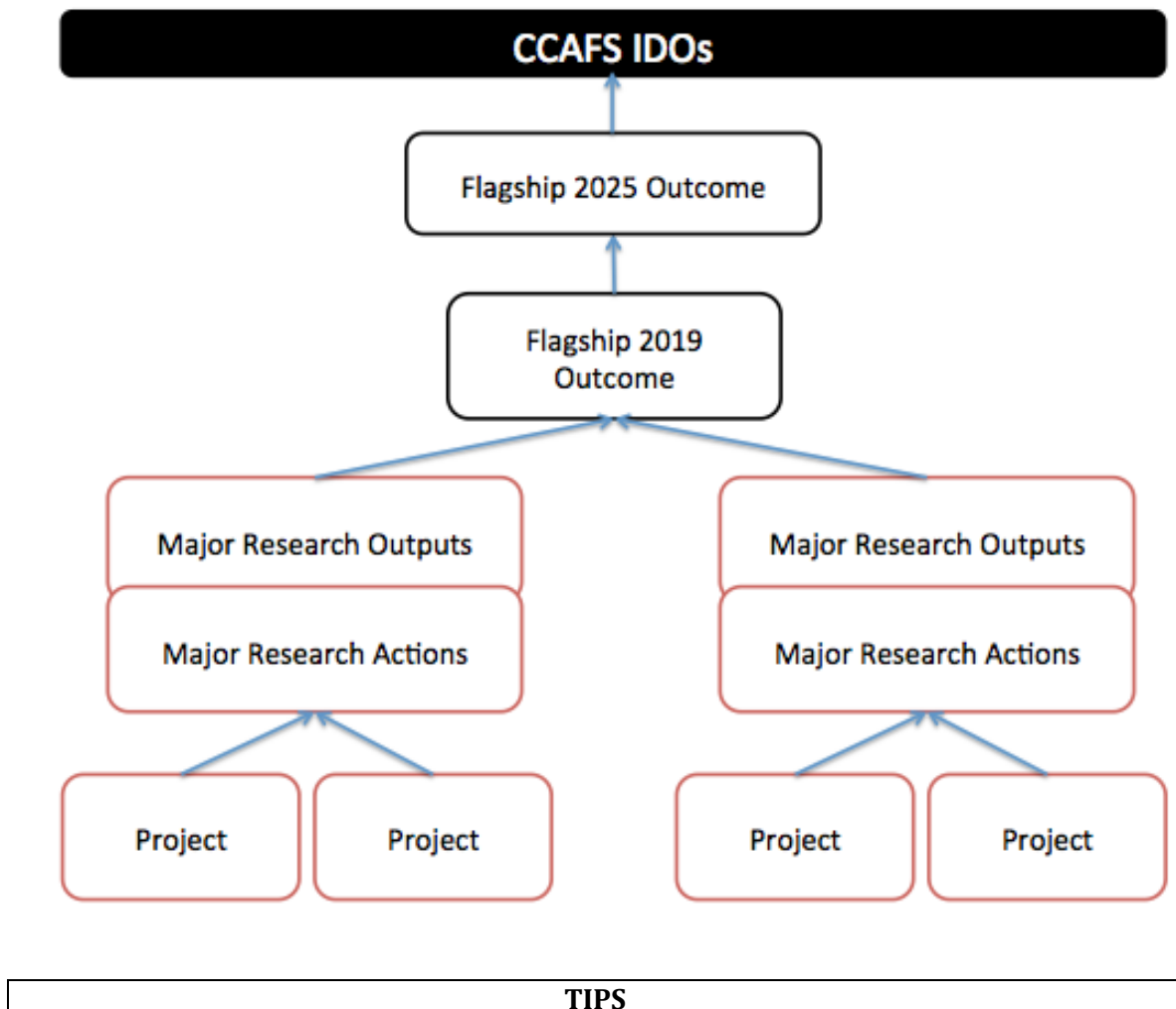
## Making Sure you have the Right Research

### Summary

In the next session you will identify the research *needed* in each CCAFS region to ensure that all of your MRAs are taking place and MOGs are being produced (Figure 5). Ideally this part of impact pathway design is done *before* any projects are agreed upon with partners, so that research design in your flagship is driven by the IDOs rather than the 'old' system of research outputs like making a working model or a new crop variety.

However, because great strides had already been made in the design of Phase II in CCAFS before we began designing our impact pathways, these facilitation notes bring together existing projects while identifying *synergies, redundancies and gaps* in the flagship portfolio.

Figure 5. Schematic representation of a complete CCAFS flagship impact pathway. Each major research action (MRA) will be supported by a set of projects that will occur mostly in the regions (red).



- This session can be done in a workshop that includes all relevant flagship and regional actors for your flagship, including leaders of pre-existing projects. Because of the detailed nature of the work in this session, it is best to hold it in a second workshop, after the upper levels of the flagship impact pathway from sessions 1-4 have been harmonized with the regions and finalized. Also consider including additional research and development stakeholders who can provide a bigger picture regarding flagship research that needs to take place in each region unencumbered by pre-existing projects and ideas. Aim for 5-10 participants per regional group.
- Alternatively, consider working with the regional CCAFS offices to organize regional workshops where all flagship actors are present to map projects to MRAs. **But be careful!** The sheer number of scientists present from pre-existing projects in a region risks biasing the mapping exercise towards pre-existing work rather than objectively reflecting on what work is needed to fulfill the regional impact pathway. If this happens, the critical steps of identifying synergies, redundancies and gaps will be lost. Aim for 5-10 participants per flagship group.
- Either way, don't skip on the time necessary for the workshop. Plan on 3 days. Spend the entire first day helping new stakeholders become familiar with CCAFS and reviewing the upper parts of the impact pathway. The second day should be spent identifying existing research projects. When you do this, include all the research related to the flagship(s) that participants can identify, including that being done by national agricultural research services, international organizations, universities, CGIAR and other research organizations and development organizations. Spend the third day identifying synergies, redundancies and gaps in the portfolio.

## Session 5: Mapping research projects

**Time:** 4-5 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Computer with graphic software and these facilitation notes

**Background Documents:**

- Impact Pathway for East Africa
- Impact Pathway for South East Asia
- Impact Pathway for West Africa
- Impact Pathway for Latin America
- Impact Pathway for South Asia

**Participants:** This session must be done with actors from the flagship as well as the regions where the flagship works. Include leaders of projects that have already been funded by CCAFS, as well as development and research actors that can provide a *holistic perspective* on all the work that needs to be done to complete the flagship impact pathway.

**Objective:** To identify all of the relevant current research and map it to the flagship impact pathway, and identify gaps and synergies.

**Output:** A complete flagship impact pathway.

**TIPS**

- These notes are written from the standpoint of a *flagship workshop* in which all regional projects are mapped to the flagship. If you are running a regional workshop in which all flagship projects are mapped to the regional impact pathway you'll want to adjust your facilitation notes accordingly. See regional session 6 for help with this.
- This session involves a lot of ideas and relationships. It is difficult to capture all of this information using a linear table. We suggest provide the participants with different color note cards and sticky notes to write on and move around, representing MOGs, MRAs and different projects.

**Steps:**

1. Compile a list of all of the research projects that currently fall under you flagship in the different regions. Include projects funded by CCAFS, but make the list wider to include research being done by CGIAR centres, NARS, NGOs, universities, etc. that helps to meet the MRAs. Note, each MRA is a large target. No individual research project will be able to fully create it. Each MRA will need several projects.

**TIPS**

- If a detailed regional impact pathway has already been completed, the listing of

projects will have already been done for you by the region (existing projects and gaps). But the participants should review the regional impact pathway to make sure nothing has been missed.

- If you are working with a small group that can't compile a list of projects, you can produce the list before getting the group together. For example, you can email and call key stakeholders (flagship leaders, RPLs, NARS leaders, etc.) to compile the list. Review the list with the participants before starting to map.

2. Do the same for flagship projects that *aren't* region specific, but contribute to the MRAs in the independent ("global") portion of your impact pathway.
3. Starting with one region, identify exactly what components of each MRA and corresponding MOG each project is contributing to. For example, the name of the project can be written on a note card with a red marker. Red arrows can be drawn from the note card to the MRA(s) it contributes to. The exact component(s) of the MRA that the project contributes to can be underlined in red, as can be the exact component(s) of the corresponding MOG. Then go on to the next project and use a blue marker. Remember, each MRA is a large target, and no individual research project will be able to fully create it. Each will need several smaller pieces of research.

**TIP**

If representatives from all the regions are participating in the session, you can break the participants up into regional groups, and each group can do the work for its region. You can also have a group that works on the independent portion of the impact pathway.

4. Identify those MRAs and MOGs in the region that aren't addressed by any project, or aren't fully met by the projects that contribute to them. These are critical gaps! You can write new projects to fill the gaps on note cards with black marker. Black arrows can be drawn from each gap note card to the MRA(s) it contributes to. The exact component(s) of the MRA that are current missing (are a gap) can be underlined in black, as can the exact component(s) of the corresponding MOG. What are your suggestions to fill these gaps? Note them in the box below:

Suggestions for filling gaps in MRAs and MOGs:

5. You should also identify repetition and synergies. What projects are together contributing to certain MRAs? Where is this creating too much repetition that needs to be eliminated so that resources are efficiently used? Where is this creating synergistic opportunities for co-development of knowledge, joining resources, etc.? What are your suggestions for minimizing the repetition and maximize the synergies? Note them in the box below:

Suggestions for minimizing the repetition and maximize the synergies:

6. Complete steps 2-5 for each region and the independent portion of your flagship impact pathway.
7. If this session was done without a full complement of research and development stakeholders from each region, you now need to take your impact pathway to those regions and harmonize the project mapping with the regions.

**TIP**

In the design of your Impact Pathway, i.e, the pathway that connects what you do (research actions) to impact (or IDOs), you have made several assumptions of how things will work, and the effects your work will have. It is important to make the main of these assumptions explicit, discuss with stakeholders the factors that influence how changes happen on the ground, and what can be done to both overcome obstacles and use leverage points. We regularly make many assumptions around how things like “reach”, “use”, “contribute” happen!

8. Look at your MOGs, MRAs, Strategies and Partnerships: what assumptions have you made regarding these MOGs and MRAs, especially in how they will contribute to the flagship 2019 outcomes? What needs to happen in terms of activities to produce these MOGs? Discuss how you expect these MOGs to reach next-users, and contextual factors that influence the process. What are you assuming about how the partners will help your outputs reach and influence next-users’ practices? Document these assumptions in the following box:

MOGs, MRAs, Strategies and Partnerships Assumptions:

9. Look at your outcome statements for 2019 and 2025: what assumptions have you made regarding these outcomes, especially in how they will contribute to CCAFS IDOs? What has to happen for these effects to happen? What factors influence these practice change processes? When you look at the total picture, do you believe that the theory makes sense? Is this theory of change FEASIBLE? Do we have the capacities and resources to implement the strategies that would be required to produce the outcomes in the pathway of change? Document these assumptions in the following box:



Outcomes assumptions:

## Conclusion

Congratulations, you have completed your impact pathway (Figure 6). Your pathway may also include an independent component of research that is not regionally based (Figure 7).

Figure 6. Schematic representation of a harmonized CCAFS impact pathway, including projects. The diagram shows individual projects taking place in the different CCAFS regions contribute to a CCAFS flagship and support CCAFS in meeting its IDO targets.

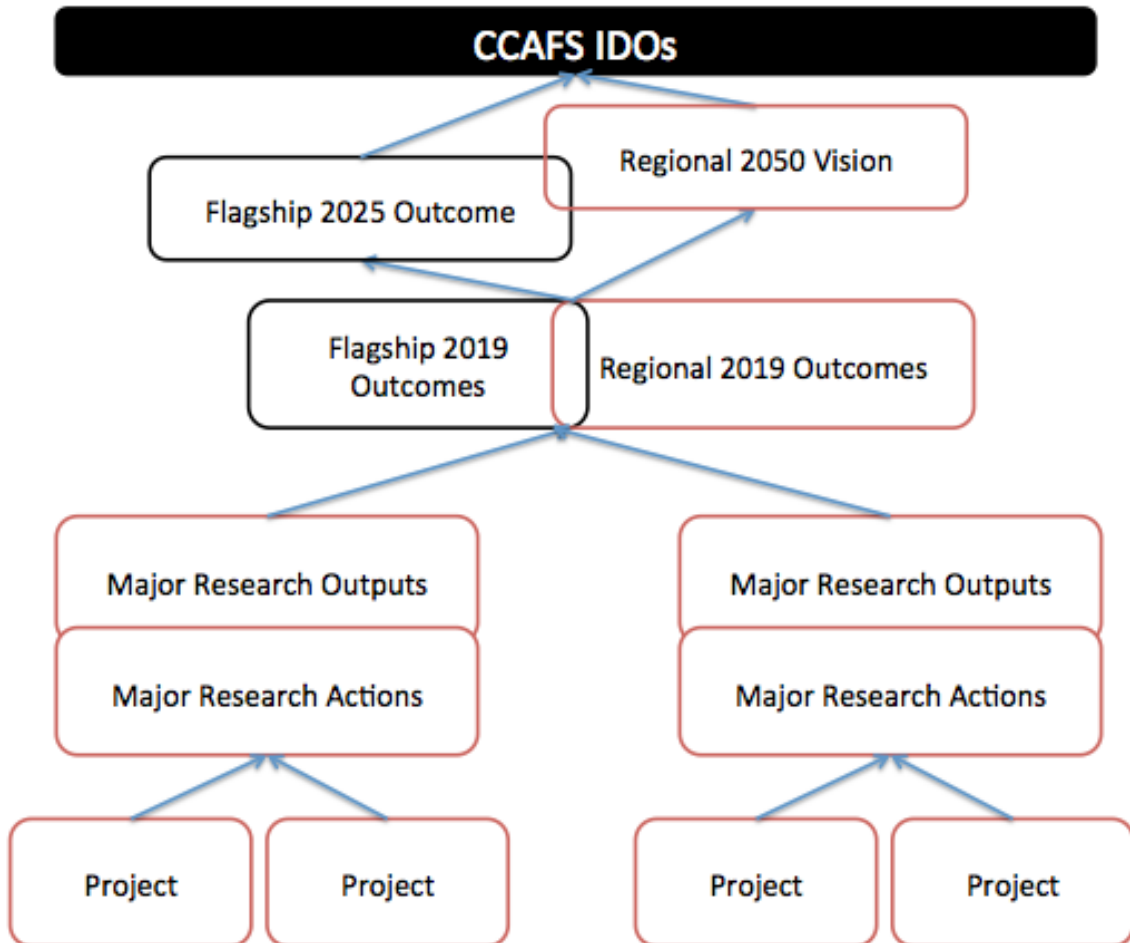
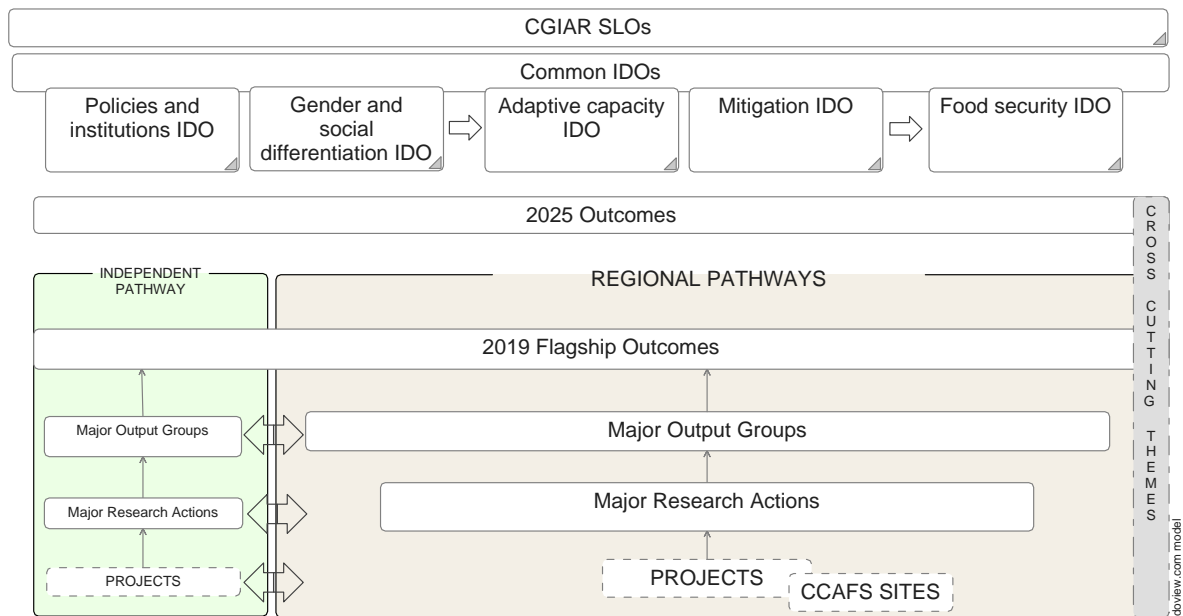


Figure 7. CCAFS contributes to the CGIAR strategic level outcomes (SLOs) through the common intermediate development outcomes (IDOs). The CCAFS impact pathway brings together 4 areas of flagship research to meet the climate change, agriculture and food security priorities of five global regions. Early progress on policies and institutions and gender and social differentiation is necessary in order to make later progress in terms of adaptive capacity and mitigation, eventually leading to food security.



## Your M+E Plan

### Summary

These last 2 sessions will help you identify indicators of progress along your impact pathway towards achieving your flagship outcomes. These are very important sessions, because these indicators are your flagship contribution to M+E in CCAFS. With the information provided by all of the flagships, CCAFS will have the evidence necessary to report on our progress towards achieving our IDOs! You flagship will also have an M+E plan that will allow you to report to your stakeholders about the specific impact your flagship is having.

#### TIPS

- You will have seen that developing your impact pathway required close collaboration with the leaders of the regions where you work to harmonize outcomes and identify research synergies, gaps and opportunities. Likewise, close collaboration with RPLs is critical when developing your impact pathway indicators. This is because the regional impact pathways will be providing the most important evidence in terms of the CCAFS flagship outcomes and eventually the IDOs. Therefore, data from different impact pathways must:
  - Harmonize across the regions to provide convincing evidence of progress towards the 2019 and 2025 outcomes.
  - Harmonize across the flagships to provide convincing evidence of progress towards the CCAFS IDOs.
- This level of harmonization requires good coordination, negotiation and compromise from all flagships and regions to create a system that provides CCAFS with the best possible evidence regarding annual progress towards the IDOs.
- The process is iterative. You will find that as the coordination occurs changes will be necessary to your flagship indicators, and perhaps even to elements of your impact pathway. The same is true for the regions.
- Completing the CCAFS regional and flagship impact pathways will involve the art of compromise.
- The end result will be a nested system of impact pathways that represents the complexity of the CCAFS program of a science driven agenda to meet regional climate change, agriculture and food security priorities!

## Session 6: Impact pathway indicators and basic M+E plan

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Computer with graphic software and these facilitation notes

**Background Documents:**

- Impact Pathway for East Africa
- Impact Pathway for South East Asia
- Impact Pathway for West Africa
- Impact Pathway for Latin America
- Impact Pathway for South Asia
- Flagship 4 Impact Pathway
- Flagship 3 Impact Pathway
- Flagship 2 Impact Pathway
- Flagship 1 Impact Pathway

**Participants:** At a minimum, CCAFS staff in your flagship and key advisors (from CGIAR centres and countries). Try to also include the RPLs from the regions where you are working and the other flagship leaders that contribute to the same IDOs as your flagship.

**Objective:** To identify change and progress indicators for the flagship impact pathway that (i) harmonize with evidence being produced by the regions where the flagship is working, (ii) harmonize with other flagships contributing to the same IDOs, (iii) ensure that CCAFS has a complete and compelling body of evidence regarding its impacts.

**Output:** Change and progress indicators for the flagship with basic M+E plan.

**TIP**

This session is best done together with RPLs so as to avoid your flagship and the different RPLs doing the work, and then having to take the difficult step of harmonizing work that was done separately.

**Steps:**

1. Consider the IDOs that your flagship is contributing to, particularly their indicators, and your 2025 outcome. Identify indicators of next-user **change** that provide evidence that your 2025 outcome is or has been achieved. Try to develop a small set of indicators that tell a coherent story in terms of how your flagship is contributing to its different IDOs. You need at least one indicator per IDO. In most cases, you will have at least one indicator that is just like your outcome, but showing a unit of measure. Remember the difference between an impact, change and a progress indicator.

**Impact indicator:** A metric that provides evidence that a sustainable development impact has occurred that is consistent with the planned **IDO**.

**Example:**

- *IDO on Mitigation: Increased carbon sequestration and reduction of greenhouse gases through improved agriculture and natural resources management*
- *Impact indicator: % decrease in agricultural emissions intensities in countries of CCAFS intervention since 2010 (UNFCCC, FAOSTAT)*

**Change indicator:** A metric that provides evidence that **sustainable change** in next-user **behavior** has occurred that is consistent with the planned **outcome**.

**Example:**

- *Low emissions agricultural development 2019 Outcome: Ministry officials, NGOs, private sector, and farmers' associations are scaling up low-emissions agriculture through innovative institutions, incentives, and regulations.*
- *Change indicator: # of farmers involved in low-emissions agriculture initiatives including avoided deforestation/restoration, disaggregated by gender (location, CSA practice, date) – focus on 3-4 main practices in each region.*

**Progress indicator:** 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.

**Example:**

- *Low emissions agricultural development MOG: Policies based on evidence for incentives and regulations that avoid deforestation caused by agricultural commodities.*
- *Process indicator: # of NAMAs in place that were informed by CCAFS produced evidence.*

Remember, a SMART indicator is:

- *Specific* – target a specific area for improvement.
- *Measurable* – quantify or at least suggest an indicator of progress.
- *Assignable* – specify who will do it.
- *Realistic* – state what results can realistically be achieved, given available resources.
- *Time-related* – specify when the result(s) can be achieved.

**Example:**

- *Policies and institutions for climate resilient food systems 2025 Outcome: By 2025, national/subnational governments are making equitable institutional investments in climate smart food systems in 25 countries that represent a 50% increase compared with 2014.*
- *Change indicator: # of countries in which equitable institutional investments in climate smart food system that represent an increase by 50% or more compared with 2014 (the data for this indicator will be disaggregated by sex, providing data for both the IDOs to which it contributes: gender and policy).*

2. Consider your 2019 outcomes. Do the same to provide an indicator(s) of achievement for each of them. But then check to make sure this indicator(s) also provides evidence, or a sub-set of data, for the next indicator up. Try as much as

possible to choose indicators for which the source is an established survey or data set (e.g. CCAFS baselines, IMPACTlight, national statistics, etc.).

**Example** (continuing from above):

- *Policies and institutions for climate resilient food systems 2019 Outcome: By 2019, IFAD, WB, FAO, UNFCCC, AFD, etc. are engaging member countries and regional organisations to learn what their climate smart food system priorities are, and are appropriately directing their investments.*
- *Change indicator: % change in IFAD, WB, FAO, UNFCCC, etc. investments in equitable food system institutions that take into consideration climate smart practices/ strategies compared to 2014.*

3. Although the indicators you have identified will be collated and analyzed across the flagships for CCAFS reporting on its IDOs, the majority of the data will be collected by the regions! Discuss the indicators you have identified for each outcome with the RPLs who are participating in your flagship. Ask them to share with you indicators they have identified for the 2019 outcome in their region that corresponds to your flagship. Adjust your indicator(s) or the regional indicator(s) to ensure that the regional indicator(s) also provides evidence, or a sub-set of data, for the flagship 2019 outcome.
4. Now do the same with the FSLs that contribute to the same IDO(s) as your flagship. Discuss the indicators you have identified for your 2025 outcome with them. Ask them to share with you indicators they have identified for their 2025 outcomes. Adjust your 2025 outcome indicator(s) to ensure that the full package of evidence being provided across the flagships for each IDO is objective, representative and compelling.
5. Now go back through all of your change indicators and cross check again – these are your outcome indicators. Make sure that there is a logical progression from 2019 to 2025 to IDO, providing a compelling and complete body of evidence in terms of how your flagship contributes to its IDOs. Capture your change indicators in the table below.

Level (2025 outcome, 2019 outcome, MOG, MRA, project)	Indicator	Frequency	Source	Means of verification	Responsible person

6. Now go through your impact pathway and identify indicators of progress for MOGs (e.g. # of IOs in which CCAFS priority setting tools and outputs are being utilised to consider investment choices), MRAs (e.g. number of IO stakeholders trained to priority setting tools), and projects (e.g. priority setting tool developed). Capture these process indicators in the table above.

7. Now give your flagship impact pathway indicators a holistic review. When considered as a set, does the package of indicators:
- Provide evidence of annual progress along the impact pathway?
  - Provide quantitative evidence at reasonable time intervals (not necessarily annual) of next-user change?
  - Provide quantitative evidence at reasonable time intervals (not necessarily annual) of progress towards the IDOs?
  - Provide a rich qualitative story that provides a compelling context for the quantitative changes?

**TIP**

For those indicators under the management of the regions (project, MRA, MOG, regional 2019 outcome), you should capture them in the above M+E plan so that you have a complete record of the body of evidence expected by your flagship from all the components of its impact pathway (regional and independent). By capturing the information in the above table, you will have a plan that quickly informs you of what evidence to expect from whom, and you will avoid unpleasant surprises during the crunch time of reporting periods.

8. The above table is the basic information for your flagship impact pathway M+E plan. Take careful note of baselines that need to be completed to launch your flagship M+E, and develop a plan for carrying these out in a timely fashion. Likely your flagship will want to develop a formal document that provides the details of its M+E system. Note the elements and necessary details for this system in the box below.

M+E system outline with notes on necessary details:



## Session 7: TOC review and reflection plan

**Time:** 1 hour

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Computer with these notes for completion of the tables

**Participants:** At a minimum CCAFS staff in your flagship and key advisors (from CGIAR centres and countries).

**Objective:** To discuss innovative ways to review progress along the impact pathway and the basic assumptions and strategies in the TOC, and create a plan for an annual review.

**Output:** An annual plan of review for the flagship TOC.

**Steps:**

1. Collect all of the notes you have made about assumptions, strategies, monitoring and partnerships. Create a single document from these notes that is your flagship's TOC. You have been provided with a **TOC template** that you can adjust for your specific needs.
2. Discuss with the group how they would like to reflect on the TOC so that they are confident that the TOC has been reviewed, tested and revised annually. Collect the notes from this discussion in the box below:

Notes on methods for impact pathway and TOC annual reflection:

**TIP**

Remember that at TOC is a hypothesis of what the group thinks is happening in the flagship, and will happen because of the work that CCAFS is doing. Think of this as a '**working hypothesis**' that should be reviewed regularly and revised based on that reflection process. The TOC annual review is an opportunity for the group to ask, "what is working", "what is not", and most importantly "**what do we need to change in our TOC and/or impact pathway to make sure we achieve our outcomes in a timely fashion?**"

3. From these notes develop an annual plan for documentation and reflection on your impact pathway and TOC. Your plan should have the following annual components.

<p><b>IDO</b>s</p> <ul style="list-style-type: none"> <li>- One or more indicator per IDO that the flagship contributes to (quantitative)</li> <li>- Likely will developed at the consortium level and provided to the CRPs for compliance</li> </ul>		
<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>- One or more indicator per flagship 2025 and 2019 outcome (quantitative and qualitative)</li> <li>- Developed and agreed on through consultation between flagship and regions</li> <li>- Be open to documenting ‘surprises’. Things that you hadn’t planned but that are creating momentum towards your outcomes. This may lead to major changes in your impact pathway!</li> </ul>		
<p><b>Major output groups (MOGs)</b></p> <ul style="list-style-type: none"> <li>- Documents progress in achieving MOGs (quantitative and qualitative)</li> <li>- Developed and agreed on through consultation between flagship and regions</li> </ul>	<p><b>Major research actions (MRAs)</b></p> <ul style="list-style-type: none"> <li>- Documents progress in achieving MRAs (quantitative and qualitative)</li> <li>- Developed and agreed on through consultation between flagship and regions</li> </ul>	<p><b>Projects</b></p> <ul style="list-style-type: none"> <li>- Documents contribution of each project to flagship actions and output group</li> <li>- Often based on verification of deliverables, but narrative annual reports should provide interesting anecdotal information about implementation, particularly in terms of partnerships and stakeholder interactions</li> <li>- Developed and agreed on through consultation between PIs and RPLs and flagship leaders</li> </ul>
<p><b>Backstory</b></p> <ul style="list-style-type: none"> <li>- Provides a rich narrative, about the four sets of indicators</li> <li>- Be creative in choosing your methods: video, photo narrative, infographic, etc.</li> <li>- Allows projects, regions, flagships to tell their story of progress and contribution to the overall CCAFS impact pathway</li> </ul>		
<p><b>TOC Reflection</b></p> <ul style="list-style-type: none"> <li>- Review of the TOC in terms of progress, decisions and changes based on M+E and reflection. Pay special attention to the flagship’s assumptions and strategies. Are the assumptions still holding? Are the strategies working? The flagship team should develop guidelines for the reflection, including a checklist of what to consider.</li> </ul>		

## Conclusion

Congratulations! You have completed your flagship impact pathway and basic ML+E (monitoring, **learning** and evaluation) plan. Your flagship impact pathway and ML+E system form a very detailed plan. For communication purposes, you and your team, in close exchange with your communications people, should develop a simplified version that gets the important points across to your stakeholders. Visual software is quite handy for this – Power Point, Prezi, Novamind, etc.

By planning your flagship's work in this way, you have a solid plan for its implementation, management and evaluation. But it also allows you great flexibility. Your TOC and impact pathway are your best hypothesis right now on how to contribute to the achievement of the CCAFS IDOs. Through the ML+E process you get to critically evaluate the validity of that plan over time, and can adapt your impact pathway and TOC as required to regain momentum in a timely fashion and at as large a scale of impact as possible.

## FACILITATION GUIDELINES FOR THE REGIONS

CCAFS works in 5 global regions, with multiple research sites in each region:

- East Africa: Kenya (2 sites), Uganda (2), Ethiopia (1), Tanzania (1)
- West Africa: Burkina Faso (1), Niger (1), Senegal (1), Mali (1), Ghana (1)
- South Asia: India (2), Bangladesh (1), Nepal (1)
- Southeast Asia: Vietnam (3), Laos (2), Cambodia (1)
- Latin America:

Below is a series of questions that will help you work through developing a Theory of Change (TOC), Impact Pathway and monitoring and evaluation (M+E) plan for your **region**. These notes are designed to facilitate the development of an impact pathway. You can use them for your own work, or you can use them to facilitate others in the impact pathway design process.

### TIPS

- Work through the questions in order.
- We recommend breaking your meetings up into short sessions of 1-3 hours so that people stay fresh and have time for reflection. The questions below are divided into suggested sessions.
- In the regions especially it is good to have multiple partners and stakeholders contributing, so you may want to do this work with them in a workshop setting.

These questions are designed with the assumption that you are starting from the beginning. But some of the CCAFS regional programs have already made significant progress towards designing their impact pathways. If this is the case for you, then you will find that going through the sessions will help you review and revise your work, while some sessions will allow you to take a step forward.

### TIPS

- Work through a question to the end, and don't let uncertainty "bog you down". Where there is confusion or disagreement, note down the ideas that come up, and then return to that question later.
- Remind your colleagues that:
  - Developing a TOC and impact pathway is an iterative process that will lead to improvements in the product **over time**,
  - Your impact pathway is a piece nested in a wider CCAFS impact pathway, and
  - Your impact pathway brings together all of the projects in your region to contribute to the flagships through your regional outcomes.
- Review, discussion and negotiation will be necessary to ensure the nesting occurs and all the impact pathways are harmonized in their contribution to the intermediate development outcomes (IDOs).

These facilitation notes provide you with examples. *All examples are in italics.* Tables are provided in each session to compile your notes and results. Please add more rows to capture all of the information you are developing.

You can also create a graphic impact pathway that captures the most important elements. This allows you to see linkages more readily. DoView (<http://www.doview.com/>) is an easy to use graphic software for impact pathways. Power Point or any other flowchart design program also works.

There are some terms used in these notes that may be new to some users. Please see the **glossary** annexed at the end of the document.

### TIPS

You will find tips boxes throughout these facilitation notes. They remind you of key points, and provide you with facilitation recommendations. The methods you choose to facilitate different steps in a session will depend on what you're comfortable with, and social-cultural norms. But always encourage everyone to speak up, and always try to use active exercises. Be creative!

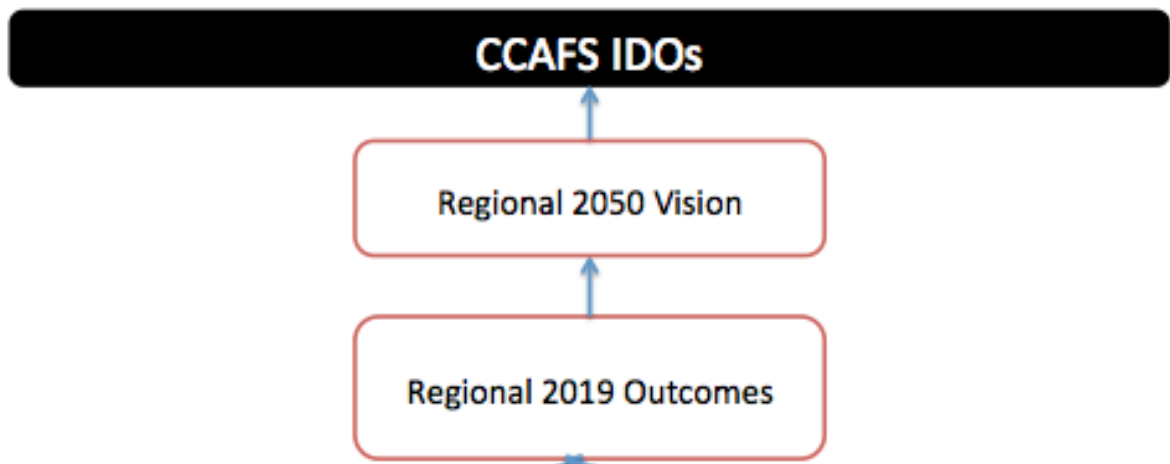
- You can use several methods to facilitate a session:
  - **Large group:** Sometimes it helps to have everyone in the session working all together. This works well if you have up to 10 people. It can cut down on time because you don't need to harmonize small group work during the session. But if the group is too large it will increase time because you need to capture everyone's ideas one-by-one.
  - **Small group:** If you have more than 10 people, consider breaking them into groups. The different groups can address the same task and you can harmonize the work in plenary afterwards. Or if there are multiple tasks, each group can do a separate piece of the work. For example, developing the impact pathways for different outcomes in the region.
  - **Note cards:** Each participant can write their idea on a note card. Then each person can present the idea. This is a helpful technique when there is a divisive issue under discussion, because everyone listens to the presenter without criticizing. You can also collect the cards and present them yourself. This makes the ideas anonymous, which can also be helpful when there are competing ideas in your session.
- This guide has lots of tables to complete. Focusing only on tables in a computer can be exhausting. Consider creative ways to engage the discussion and develop the information, and then capture it in the tables afterwards:
  - **Drawing:** Small groups can draw a map or a picture, for instance of the outcome they would like to see.
  - **Reporter:** You can have a small group elect a 'reporter' that interviews the other group members to draw out the ideas and then present them to the larger group.
  - **Note cards and sticky notes:** When dealing with complex topics, like many different projects leading to different major research actions, people can write the different components of the impact pathway on note cards, sticky notes, etc. and move them around on a board to see different relationships.
  - **Symbols:** To capture nuanced information, symbols like colors, shapes, the thickness of lines, etc. can be used to capture them.

## Building the Upper Levels of your Impact Pathway

### Summary

The first 4 sessions will help you build the upper (aggregate) level of your regional impact pathway (Figure 1). You will produce a visual looking something like Figure 1 below, but keep track of all of your notes as background to the diagram of your impact pathway! Much of this background information will form your theory of change (TOC).

Figure 1. Schematic representation of the upper levels of a CCAFS regional impact pathway. Each region will have one 2019 outcome per flagship.



The first 4 exercises lead into each other and involve the same participants. Therefore, consider conducting these sessions as a short workshop of 2-3 days, depending on the level of experience your participants have with outcomes thinking.

## Session 1: Regional Vision

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Digital camera (optional)
- Computer with graphic software and these facilitation notes

**Background Documents:** CCAFS Phase 2 Draft Proposal

**Participants:** At a minimum CCAFS staff in your region and key advisors (from CGIAR centres and countries).

**Objective:** To develop a consensual CCAFS vision for the region.

**Output:** A regional CCAFS vision and a problem tree that identifies determinants (problems to be addressed by the program).

**Steps:**

1. Review with participants the CCAFS phase 2 draft proposal, focusing on the CGIAR SLOs and CCAFS IDOs from the context in which CCAFS works – climate change, agriculture and food security.

**CGIAR SLOs:**

- Less rural poverty
- Better food security
- Better nutrition and health
- Sustainably managed resources

**CCAFS IDOs:**

- 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**”).
- Increased carbon sequestration and reduction of greenhouse gases through improved agriculture and natural resources management (“**Mitigation**”).

2. Ask the participants to consider the SLOs and IDOs in terms of your region. Develop a vision statement (2-3 sentences) that describes your region 50 years from now, keeping in mind the SLOs and IDOs. Remember, this vision is for the next generation. It should be quite aspirational, describing the world (in your region) we want our children to live in.
3. Now go through a 'problem tree' analysis. You can find a very useful guide for this exercise in the [PIPA website- Drawing Problem Trees section](#). Below is a simplified version of this exercise.

#### **TIPS**

In the exercise below the participants write directly on flipchart paper. An alternative is to provide them with different color cards to represent reasons and determinants. The steps for the problem tree analysis (4-10) are written as if you have one group.

- If you have more than 10 people, it may be too cumbersome to keep the whole group together and you may choose instead to break the participants up into 2 or more smaller groups.
- If you break into smaller groups, you may choose to break into 2-3 groups with each group addressing a single main problem. When all the small groups complete the work have them present their results to one another.
- If you have more than one group addressing the same problem you may choose to close the session by harmonizing the differences between the group work in plenary.

4. Ask participants: What are the 2-3 main problems in terms of achieving the vision we just described? Write these problems on the extreme right side of a blank sheet of flipchart paper, one "main" problem per flip chart paper.
5. Start with the first problem and ask: Why is this happening? It helps to think in terms of what the underlying social, economic and/or environmental causes of this problem are, particularly when it comes to climate change, agriculture and food security. You may find that there is one large reason, or you may identify a few. Write them to the left of the problem and connect them with arrows to the problem.
6. Now look at the reason(s) that you identified and ask for each: Why are those things or causes occurring? Write those in the next column to the left and again connect them to the cause(s) they contribute to in the previous column with an arrow(s).
7. You will notice that you are drawing a tree with the branches pointing to the left. Keep going. We call this exercise the "5 whys", because it usually takes asking 'why' five times to get to a root cause(s) or determinant(s). These are the things that the program will address, in order to make progress towards the vision. These determinant problems help define the outputs CCAFS needs to produce to contribute to progress towards the regional vision.
8. Once all of the branches have been completed to a series of determinants, you can stop. Now review the entire tree. Identify those problems that CCAFS can address, and those that are beyond CCAFS.



9. Do the same exercise for the remaining main problems.
10. Capture your full 'problem tree' electronically using Power Point or another graphic program. You can even use Excel.

**TIP**

Try to steer away from determinants or final problems that are the "absence" or "lack of" what you are producing. Look at each problem in its own value, and trying not to arrive at any predetermined conclusions. *For example, if at some point you were to look at the problem "Local government agencies do not apply/ look for systemic solutions" don't assume the cause- or the answer to "Why is this problem happening" is "because they don't have x or y guidelines"- the very guidelines you intend to produce! Thinking this way will not allow you to see corresponding problems or flag other issues that need to be addressed.*

## Session 2: Regional 2019 Outcomes

**Time:** 1-2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Computer with graphic software and these facilitation notes

**Background Documents:**

- CCAFS Phase 2 Draft Proposal
- Flagship 1 call for concept notes
- Flagship 2 call for concept notes
- Flagship 3 call for concept notes
- Flagship 4 call for concept notes
- Flagship 1 impact pathway
- Flagship 2 impact pathway
- Flagship 3 impact pathway
- Flagship 4 impact pathway

**Participants:** At a minimum, CCAFS staff in your region and key advisors (from CGIAR centres and countries).

**Objective:** To develop a regional outcome for each CCAFS flagship that is working in the region.

**Output:** CCAFS regional 2019 outcomes.

**Steps:**

1. Continue reviewing the CCAFS phase 2 draft with the participants, this time concentrating on the four flagship proposals. Other materials you should review to familiarize yourselves with the flagships is their call for concept notes and their most recent flagship impact pathways.

**TIPS**

This exercise will produce one 2019 outcome per flagship in your region. The exercise is organized assuming you are working with a single group, and the group works on and completes the outcome for flagship 1 before moving on to the next flagship.

- **Single group:** This will likely lead to a lot of repetition of next-users when the group finishes flagship 1 and moves on to the next flagship. If you are working in a single group we recommend that in steps 2-3 the participants develop a master list of all next-users considering all the flagships in your region. Then to continue on to step 4 by considering a single flagship at a time. To do this ask the participants to cross off the master list of next-users those not pertinent to the flagship, and then ask them if there are any next-users missing in terms of the flagship.
- **Flagship groups:** It is easier to do this exercise in small groups based on flagships, where participants go to the flagship whose subject matter they are most familiar with. In their flagship group they complete from step 2 onward.

2. Ask the participants: Who are the next-users that must participate in the achievement of the regional vision (in terms of flagship 1)? Be as detailed as possible, making a complete list of specific people and organizations. Make sure you are identifying next-users, not end-users:
  - **Next-users:** actors such as national research institutions, extension organizations, governments, NGOs and others, which access CG products directly. Next users can create an environment that enables the target impact for end-users; also decision makers that we want to influence to achieve outcomes.
  - **End-users:** The beneficiary population; usually quite massive, making it unfeasible for a project or program to work with them directly.
3. Now group the flagship 1 next-users into a short list of next-user groups. Group them by how they will use CCAFS products/ outputs to generate outcomes, and try to achieve a short list of no more than 5-6 groups. You can capture your groups in columns 1 and 2 of the following table.

Next-user Group	People/organizations in this group	Practice Change

4. Now ask the participants to consider each group of flagship 1 next-users. How do you expect each next-user group to use CCAFS products and change their practices in order to contribute to achieving the vision for the region? These we will call “practice changes”. Capture them in the third column of the above table.
5. Review the list of practice changes by each next-user that you have just documented for flagship 1: What is the single major practice change that can occur by 2019 that addresses the most important groups of flagship 1 next-users? Are there any next-user groups that need to experience the same practice changes as each other? Can these be further grouped?
6. Now rephrase that most important practice change that you wrote for flagship 1 as an **outcome statement**. Use active terms, like – *are using, are implementing, are accessing, are writing...* An outcome is expressed as:

Exactly **who** is doing **what...differently**?

Outcomes are changes in **next-user** knowledge, attitudes, skills and practices.

- **Do not!** Write an impact statement: *6 million climate resilient smallholder farmers in Kenya* (this is an impact, and it deals with **End-users**)

**Example outcome statement:**

*International organizations like IFAD, WB, FAO, UNFCCC, etc. are engaging member countries to learn what their climate smart food system priorities are, and appropriately direct their investments.*

7. Return to your problem tree. Will this outcome allow these next-users to tackle and solve the first root cause(s) of the problem? If not, discuss and revise the outcome until it does. Remember, write outcome statements!
8. Repeat steps 2-7 for each of the flagships that is working in your region. You should end up with one 2019 outcome statement for each of your flagships.
9. Capture your flagship outcomes in the following table. Note that your region may not be participating in all of the flagships. If so, leave that cell blank.

<b>Region:</b>	
Flagship 1 2019 outcome:	
Flagship 2 2019 outcome:	
Flagship 3 2019 outcome:	
Flagship 4 2019 outcome:	

### Session 3: Barriers to change, incentives and changes in knowledge, attitudes and skills of next users

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Computer with graphic software and these facilitation notes

**Participants:** At a minimum CCAFS staff in your region and key advisors (from CGIAR centres and countries).

**Objective:** To identify the changes in knowledge, attitude and skills, and the incentives that need to be in place if CCAFS is going to achieve its practice outcomes.

**Output:** Knowledge, attitude and skills outcomes for each practice outcome.

**TIP**

This session again assumes that you will be working on flagship 1 and completing the exercise before moving on to another flagship and repeating the exercise. If your group is large enough, break it into small groups according to flagship and have each group do the exercise for its flagship.

**Steps:**

1. Review your problem tree, and then your 2019 outcome for flagship 1. Why aren't those next-users already making the necessary decisions to address the causes of the problem and achieve the outcome(s)? What barriers do they face in terms of incentives, agency, norms and external factors?
  - **Incentives** – relates to more 'rational choice' concepts of behaviour analysis that state that decisions to adopt specific behaviours are based on perceived costs and benefits. This applies to both individuals and institutions, and is related to the development of attitudes and values regarding the importance of, or potential returns from a particular action.
  - **Capacities and competencies** (real or perceived) of an individual or an institution to achieve an outcome by the adoption of certain behaviours, access to information, knowledge, skills and other financial and infrastructural resources.
  - **Norms** – relates to social norms, traditions and habits that shape the actions of individuals and institutions. Many individuals and institutions experience a certain amount of inertia, or mimicking that can shape actions even in the presence of other influencing factors.
  - **External factors** – relates to factors outside the individual or the institution that affect behaviours. In the case of CCAFS this more frequently involves the behavioural changes in other institutions within the system that affect the behaviours of another. This would traditionally be called the enabling

environment, yet in the CCAFS programme many of these systems and institutions are also stakeholders in the programme itself, and thus are less 'external'.

Complete columns 1, 2 and 3 in the following table for flagship 1. The practice changes come from step 4 in session 2:

Next-user group	Barriers	Outcome(s)				Incentives
		Practice	K	A	S	
<i>Example: Interntl. Orgs. relevant to climate change, agriculture and food security: IFAD, WB, FAO, UNFCCC, WTO, WFP</i>	<i>- Do not know what the CC priorities of the constituent countries are because successful engagement is blocked by bureaucratic structures and culture - Don't direct their investments towards the true CC priorities of constituent countries - Constituent countries lack the capacity to understand their own CC priorities, and to convey their priorities to funding organizations</i>	<i>- Are engaging member countries - Are appropriately directing their investments</i>	<i>Know what the priorities of constituent countries are</i>	<i>Believe that they must engage with constituent countries in order to be effective</i>	<i>Can identify and fix problems in their bureaucratic structures that are blocking successful communication with constituent countries</i>	

2. What must these next-users groups learn, understand, learn how to do, appreciate, etc. in order to achieve those practice outcomes? Write those changes as Knowledge, Attitude and/or Skills (KAS) outcomes. To be able to change a practice or behavior, people usually need to first *know/understand* the change in practice and its

advantages, and/or have *developed the skills* to do it, or at least to *believe or trust* the benefits of changing it. For each next-user group, make explicit 2-3 KAS outcomes that are key to their changing their practice. Enter these outcomes in columns 3-5 of the above table. (*now they know how to..., because now they can..., because now they understand better...*)

3. Finally, what incentives would help each next-user group overcome its barriers and achieve its KAS and Practice outcomes? Capture these in the last column of the above table.
4. Complete steps 1-3 for all of the flagships that your region is participating in. Your KAS outcomes will not be captured in your regional impact pathway. But you need to completely document your work for this exercise because they will become part of your TOC.

## Session 4: Linking your region to your flagships

**Time:** 1-2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Computer with graphic software and these facilitation notes

**Background Documents:**

- Flagship 1 impact pathway
- Flagship 2 impact pathway
- Flagship 3 impact pathway
- Flagship 4 impact pathway

**Participants:** At a minimum CCAFS staff in your region and key advisors (from CGIAR centres and countries). Also try to include the relevant flagship leaders and scientists.

**Objective:** To make sure the regional flagship outcomes harmonize with the 2019 outcomes of the flagships working in your region.

**Output:** Linkages between the region and flagships documented and planned for in the regional TOC.

**TIPS**

This session again assumes that you will be working on flagship 1 and completing the exercise before moving on to another flagship and repeating the exercise. If your group is large enough, break it into small groups according to flagship and have each group do the exercise for its flagship.

**Steps:**

1. Review with the participants your regions' 2019 outcome for flagship 1. Copy it into column one in the table below, with the corresponding 2019 flagship outcome(s) in column 2.

Flagship: 1		
Regional 2019 outcome	Corresponding Flagship 2019 outcome	Potential regional 2019 outcome indicators (that contribute to this 2019 flagship)

2. Consider how you will measure the regional outcome by asking yourselves: How will we be able to know that this outcome has been achieved? Or, what are some indicators of achieving this outcome? Consider the outcome indicators you have



brainstormed. Will they also contribute to the flagship 1 2019 outcome? If yes, document these contributions by completing column 3 in the above table. If not, your 2019 outcomes do not harmonize well with the flagship 2019 outcomes, and need to be revised so that the linkages are clearer.

3. Now break down your regional 2019 outcome for flagship 1 into its individual components, asking yourself for each component: Is this really what we want; can we measure it; how?

**Example:**

*National/sub-national governments, in collaboration with the private sector and civil society,*

- These are the specific next-users (public, private and civil society) that must come together. If one is missing, the behavior change won't happen. In each CCAFS country we can survey ministries involved in CSA policy, and agribusinesses and civil society groups (e.g. national farmer associations), best placed to provide CSA information, technologies and support.

*enact*

- We want to measure evidence of actual policies, either revised or new.

*equitable food system policies that take into consideration climate smart practices and strategies*

- The issue of equity must be front and centre in any policy, so as to guide implementation towards poor and vulnerable members of society, particularly women. The group policies we consider must be broad enough to reflect that it is the interactions of policies in the food system (agriculture, food security, infrastructure, trade, etc. that must work together to support the adoption of CSA). The basic issue is CSA.

4. What are your strategies? *How will your region contribute* to making these changes happen? What are your ideas on how to help people change? What will your region do that is different? Better? *Strategies* can be the way (e.g., co-develop instead of impose) you do things. Strategies are also the timing, methods, partnerships, 'language', etc. you choose to use to make sure any negative assumptions are managed and each is achieved.

Strategies:

5. How will you monitor to ensure those strategies are fruitful?

Monitoring:

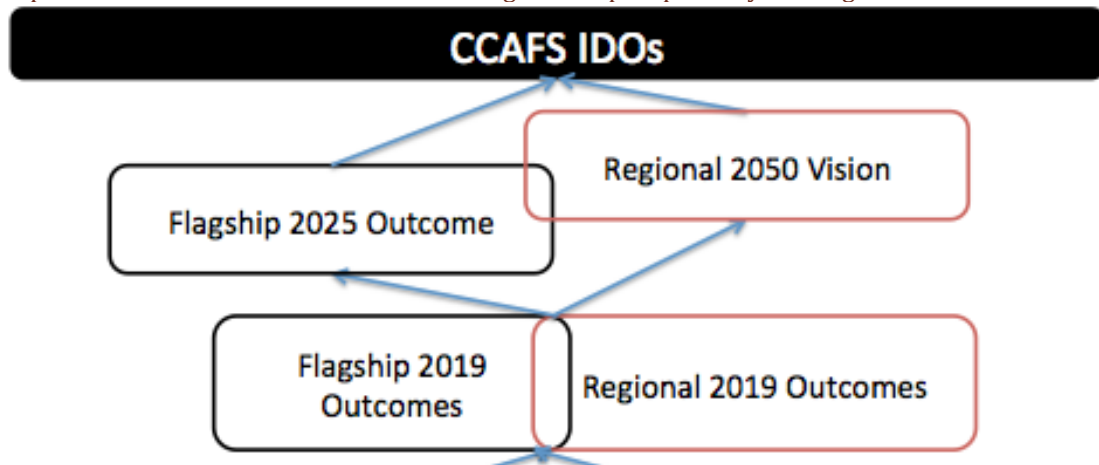


6. These strategies and monitoring plan are part of your TOC! Review them to make sure they are correct and will create an enabling environment for achieving your 2019 outcomes for flagship 1.
7. Repeat steps 1-7 for each flagship that your region is participating in.

## Conclusion

Congratulations, you have now completed the upper level of your regional impact pathway! In doing this work you will have noted how important it is to harmonize the regional impact pathway with the pathways of the flagships that your region is participating in. The upper levels of each flagship impact pathway, when harmonized with the pathways of the regions, will link directly with the regions at the 2019 outcome level, while the flagship 2025 outcome will be a step in the progress to the regional vision statements (figure 2).

Figure 2. Schematic representation of the upper levels of a harmonized CCAFS impact pathway. Each flagship will harmonize with between 4 and 5 regional impact pathways through the 2019 outcomes.



This close harmonization will continue into the lower levels of the impact pathway.

Ideally, the CCAFS flagship and regional impact pathways would not have been developed separately. Instead the different flagship and regional teams would have come together from the very beginning to co-create their impact pathways. But CCAFS has been at the forefront of innovative programming in the design of its second phase, and elements such as the Phase II proposal and components of some regional and flagship pathways were already in place before we formally began working on an overall impact pathway that embraces all of our themes and regions.

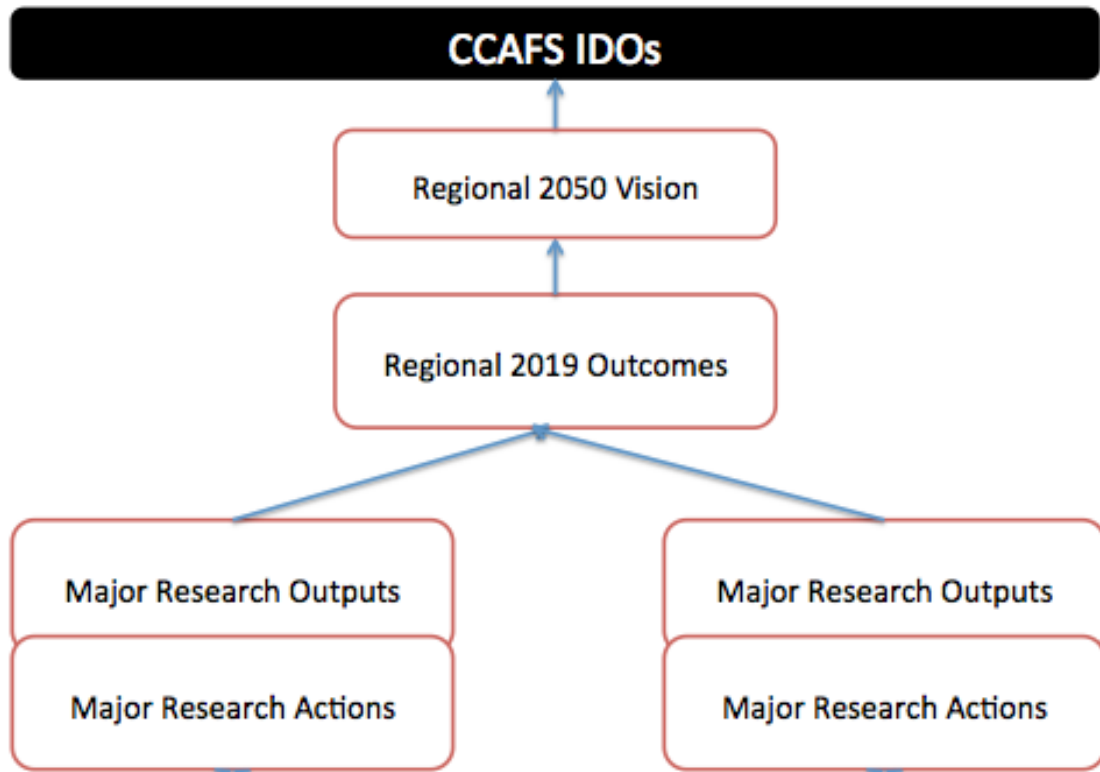
The process that we are using allows us to draw upon and include this previous work while completing an overall pathway towards impact for CCAFS that is fully owned by all team members and stakeholders. When possible join together with the flagship teams when you are doing this work so as to co-design these elements, and you will find that the process is easier and more creative because all priorities are explicit and managed at the same time by all parties.

## Making sure you have the Right Partners and Strategies

### Summary

The next session will help you identify the research outputs and actions you need to successfully achieve the goal of your region: meaningful contribution to the CCAFS IDOs through research under different flagships that addresses the priorities of your region. In this session you will add major research outputs (MOGs) and major research actions (MRAs) to your impact pathway (figure 3).

Figure 3. Schematic representation including the middle levels of a CCAFS regional impact pathway. Each 2019 outcome will be supported by a small set (1-3) of major research outputs (MOGs) and major research actions (MRAs).



#### TIP

If you are working on the upper parts of your impact pathway in a workshop setting, you should consider combining this session with the previous 4 in a single workshop.

## Session 5: Major Output Groups (MOGs) and Major Research Actions (MRAs)

**Time:** 2-3 hours

### Materials:

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Computer with graphic software and these facilitation notes

### Background Documents:

- Regional priorities table
- Flagship 1 impact pathway
- Flagship 2 impact pathway
- Flagship 3 impact pathway
- Flagship 4 impact pathway

**Participants:** At a minimum CCAFS staff in your region and key advisors (from CGIAR centres and countries). It is also helpful to have the relevant flagship leaders. For this session it can be very helpful to have a larger group of stakeholders (research, government, private sector, farmer representatives, etc.) present.

**Objective:** To identify the major output groups (MOGs) and major research actions (MRAs) that are necessary for achieving your region's 2019 outcomes, and harmonize them with the impact pathways of the flagships working in your region.

**Output:** The major MOGs and MRAs necessary for achieving the regional outcomes.

### TIP

This session again assumes that you will be working on flagship 1 and completing the exercise before moving on to another flagship and repeating the exercise. If your group is large enough, break it into small groups according to flagship and have each group do the exercise for its flagship. If you expand your working group to include more stakeholders, be sure to break into flagship groups!

### Steps:

1. Ask the participants to consider the 2019 outcome for flagship 1. Also review your regional priorities table in terms of flagship 1. What major 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*) does your regional program, need to produce to achieve this outcome? These are your major research outputs/products/deliverables. We will call them MOGs for short. Capture them in the middle 2 columns of the table below.

Flagship	Corresponding regional 2019 outcome	Corresponding 1-3 major output groups (MOGs)	Corresponding major research actions (MRAs)
----------	-------------------------------------	--	---

1		1. 2. 3.	1. 2. 3.
2		1. 2. 3.	1. 2. 3.
3		1. 2. 3.	1. 2. 3.
4		1. 2. 3.	1. 2. 3.

**Example:** Decision support systems developed, evaluated and usefulness demonstrated, introduced to decision-makers and being used by them to create national strategies and policies in support of CSA.

**TIPS**

Keep the number of MOGs per outcome as small as possible, 1-3. There is a lot of work to do with these groups, and the more you have the more cumbersome the impact pathway is to design and manage.

- If you have more than 2-3, identify their relationships and bring them together into a shorter list. Remember, these are **MOGs!** It will take several research projects and partners to complete any one group.
- Avoid going into details, tasks, etc. That will be done when we start looking at individual projects.
- Think big picture.

2. Now think about the major research activities necessary to create the first MOG. These we will call your MRAs. Again, try to keep the number of MRAs per MOG as small as possible. Capture them in the last column of the table above.

**Example (continuing from above):**

(i) Develop tools and case studies to inform decision-making on prioritized investments in climate smart agricultural technologies and practices.

and

(ii) Develop recommendations for policies and institutions for scaling out the models of climate smart development (the latter arising from Flagships 1 to 3).

and

(ii) Improve engagement and communication with stakeholders, and support them in using these tools and recommendations for taking strategic decisions.

**TIPS**

- One **MRA** per MOG is best!

- Remember the projected timeframe for achieving the outcomes in the upper level of your regional impact pathway.
- This means you want to have completion of some MOG components in 3 years so that you can begin to measure progress towards your 2019 outcomes in a timely fashion.

3. Now review the MOGs and MRAs that you have created under flagship 1 for your region, and compare them with the MOGs and MRAs from the flagship 1 impact pathway. Are there synergies between some or all of your MOGs and MRAs and those planned by the flagship? Discuss these synergies with the flagship 1 leader to ensure that the needs of the flagship and the region are both met without unnecessary repetition or gaps, revising both the flagship and regional MOGs and MRAs as necessary based on the agreements taken in these discussions.

**TIPS**

Step 3, to harmonize the regional and flagship impact pathways may be something done outside of this session if the relevant flagship leader is not participating in the session. Using ICTs may be a good way to tackle this step. At a minimum, in addition to you the RPL and the flagship leader should be 'virtually' present. Consider using Skype and/or Google Docs so that:

- Can participate in a real-time discussion that doesn't require extensive back and forth (for instance via email).
- Every participant can see the major output groups and your major research actions in both the regional and flagship impact pathways that are being considered.
- And can see the changes as they are being made.

4. What are your strategies? *How will your region contribute* to making these MOGs possible? What are your ideas on how to enable outcomes? What will your region do that is different? Better? *Strategies* can be the way (e.g., co-develop instead of impose) you do things. Strategies are also the timing, methods, partnerships, 'language', etc. you choose to use to make sure any negative assumptions are managed and each is achieved?

Strategies:

5. How will you monitor to ensure those strategies are fruitful?

Monitoring:

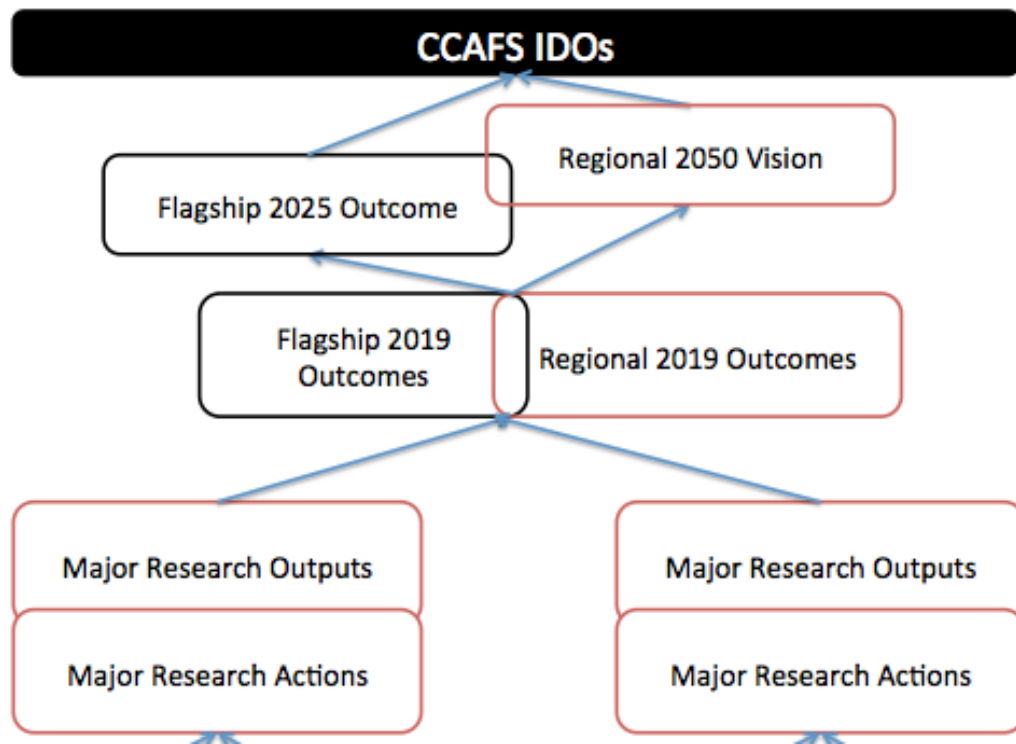
6. Review these assumptions, strategies and monitoring ideas to make sure they are correct and will create an enabling environment for achieving the regional and flagship outcomes for 2019.
7. Repeat steps 1-7 for each flagship that your region is participating in.



## Conclusion

Congratulations, you have now completed your regional impact pathway except for mapping projects to the pathway! Again you will have noticed the close harmonization between your regional impact pathway and the pathways of the flagships working in your region. All of your MOGs and MRAs should be part of a flagship (Figure 4).

Figure 4. Schematic representation of a harmonized CCAFS impact pathway. The diagram shows how harmonization of the 2019 outcomes between flagships and regions has allowed these teams to identify common MOGs and MRAs for both the flagship and the region. Each flagship will share MOGs and MRAs with between 4 and 5 regional impact pathways.



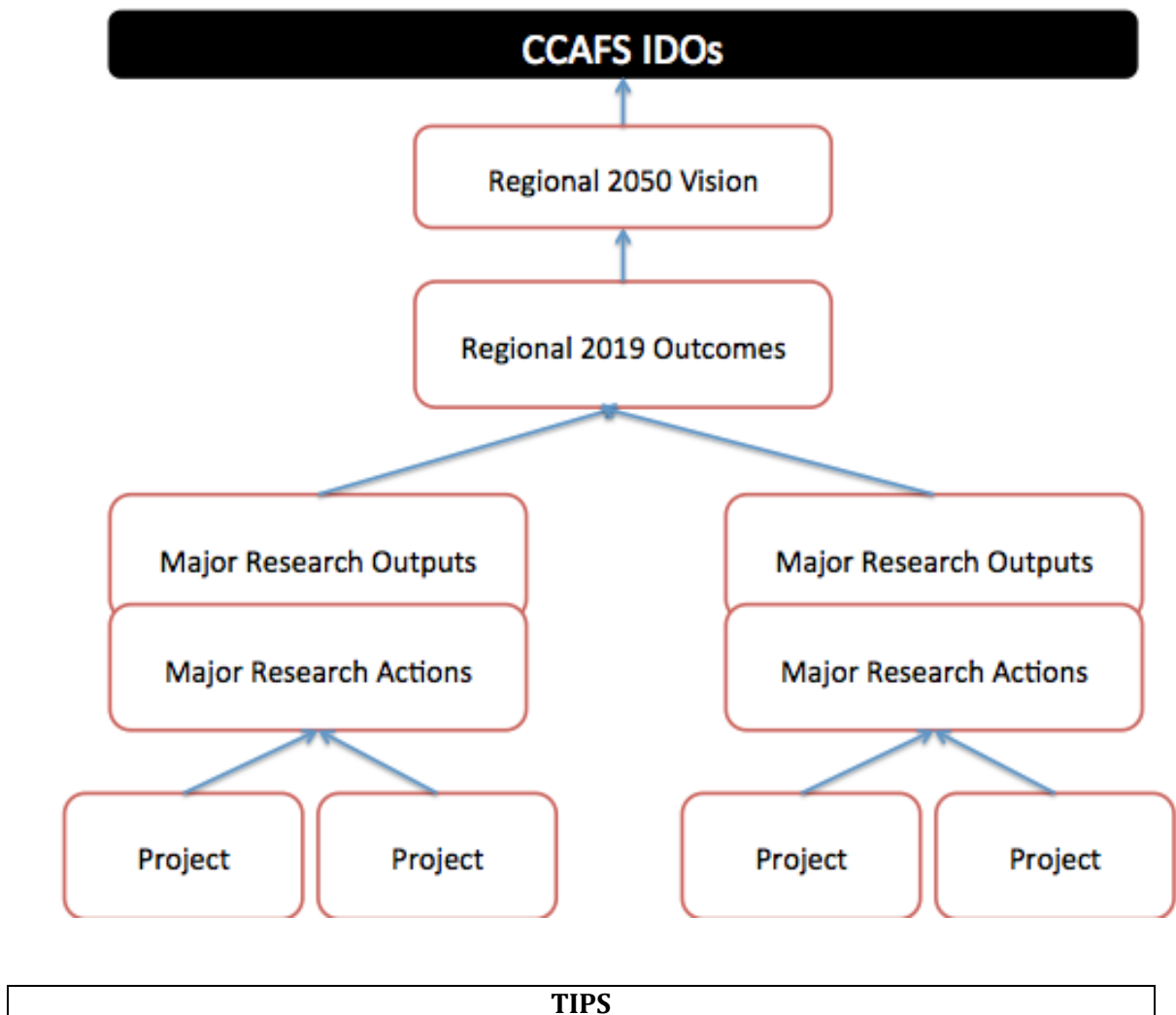
## Making Sure you have the Right Research

### Summary

In the next session you will identify the research *needed* in each flagship in your region to ensure that all of your MRAs are taking place and MOGs are being produced (Figure 5). Ideally this part of impact pathway design is done *before* any projects are agreed upon with partners, so that research design in your region is driven by the IDOs rather than the 'old' system of research outputs like making a working model or a new crop variety.

However, because great strides had already been made in the design of Phase II in CCAFS before we began designing our impact pathways, these facilitation notes bring together existing projects while identifying *synergies, redundancies and gaps* in the regional portfolio.

Figure 5. Schematic representation of a complete CCAFS regional impact pathway. Each major research action (MRA) will be supported by a set of projects.



- This session can be done in a workshop where all flagship actors for your region are present. Because of the detailed nature of the work in this session, it is best to hold it in a second workshop, after the upper levels of the flagship impact pathway from sessions 1-5 have been, harmonized with the flagships and finalized. ***But be careful!*** The sheer number of scientists present from pre-existing projects from 4 to 5 flagships in a region risks biasing the mapping exercise towards pre-existing work rather than objectively reflecting on what work is needed to fulfill the regional impact pathway. If this happens, the critical steps of identifying synergies, redundancies and gaps will be lost. Consider including additional research and development stakeholders who can provide a bigger picture regarding flagship research that needs to take place in the region unencumbered by pre-existing projects and ideas. Aim for 5-10 participants per flagship group.
- Either way, don't skip on the time necessary for the workshop. Plan on 3 days. Spend the entire first day helping new stakeholders become familiar with CCAFS and reviewing the upper parts of the impact pathway. The second day should be spent identifying existing research projects. When you do this, include all the research related to the flagship(s) that participants can identify, including that being done by national agricultural research services, international organizations, universities, CGIAR and other research organizations and development organizations. Spend the third day identifying synergies, redundancies and gaps in the portfolio.

## Session 6: Mapping research projects

**Time:** 4-5 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards
- Different color sticky notes
- Computer with graphic software and these facilitation notes

**Background Documents:**

- List of all research projects related to each flagship in your region (optional)

**Participants:** This session must be done with actors from the region as well as the flagships working in the region. Include leaders of projects that have already been funded by CCAFS, as well as development and research actors that can provide a *holistic perspective* on all the work that needs to be done to complete the regional impact pathway.

**Objective:** To identify all of the relevant current research and map it to the regional impact pathway, and identify gaps and synergies.

**Output:** A complete region impact pathway.

**TIPS**

- This session again assumes that you will be working on flagship 1 and completing the exercise before moving on to another flagship and repeating the exercise. If your group is large enough, break it into small groups according to flagship and have each group do the exercise for its flagship. If you expand your working group to include more stakeholders, be sure to break into flagship groups!
- This session involves a lot of ideas and relationships. It is difficult to capture all of this information using a linear table. We suggest provide the participants with different color note cards and sticky notes to write on and move around, representing major research actions and different projects.

**Steps:**

1. Consider the MRAs in your region for flagship 1. Compile a list of all of the research projects that currently occur in your region that are related to these MRAs. Include projects funded by CCAFS, but make the list wider to include research being done by NARS, NGOs, universities, etc. that helps to meet the research actions.

**TIP**

If you are working with a small group that can't compile a list of projects, you can produce the list before getting the group together. For example you can email and call key stakeholders (flagship leaders, RPLs, NARS leaders, etc.) to compile the list. Review the list with the participants before starting to map.

2. Map the projects to the MRAs they are contributing to.

**TIP**

Mapping of the projects should be done in collaboration with the flagship leaders. If the relevant flagship leader isn't one of your participants, you may want to do the mapping with the group and then contact the flagship leader to review the work. Or consider using Skype and GoogleDocs to bring the flagship leader into the working group.

3. As you map, identify exactly to what components of each MRA and corresponding MOG each project is contributing to. For example, the name of the project can be written on a note card with a red marker. Red arrows can be drawn from the note card to the MRA(s) it contributes to. The exact component(s) of the MRA that the project contributes to can be underlined in red, as can be the exact component(s) of the MOG. Then a blue marker can be used for the next project. Remember, each MRA is a large target. No individual research project will be able to fully it. Each will need several smaller pieces of research.
4. Identify those MRAs and MOGs for flagship 1 in your region that aren't addressed by any project, or aren't fully met by the projects that contribute to them. These are critical gaps! You can write new projects to fill the gaps on note cards with black marker. Black arrows can be drawn from each gap note card to the MRA(s) it contributes to. The exact component(s) of the MRA that are current missing (are a gap) can be underlined in black, as can the exact component(s) of the corresponding MOG. What are your suggestions to fill these gaps? Note them in the box below:

Suggestions for filling gaps in MRAs and MOGs:

5. You should also identify repetition and synergies. What projects are together contributing to certain MRAs? Where is this creating too much repetition that needs to be eliminated so that resources are efficiently used? Where is this creating synergistic opportunities for co-development of knowledge, joining resources, etc.? What are your suggestions for minimizing the repetition and maximize the synergies? Note them in the box below:

Suggestions for minimizing the repetition and maximize the synergies:

6. Repeat steps 1-5 for the other flagships working in your region.

7. If this session was done without a full complement of research and development stakeholders from the flagships, you now need to take your impact pathway to those flagships and harmonize the project mapping with the regions.

**TIP**

In the design of your Impact Pathways or Theory of Change, i.e, the pathways that connect what you do (research actions) to impact (or IDOs) you have made several assumptions of how things will work, and the effects your work will have. It is important to make the main of these assumptions explicit, and discuss with stakeholders the factors that influence how changes happen on the ground, and what can be done to both overcome obstacles and use leverage points. We regularly make many assumptions around how things like “reach”, “use”, “contribute” happen.

8. Look at your MOGs, MRAs, Strategies and Partnerships: what assumptions have you made regarding these MOGs and MRAs, especially in how they will contribute to the flagship 2019 outcomes? What needs to happen to you’re your activities produce these outputs? Discuss how you expect these MOGs to reach next users, and contextual factors that influence the process. What are you assuming about how the partnerships will work to help your outputs reach and influence next users’ practices? Document these assumptions in the following box:

MOGs, MRAs, Strategies and Partnerships Assumptions:

9. Look at your outcome statements for 2019 and 2025: what assumptions have you made regarding these outcomes, especially in how they will contribute to CCAFS IDOs? What has to happen for these effects to happen? What factors influence these practice change processes? When you look at the total picture, do you believe that the theory makes sense? Is this theory of change FEASIBLE? Do we have the capacities and resources to implement the strategies that would be required to produce the outcomes in the pathway of change? Document these assumptions in the following box:

Outcomes assumptions:

## Conclusion

Congratulations, you have completed your impact pathway so that it harmonizes well with the scientific priorities of the flagships but meets the specific development priorities of your region (Figure 6).

Figure 6. Schematic representation of a harmonized CCAFS impact pathway, including projects. The diagram shows individual projects taking place in the different CCAFS regions contribute to a CCAFS flagship and support CCAFS in meeting its IDO targets.

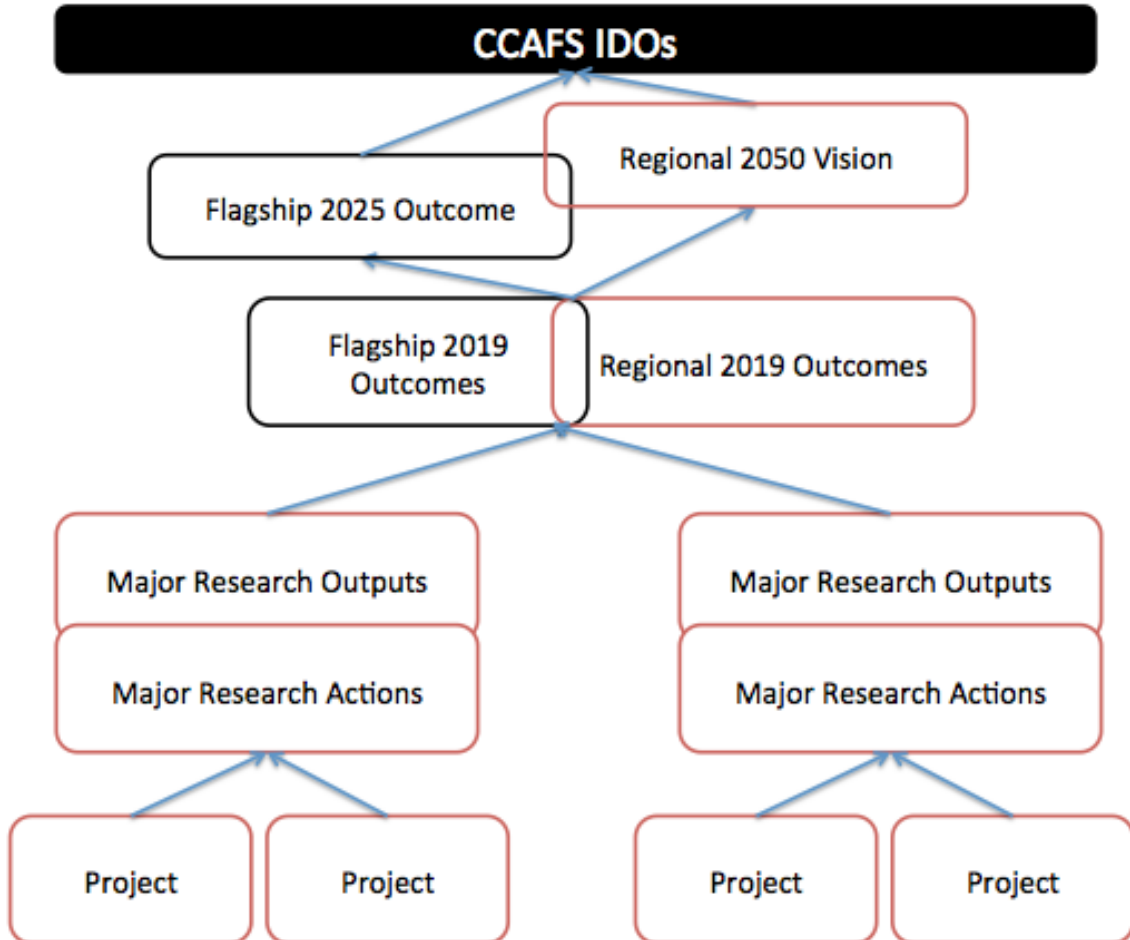
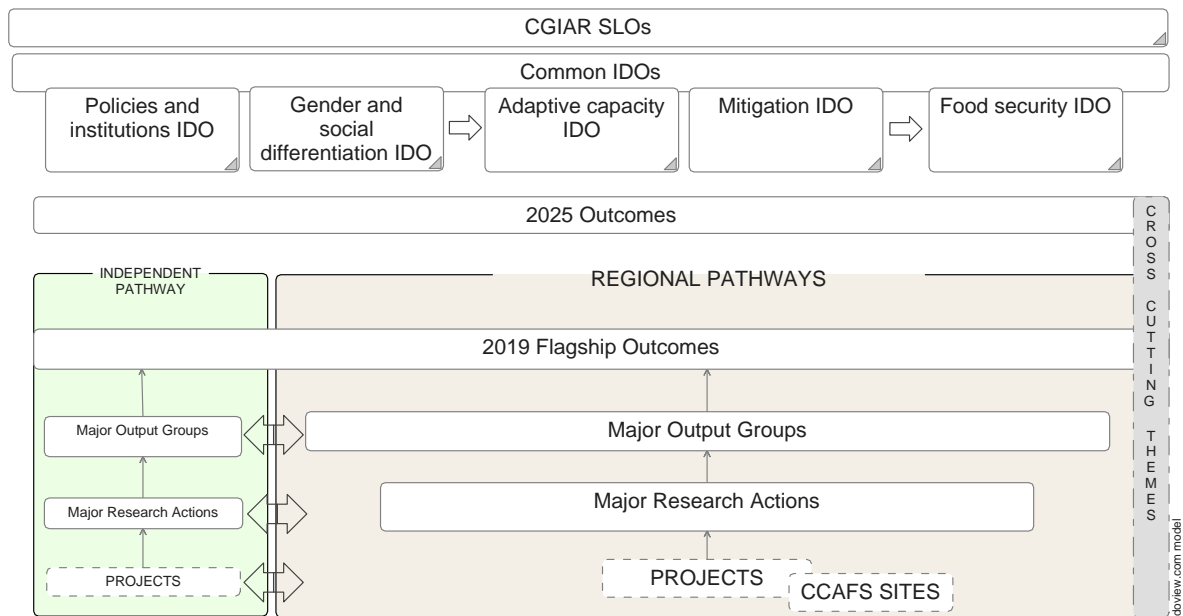


Figure 7. CCAFS contributes to the CGIAR strategic level outcomes (SLOs) through the common intermediate development outcomes (IDOs). The CCAFS impact pathway brings together 4 areas of flagship research to meet the climate change, agriculture and food security priorities of five global regions. Early progress on policies and institutions and gender and social differentiation is necessary in order to make later progress in terms of adaptive capacity and mitigation, eventually leading to food security.





## Your M+E Plan

### Summary

These last 2 sessions will help you identify indicators of progress along your impact pathway towards achieving your regional outcomes. These are very important sessions, because these indicators are your region's contribution to M+E in CCAFS. With the information provided by all of the regions and flagships, CCAFS will have the evidence necessary to report on our progress towards achieving our IDOs! You will also have an M+E plan that will allow you to report to your stakeholders about the specific impact that CCAFS is having in your region.

#### TIPS

- You will have seen that developing your impact pathway required close collaboration with the leaders of the flagships active your region to harmonize outcomes and identify research synergies, gaps and opportunities. Likewise, close collaboration with flagship leaders is critical when developing your impact pathway indicators. This is because the regional impact pathway will be providing the most important evidence in terms of the CCAFS flagship outcomes and eventually the IDOs. Therefore, the data from the different regional impact pathways must:
  - Harmonize across the regions to provide convincing evidence of progress towards the 2019 and 2025 outcomes.
  - Harmonize across the flagships to provide convincing evidence of progress towards the CCAFS IDOs.
- This level of harmonization requires good coordination, negotiation and compromise from all flagships and regions to create a system that provides CCAFS with the best possible evidence regarding annual progress towards the IDOs.
- The process is iterative. You will find that as the coordination occurs changes will be necessary to your regional indicators, and perhaps even to elements of your impact pathway. The same is true for the flagships.
- Completing the CCAFS regional and flagship impact pathways will involve the art of compromise.
- The end result will be a nested system of impact pathways that represents the complexity of the CCAFS program of a science driven agenda to meet regional climate change, agriculture and food security priorities!

## Session 7: Regional indicators and basic M+E plan

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Different color note cards
- Different color sticky notes
- Computer with these facilitation notes

**Background Documents:**

- Flagship 1 impact pathway
- Flagship 2 impact pathway
- Flagship 3 impact pathway
- Flagship 4 impact pathway

**Participants:** At a minimum CCAFS staff in your region and key advisors (from CGIAR centres and countries). Try to also include the relevant flagship leaders.

**Objective:** To identify change and progress indicators for the regional impact pathway that (i) harmonize with evidence being produced by other regions, (ii) harmonize with the flagship working in the region, (iii) ensure that CCAFS has a complete and compelling body of evidence regarding its impacts.

**Output:** Change and progress indicators for the region with basic M+E plan.

**TIPS**

- This session again assumes that you will be working on flagship 1 and completing the exercise before moving on to another flagship and repeating the exercise. If your group is large enough, break it into small groups according to flagship and have each group do the exercise for its flagship.
- Instead of working directly in the table provided for the session, participants may find it easier to work with flipchart paper, note cards and stick notes. This way they can brainstorm, and then move their ideas around as they refine their ideas and come up with a final list of indicators for the flagship regional outcome.
- This session is best done together with the flagship leader so as to avoid your region and the flagship doing the work, and then having to take the difficult step of harmonizing work that was done separately.

**Steps:**

1. Consider your 2019 outcome for flagship 1. Identify indicators of next-user behavior **change** that provide evidence that the outcome is or has been achieved. Try to develop a small set of indicators that tell a coherent story in terms of how CCAFS work in your region is enabling this outcome. Remember the difference between an impact, change and a progress indicator.

**Impact indicator:** A metric that provides evidence that a sustainable development impact has occurred that is consistent with the planned **IDO**.

**Example:**

- *IDO on Mitigation: Increased carbon sequestration and reduction of greenhouse gases through improved agriculture and natural resources management*
- *Impact indicator: % decrease in agricultural emissions intensities in countries of CCAFS intervention since 2010 (UNFCCC, FAOSTAT)*

**Change indicator:** A metric that provides evidence that **sustainable change** in next-user **behavior** has occurred that is consistent with the planned **outcome**.

**Example:**

- *Low emissions agricultural development 2019 Outcome: Ministry officials, NGOs, private sector, and farmers' associations are scaling up low-emissions agriculture through innovative institutions, incentives, and regulations.*
- *Change indicator: # of farmers involved in low-emissions agriculture initiatives including avoided deforestation/restoration, disaggregated by gender (location, CSA practice, date) – focus on 3-4 main practices in each region.*

**Progress indicator:** 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.

**Example:**

- *Low emissions agricultural development MOG: Policies based on evidence for incentives and regulations that avoid deforestation caused by agricultural commodities.*
- *Process indicator: # of NAMAs in place that were informed by CCAFS produced evidence.*

In most cases, you will have at least one indicator that is just like your outcome, but showing a unit of measure.

**Example:**

- *Policies and institutions for climate resilient food systems 2019 Outcome: By 2019, IFAD, WB, FAO, UNFCCC, AFD, etc. are engaging member countries and regional organisations to learn what their climate smart food system priorities are, and are appropriately directing their investments.*
- *Change indicator: % change in IFAD, WB, FAO, UNFCCC, etc. investments in equitable food system institutions that take into consideration climate smart practices/ strategies compared to 2014.*

Try as much as possible to choose indicators for which the source is an established survey or data source (e.g. CCAFS baselines, IMPACTlight, national statistics, etc.).

Remember, a SMART indicator is:

- *Specific* – target a specific area for improvement.
- *Measurable* – quantify or at least suggest an indicator of progress.
- *Assignable* – specify who will do it.
- *Realistic* – state what results can realistically be achieved, given available resources.
- *Time-related* – specify when the result(s) can be achieved.

Capture your change indicators in the table below.

Level (2019 outcome, MOG, MRA, project)	Indicator	Frequency	Source	Means of verification	Responsible person

2. Now go through your impact pathway for flagship 1 and identify indicators of progress for MOGs (*e.g. # of IOs in which CCAFS priority setting tools and outputs are being utilised to consider investment choices*) and MRAs (*e.g. number of IO stakeholders trained to priority setting tools*). Enter these progress indicators in the above table.
3. Review the project proposals that contribute to each MOG and MRA in flagship 1. You can do this by reviewing the paperwork, or inviting the project leads to the meeting for this session, or by holding a discussion with the PIs after you complete step 2. Will the project provide the evidence you need as identified in step 2? Discuss your evidence needs with the project leaders, including indicator, source, method of verification and person responsible. This is very important because in some cases projects will have to carry out baselines and other surveys to meet their M+E responsibilities.
4. As you can see, the majority of evidence for the flagship will come directly from the regions! Discuss the change and progress indicators with the leader of flagship 1. Work with the flagship leader to adjust where necessary the change and process indicators to ensure that the regional indicators provide evidence, or a sub-set of data, for the next indicator up (the flagship 2019 outcome).
5. Repeat steps 1-4 for each flagship that your region is participating in to compile to full set of change and process indicators in your region.
6. Now give your regional impact pathway indicators a holistic review. When considered as a set, does the package of indicators:
  - Provide evidence of annual progress along the impact pathway?
  - Provide quantitative evidence at reasonable time intervals (not necessarily annual) of next-user change?
  - Provide quantitative evidence at reasonable time intervals (not necessarily annual) of progress towards the IDOs?
  - Provide a rich qualitative story that provides a compelling context for the quantitative changes?
7. The above table is the basic information for your regional impact pathway M+E plan. Take careful note of baselines that need to be completed to launch your regional impact M+E, and develop a plan for carrying these out in a timely fashion. Likely your region will want to develop a formal document that provides the details of its

M+E system. Note the elements and necessary details for this system in the box below.

M+E system outline with notes on necessary details:

## Session 8: TOC review and reflection plan

**Time:** 1 hour

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Computer with these notes for completion of the tables

**Participants:** CCAFS staff in your region and key advisors.

**Objective:** To discuss innovative ways to review progress along the impact pathway and the basic assumptions and strategies in the TOC, and create a plan for an annual review.

**Output:** An annual plan of review for the regional TOC.

**Steps:**

1. Collect all of the notes you have made about assumptions, strategies, monitoring and partnerships. Create a single document from these notes that is your region's TOC. You have been provided with a **TOC template** that you can adjust to meet your needs.
2. Discuss with the group how they would like to reflect on the TOC so that they are confident that the TOC has been reviewed, tested and revised annually. Collect the notes from this discussion in the box below:

Notes on methods for impact pathway and TOC annual reflection:

**TIP**

Remember that at TOC is a hypothesis of what the group thinks is happening in the region, and will happen because of the work that CCAFS is doing. Think of this as a '**working hypothesis**' that should be reviewed regularly and revised based on that reflection process. The impact pathway and TOC annual review is an opportunity for the group to ask, "what is working", "what is not", and most importantly "**what do we need to change in our TOC and/or impact pathway to make sure we achieve our outcomes in a timely fashion?**"

3. From these notes develop an annual plan for documentation and reflection on your impact pathway and TOC. Your plan should have the following annual components.

<p><b>Outcomes</b></p> <ul style="list-style-type: none"> <li>- One or more indicator per 2019 outcome (quantitative and qualitative)</li> <li>- Developed and agreed on through consultation between flagship and regions</li> <li>- Be open to documenting ‘surprises’. Things that you hadn’t planned but that are creating momentum towards your outcomes. This may lead to major changes in your impact pathway!</li> </ul>		
<p><b>Major output groups (MOGs)</b></p> <ul style="list-style-type: none"> <li>- Documents progress in achieving MOGs (quantitative and qualitative)</li> <li>- Developed and agreed on through consultation between flagship and regions</li> </ul>	<p><b>Major research actions (MRAs)</b></p> <ul style="list-style-type: none"> <li>- Documents progress in achieving MRAs (quantitative and qualitative)</li> <li>- Developed and agreed on through consultation between flagship and regions</li> </ul>	<p><b>Projects</b></p> <ul style="list-style-type: none"> <li>- Documents contribution of each project to flagship actions and output group</li> <li>- Often based on verification of deliverables, but narrative annual reports should provide interesting anecdotal information about implementation, particularly in terms of partnerships and stakeholder interactions</li> <li>- Developed and agreed on through consultation between PIs and RPLs and flagship leaders</li> </ul>
<p><b>Backstory</b></p> <ul style="list-style-type: none"> <li>- Provides a rich narrative, about the four sets of indicators</li> <li>- Be creative in choosing your methods: video, photo narrative, infographic, etc.</li> <li>- Allows projects, regions, flagships to tell their story of progress and contribution to the overall CCAFS impact pathway</li> </ul>		
<p><b>TOC Reflection</b></p> <ul style="list-style-type: none"> <li>- Review of the TOC in terms of progress, decisions and changes based on M+E and reflection. Pay special attention to the region’s assumptions and strategies. Are the assumptions still holding? Are the strategies working? The regional team should develop guidelines for the reflection, including a checklist of what to consider.</li> </ul>		

## Conclusion

Congratulations! You have completed your regional impact pathway and basic ML+E (monitoring, **learning** and evaluation) plan. Your regional impact pathway and ML+E system form a very detailed plan. For communication purposes, you and your team, in close exchange with your communications people, should develop a simplified version that gets the important points across to your stakeholders. Visual software is quite handy for this – Power Point, Prezi, Novamind, etc.

By planning your region's work in this way, you have a solid plan for its implementation, management and evaluation. But it also allows you great flexibility. Your TOC and impact pathway are your best hypothesis right now on how to contribute to achieving your outcomes. Through the ML+E process you get to critically evaluate the validity of that plan over time, and can adapt your impact pathway and TOC as required to regain momentum towards achieving the CCAFS IDOs in a timely fashion and at as large a scale as possible.

***The next step is to develop with stakeholders an impact pathway and ML+E plan for each site in your region, so that they nest into the regional impact pathway.***



## FACILITATION GUIDELINES FOR CENTRE PARTNERS

Below is a series of questions that will help you work through developing a Theory of Change (TOC), impact pathway and monitoring and evaluation (M+E) plan for your **project**. These notes are designed to facilitate the development of an impact pathway. You can use them for your own work, or you can use them to facilitate others in the impact pathway process.

### TIPS

- Work through the questions in order.
- We recommend breaking your meetings up into short sessions of 1-3 hours so that people stay fresh and have time for reflection. The questions below are divided into suggested sessions.
- You may want to do this work with your partners in a workshop setting.

These questions are designed with the assumption that you are starting from the beginning. But some of our centre partners have already made significant progress towards designing their impact pathway. If this is the case for you, then you will find that going through the sessions will help you review and revise your work, while some sessions will allow you to take a step forward.

### TIPS

- Work through a question to the end, and don't let uncertainty "bog you down". Where there is confusion or disagreement, note down the ideas that come up, and then return to that question later.
- Remind your colleagues that:
  - Developing a TOC and impact pathway is an iterative process that will lead to improvements in the product **over time**,
  - Your impact pathway is a piece nested in a wider CCAFS impact pathway, and
  - Your impact pathway links with the overall CCAFS impact pathway through a flagship pathway that occurs in a specific region(s),
- Review, discussion and negotiation will be necessary to ensure the nesting occurs and all the impact pathways are harmonized in their contribution to the IDOs.

These facilitation notes provide you with many examples. *All examples are in italics*. Tables are provided in each session to compile your notes and results. Please add more rows to capture all of the information you are developing.

You can also create a graphic impact pathway that captures the most important elements. This allows you to see linkages more readily. DoView (<http://www.doview.com/>) is an easy to use graphic software for impact pathways. Power Point also works.

There are some terms used in these notes that may be new to some users. A **glossary** has been provided.

## TIPS

You will find tips boxes throughout these facilitation notes. They remind you of key points, and provide you with facilitation recommendations. The methods you choose to facilitate different steps in a session will depend on what you're comfortable with, and social-cultural norms. But always encourage everyone to speak up, and always try to use active exercises. Be creative!

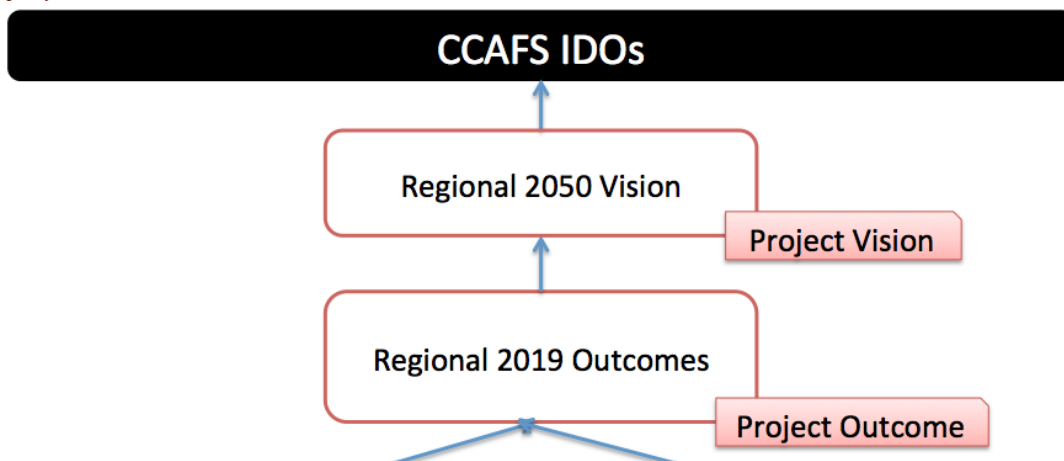
- You can use several methods to facilitate a session:
  - **Large group:** Sometimes it helps to have everyone in the session working all together. This works well if you have up to 10 people. It can cut down on time because you don't need to harmonize small group work during the session. But if the group is too large it will increase time because you need to capture everyone's ideas one-by-one.
  - **Small group:** If you have more than 10 people, consider breaking them into groups. The different groups can address the same task and you can harmonize the work in plenary afterwards. Or if there are multiple tasks, each group can do a separate piece of the work. For example, developing the impact pathways for different outcome.
  - **Note cards:** Each participant can write their idea on a note card. Then each person can present the idea. This is a helpful technique when there is a divisive issue under discussion, because everyone listens to the presenter without criticizing. You can also collect the cards and present them yourself. This makes the ideas anonymous, which can also be helpful when there are competing ideas in your session.
- This guide has lots of tables to complete. Focusing only on tables in a computer can be exhausting. Consider creative ways to engage the discussion and develop the information, and then capture it in the tables afterwards:
  - **Drawing:** Small groups can draw a map or a picture, for instance of the outcome they would like to see.
  - **Reporter:** You can have a small group elect a 'reporter' that interviews the other group members to draw out the ideas and then present them to the larger group.
  - **Note cards and sticky notes:** When dealing with complex topics, like many different projects leading to different major research actions, people can write the different components of the impact pathway on note cards, sticky notes, etc. and move them around on a board to see different relationships.
  - **Symbols:** To capture nuanced information, symbols like colors, shapes, the thickness of lines, etc. can be used to capture them.

## Building the Upper Levels of your Impact Pathway

### Summary

The first four sessions will help you build the upper (aggregate) level of your project impact pathway (Figure 1). You will produce a visual looking something like this, but keep track of all of your notes as background to the diagram of your impact pathway! Much of this background information will form your theory of change (TOC).

Figure 1. Schematic representation of the upper levels of a CCAFS project impact pathway, showing how the project relates to and supports achievement of the outcomes and vision of the region where the project works.



When you read through the first 3 exercises for the first time, you will notice that they involve the same participants and that one session leads to another. Therefore, consider conducting these sessions as a short workshop of 2-3 days, depending on the level of experience your participants have with outcomes thinking.

#### TIPS

These notes assume that yours is a flagship project that takes place in one CCAFS region.

- If your project takes place in more than one region, you will need to harmonize your impact pathway with each relevant region.
- If yours is a flagship project that is not region specific, you can use these notes to harmonize with the flagship's 'independent' impact pathway rather than with a specific region.
- You can also adjust these notes and use them to build a project impact pathway even if it isn't under the rubric of CCAFS!

## Session 1: Project Vision

**Time: 1 hour**

### Materials:

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Digital camera (optional)
- Computer with graphic software and these facilitation notes

### Background Documents:

- CCAFS Phase 2 draft proposal
- CCAFS Regional Impact Pathways
  - Impact Pathway for East Africa
  - Impact Pathway for West Africa
  - Impact Pathway for Latin America
  - Impact pathway for Southeast Asia
  - Impact Pathway for South Asia

**Participants:** The project team. You should also include some of the CCAFS staff from the region and flagship. You may also consider including other key informants from the region (government, academia, NARS, private sector, etc.)

**Objective:** To develop a consensual CCAFS vision for the region.

**Output:** A regional CCAFS vision and a problem tree that identifies determinants (problems to be addressed by the program).

### Steps:

1. Review the CCAFS vision for the region where you are working, the CCAFS IDOs and the CGIAR SLOs from the context in which CCAFS works – climate change, agriculture and food security.

#### CCAFS regional visions:

- West Africa Vision 2064: The food system is resilient to climate change, and the region is food secure. Natural resources are sustainably managed, and agriculture is climate smart. Science-based knowledge guides policy for institutional investments in climate smart agriculture and improved livelihoods.
- Southeast Asia Vision 2064: The region has a stable food supply, with consumers, particularly rural and urban poor, having adequate access to food commodities. Farmers and communities practice climate-smart technologies and are resilient to climate change. Institutional capacities and capabilities of the public and private sector in implementing climate change measures are strong. Climate change adaptation and mitigation measures are integrated in regional and national development plans. These leads to more resilient agriculture in the region with a reduced contribution in GHGs.

- East Africa Vision 2064: A climate resilient region that is food and nutrition secure with equitable access to livelihood opportunities and reduced GHG emission intensity from food systems that is supported by well-coordinated institutional frameworks for enabling policies and increasing investments in agriculture and natural resource management.
- South Asia Vision 2064: Large-scale investments in science-informed climate smart agriculture practices, institutions and policies in the region, leading to long-term food security and poverty alleviation.
- Latin America Vision 2064: Instead of being totally dependent on climate variability, the agricultural sector in Latin America (LAM) manages climate to its advantage, or at least to avoid the bulk of negative consequences. LAM farmers and agricultural sector understand and react knowledgeably to climate variability and challenges, and implement sustainable and climate adapted practices to secure a stable food supply and reduce food insecurity. Policy makers and planners at the national level are truly using climate information and tools to design and implement plans and strategies, and are finding ways to make climate information useful and applicable for end-users. Policy makers and planners are proposing policy and interventions that combine and consider the trade-offs between adaptation and mitigation towards a low emissions agricultural development.

#### CGIAR SLOs:

- Less rural poverty
- Better food security
- Better nutrition and health
- Sustainably managed resources

#### CCAFS IDOs:

- 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**”).
- Increased carbon sequestration and reduction of greenhouse gases through improved agriculture and natural resources management (“**Mitigation**”).

2. Consider this guiding information in terms of your project in the region where you work. Write a short statement (2-3 sentences) that describes the region 50 years – a vision – from now, in terms of your project’s purpose. Remember, this vision is for the next generation. It should be quite aspirational, the world (in your region) we want our children to live in. (Excel workbook, spreadsheet ‘S1-Vision’)

Your project's vision:

3. Now we are going to go through a 'problem tree' analysis. You can find a very useful [Guide for Problem Tree Analysis](#) online. Below is a simplified version of this exercise.

#### **TIPS**

In the exercise below the participants write directly on flipchart paper. An alternative is to provide them with different color cards to represent reasons and determinants. The steps for the problem tree analysis (4-10) are written as if you have one group.

- If you have more than 10 people, it may be too cumbersome to keep the whole group together and you may choose instead to break the participants up into 2 or more smaller groups.
- If you break into smaller groups, you may choose to break into 2-3 groups with each group addressing a single main problem. When all the small groups complete the work have them present their results to one another.
- If you have more than one group addressing the same problem you may choose to close the session by harmonizing the differences between the group work in plenary.
- Focus your group(s) on the problems that can be addressed and with less focus on the problems that are beyond the project team's control.

4. Ask participants what the 2-3 main problems are in terms of achieving the project vision? Write these problems on the extreme right side of a blank sheet of flipchart paper, one problem per flip chart paper.
5. Start with the first problem and ask why it is happening. It helps to think in terms of what the underlying social, economic and/or environmental causes of this problem are, particularly when it comes to climate change, agriculture and food security. You may find that there is one large reason, or you may identify a few. Write them to the left of the problem and connect them with an arrow to the problem.
6. Now look at the reason(s) that you identified and ask yourself, why those things or causes are occurring. Write those in the next column to the left and again connect them to the cause(s) they contribute to in the previous column with an arrow(s).
7. You will notice that you are drawing a tree with the branches pointing to the left. Keep going. We call this exercise the 5 whys, because it usually takes asking 'why' five times to get to get to a root cause(s) or determinant(s). These are the things that must be addressed first in order to make progress towards the regional vision, and help define the outputs your project needs to produce in order to contribute to that progress.

8. Once all of the branches have been completed to a final determinant, you can stop. Now review the entire tree. Identify those problems that your project can address with a red dot, and those that are beyond your project with a black dot.
9. Do the same exercise for the remaining main problems.
10. Capture your full 'problem tree' electronically using Power Point or another graphic program, see also Excel workbook, spreadsheet 'S2-ProblemTree'.

### Session 3: Project Outcome(s)

**Time:** 1 hour

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Computer with graphic software and these facilitation notes
- 'Generic CCAFS flagship project impact pathway planning table' Excel file

**Background Documents:**

- CCAFS Regional Impact Pathways
  - Impact Pathway for East Africa
  - Impact Pathway for West Africa
  - Impact Pathway for Latin America
  - Impact pathway for Southeast Asia
  - Impact Pathway for South Asia
- CCAFS Flagship impact pathways
  - Flagship 1 impact pathway
  - Flagship 2 impact pathway
  - Flagship 3 impact pathway
  - Flagship 4 impact pathway

**Participants:** The project team. You should also include some of the CCAFS staff from the region and flagship. You may also consider including other key informants from the region (government, academia, NARS, private sector, etc.).

**Objective:** To develop a consensus outcome for your project.

**Output:** A project 2019 outcome.

**Steps:**

1. Using the CCAFS regional impact pathway for where you are working, ask the participants to review the 2019 outcome in your region that corresponds to the flagship that you are working under. Then use the flagship impact pathway to review its 2019 outcomes. Identify the 2019 outcome(s) that your project is contributing to in the flagship impact pathway(see Excel workbook, spreadsheet 'S3-Outcomes-indicators' to select from). Capture this in your Excel workbook, spreadsheet 'Project table' column A.

**TIPS**

- Each flagship 2019 outcome is an ambitious target. A single project usually only *contributes* to one 2019 outcome.
- Remember, the more 2019 outcomes relevant to your project, the more you need to measure and the more evidence you need to provide!
- If your project is contributing to more than one 2019 outcome, copy and paste the project table into a new worksheet for each new 2019 outcome. Work on one 2019 outcome per worksheet.



2. In terms of your project, who are the next-users that must participate in the achievement of the regional and flagship 2019 outcome(s)? Be as detailed as possible, making a long list of specific people and organizations, see Excel workbook, spreadsheet 'S3-NextUsers'. Make sure you are identifying next-users, not end-users:
  - **Next-users:** Boundary partners that can create an environment that enables the target impact for end-users; decision-makers that you need to influence.
  - **End-users:** The beneficiary population; usually quite massive, making it unfeasible for a project or program to work with them directly.
3. Now group the next-users into a short list of next-user groups. Capture these groups in your Excel workbook, spreadsheet 'Project table' column E. Ideally you should have no more than 5 or 6 next-user groups.
4. Look at each group of next-users. How does each group need to change their behavior and practices in order to create an environment where they can contribute what is necessary for achieving the regional and flagship 2019 outcomes? These we will call "practice changes". Review the list of practice changes you have documented. Combine these into a single major practice change that addresses the most important or even all of the groups of next-users.

Now rephrase the practice change that you wrote so that it is an **outcome statement**. Use active terms, like – are using, are implementing, are accessing, are writing... An outcome is written as:

Exactly **who** is doing **what...differently**?

Outcomes are changes in **next-user** knowledge, attitudes, skills and practices.

- **Do not!** Write an impact statement: *6 million climate resilient smallholder farmers in Kenya* (this is an impact, and it deals with **End-users**)

***Example outcome statement:***

*International organizations like IFAD, WB, FAO, UNFCCC, etc. are engaging member countries to learn what their climate smart food system priorities are, and appropriately direct their investments.*

5. Return to your problem tree. Will this practice change/ outcome as formulated in your project outcome statement allow these next-users to tackle and solve the first root cause(s) of the problem? If no, you may want to revise the practice change until it does.
6. Draft your project's outcomes statement in the following box, and then transfer to your Excel workbook, spreadsheet 'Project table' column F

Outcome statement:
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## Session 4: Barriers and incentives to change

**Time:** 2.5-3 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Computer with graphic software and these facilitation notes
- 'Generic CCAFS flagship project impact pathway planning table' Excel file

**Participants:** The project team. You should also include some of the CCAFS staff from the region and flagship. You may also consider including other key informants from the region (government, academia, NARS, private sector, etc.).

**Objective:** To identify the changes in knowledge, attitude and skills, and the incentives, that need to be in place if your project is going to achieve its practice outcomes.

**Output:** Knowledge, attitude and skills outcome for each practice outcome.

**Steps:**

1. Review your problem tree, and then your project's practice change outcome. Why aren't those next-user groups already making the necessary decisions to address the causes of the problem and achieve the outcome? What barriers do they face in terms of incentives, agency, norms and external factors?
  - **Incentives** – relates to more 'rational choice' concepts of behaviour analysis that state that decisions to adopt specific behaviours are based on perceived costs and benefits. This applies to both individuals and institutions, and is related to the development of attitudes and values regarding the importance of, or potential returns from a particular action.
  - **Capacities and competencies** (real or perceived) of an individual or an institution to achieve an outcome by the adoption of certain behaviours, access to information, knowledge, skills and other financial and infrastructural resources.
  - **Norms** – relates to social norms, traditions and habits that shape the actions of individuals and institutions. Many individuals and institutions experience a certain amount of inertia, or mimicking that can shape actions even in the presence of other influencing factors.
  - **External factors** – relates to factors outside the individual or the institution that affect behaviours. In the case of CCAFS this more frequently involves the behavioural changes in other institutions within the system that affect the behaviours of another. This would traditionally be called the enabling environment, yet in the CCAFS programme many of these systems and institutions are also stakeholders in the programme itself, and thus are less 'external'.

Complete the first two columns of the following table, one row per next user group. You will find a spreadsheet with this table also in your Excel workbook, spreadsheet entitled 'S4-KAS-Barriers-Incentives'.

Next-user group	Barriers	Outcome(s)			Incentives
		Knowledge	Attitude	Skills	
<i>Example: International organizations relevant to climate change, agriculture and food security: IFAD, WB, FAO, UNFCCC, WTO, WFP</i>	<ul style="list-style-type: none"> <li>- Do not know what the CC priorities of the constituent countries are because successful engagement is blocked by bureaucratic structures and culture</li> <li>- Don't direct their investments towards the true CC priorities of constituent countries</li> <li>- Constituent countries lack the capacity to understand their own CC priorities, and to convey their priorities to funding organizations</li> </ul>	<i>Know what the priorities of constituent countries are</i>	<i>Believe that they must engage with constituent countries in order to be effective</i>	<i>Can identify and fix problems in their bureaucratic structures that are blocking successful communication with constituent countries</i>	<ul style="list-style-type: none"> <li><i>Thinking beyond monetary incentives, e.g.</i></li> <li><i>- capacitating people,</i></li> <li><i>- access to international regional networks (conferences),</i></li> <li><i>- helping to organize more man power for them increase their staffing</i></li> </ul>

2. What must these next-users groups learn, understand, learn how to do, appreciate, etc. in order to reduce those barriers? Write those changes as Knowledge, Attitude and/or Skills (KAS) outcomes. To be able to change a practice or behavior, people usually need to first *know/understand* the change in practice and its advantages, and/or have *developed the skills* to do it, or at least to *believe or trust* the benefits of changing it. For each next-user group, make explicit 2-4 KAS changes that are key to their changing their practice.

**Example:**

- *Agricultural extension workers believe that targeting women in their countries is the best opportunity for increasing adoption of climate smart agriculture.*
- *Extension series in the ministries of agriculture and environment are using CCAFS gender-targeting research and development tools to re-design extension programs.*

3. Enter these outcomes in the remaining three columns of the above table, or add them directly to the Excel workbook, spreadsheet 'Project table' column G.
4. Finally, what incentives would help each next-user group overcome its barriers and achieve its KAS outcomes? Capture these in the last column of the above table. Think of these incentives also in terms of what tangible products/deliverables/ outputs will your project produce.
5. In the box below, make a list of best-bet products (already existing) or deliverables from your project that will support the achievement of the changes that you describe (*e.g. decision support tool, training manual, guide, etc.*). Excel workbook, spreadsheet 'S4-Deliverables'

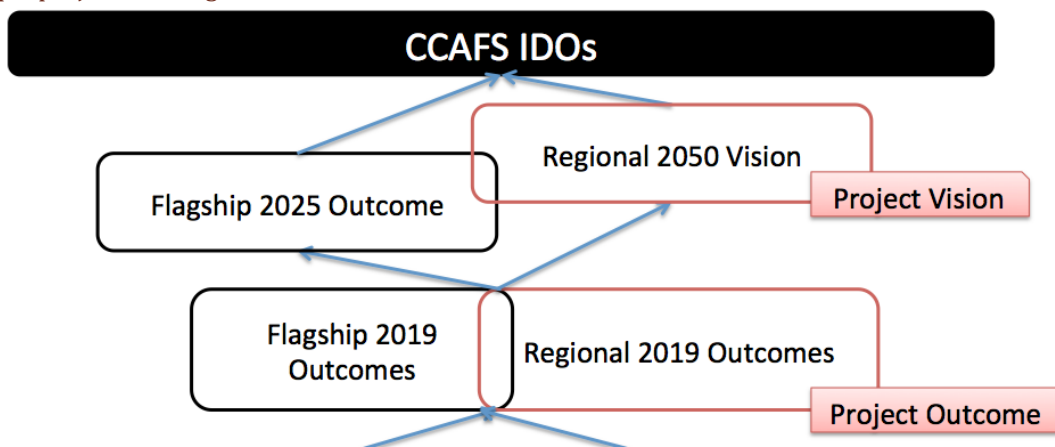
Best-bet products and deliverables for supporting change:

## Conclusion

Congratulations, you have now completed the upper level of your project impact pathway! In doing this work you will have noted how important it is to harmonize the project impact pathway with the pathways of the region where the project takes place. This also ensures harmonization with the flagship impact pathway of your project.

The upper levels of each flagship impact pathway, when harmonized with the pathways of the regions, will link directly with the regions and your project at the 2019 outcome level while the flagship 2025 outcome will be a step in the progress to the regional and project vision statements (figure 2).

Figure 2. Schematic representation of the upper levels of a harmonized CCAFS impact pathway. Each flagship will harmonize with between 4 and 5 regional impact pathways and the pathways of multiple projects, through the 2019 outcomes.



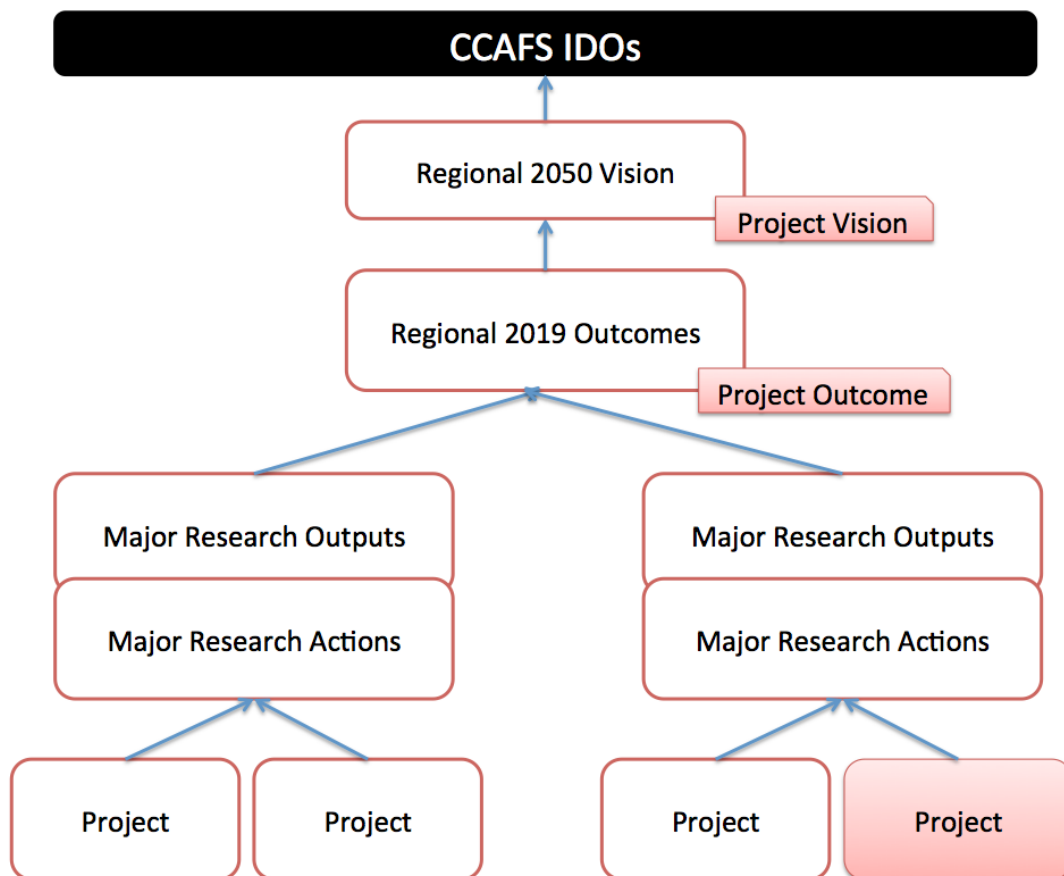
This close harmonization will continue into the lower levels of the impact pathway.

## Making sure you are Contributing to the CCAFS Impact Pathway

### Summary

The next 2 sessions will help you identify how your project is contributing to the major research outputs and actions of the CCAFS region where you are working, and plan the details of your project's activities

Figure 3. Schematic representation of a complete CCAFS regional impact pathway. Each 2019 outcome will be supported by a small set (1-3) of major research outputs (MOGs) and major research actions (MRAs) to which multiple projects in the region contribute. Thus a single project will contribute to the region through a set of MRAs and MOGs.



## Session 5: Mapping to regional major output groups (MOGs) and major research actions (MRAs)

**Time:** 2 hours

### Materials:

- Flipchart paper
- 3-4 colors or markers
- Computer with graphic software and these facilitation notes

### Background Documents:

- Project proposal
- CCAFS Regional Impact Pathways
  - Impact Pathway for East Africa
  - Impact Pathway for West Africa
  - Impact Pathway for Latin America
  - Impact pathway for Southeast Asia
  - Impact Pathway for South Asia

**Participants:** The project team. You should also include some of the CCAFS staff from the region and flagship. You may also consider including other key informants from the region (government, academia, NARS, private sector, etc.).

**Objective:** To identify exactly how the project will contribute to CCAFS's regional major output groups (MOGs) and major research actions (MRAs) for the target flagship.

**Output:** Project contributions to regional MOGs and MRAs.

### Steps:

1. Ask the participants to return to the flagship 2019 outcome that your project is contributing to. Review the associated outcome indicator(s), and capture it in your Excel workbook, spreadsheet 'Project table' column B.
2. What indicator(s) can your project measure that provides evidence towards the 2019 outcome indicator? Capture this indicator in your Excel workbook, spreadsheet 'Project table' column C.

#### TIPS

- Your project should have only 1-2 indicator(s) per flagship 2019 outcome, so this indicator will apply to multiple project activities.
- The indicator(s) you choose for your project should provide clear evidence in terms of the flagship 2019 outcome indicator.

### Example:

- **Flagship 4 2019 outcome:** *National/sub-national governments enact food security policies and institutions that take into consideration climate smart practices / strategies.*

- **Flagship 4 2019 outcome indicator:** # of equitable/enhanced food security policies and institutions that take into consideration climatic and other uncertainties enacted by national/sub-national governments.
- **Project-based indicator in East Africa:** # of national food security policies and institutions needing refinement to take into consideration climatic and other uncertainties upon which action has been initiated.

3. What method will you use to measure the project-based indicator? Enter this information in the Excel workbook, spreadsheet 'Project table' in column D.
4. Ask the participants to review the major groups of outputs/products/ 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) of your flagship in the regional impact pathway where you work. We will call them MOGs for short. This refers to deliverables and products already planned into projects, the ones approved in the concept calls, which may be modified, added to, altered a bit, but not really change completely at this stage. Identify the MOG(s) that your project contributes to, keeping in mind that likely no single project can deliver an entire MOG.

**TIPS**

- Each MOG is an ambitious target. A single project usually only contributes to one such group.
- Remember, the more MOGs that you contribute to, the more you need to measure and the more evidence you need to provide!

5. Once you have identified the MOG(s) of the flagship in the region where you are working, break it down into its component parts, identifying those parts that your project will cover. Remember, it will take several projects working together to fully create a MOG. Capture your notes in columns of the following table or in the Excel workbook, spreadsheet 'S5-Mapping' columns A-C.

Regional MOG we contribute to	Parts of this MOG our project provides	Parts of this MOG our project does not provide

6. Next review and improve the list of best-bet products and deliverables for supporting change in session 4 so that they correspond to the MOGs your project is committed to. Note that these are not your project's research outputs. Here we need communication and other materials to support your next-users so that they can make the planned practice and KAS changes, see Excel workbook, spreadsheet 'S4-Deliverables'.
7. Now review the regional MRA(s) for your flagship that are relevant to your MOG(s). In a similar fashion break the MRA down into its component parts, identifying those parts that are covered by your project. If you partially cover a part, note exactly what your project is covering and what it is not. Remember, it will likely take



several projects working together to fully cover a MRA. Capture your notes in the table below or in the Excel workbook, spreadsheet 'S5-Mapping', further down columns A-C.

Regional MRA we contribute to	Parts of this MRA our project covers	Parts of this MRA our project does not cover

8. What assumptions have you made when thinking that your contributions to MOGs and MRAs? What are your strategies to make sure any negative assumptions are managed and the outcome is achieved? How will you monitor to ensure those strategies are fruitful? These are the assumptions and strategies in your TOC! Capture these notes in the following box or directly in your Excel workbook, spreadsheet, 'S5-Mapping' Column A further down.

Assumptions:

9. What are your strategies? *How will your project contribute* to making these MOGs and MRAs happen? What will your project do that is different? Better? *Strategies* can be the way (e.g., co-develop instead of impose) you do things. Strategies are also the timing, methods, partnerships, 'language', etc. you choose to use to make sure any negative assumptions are managed and each is achieved? Capture your notes in the box below or directly in your Excel workbook, spreadsheet, 'S5-Mapping' Column B further down.

Strategies:

10. How will you monitor to ensure those strategies are fruitful? Capture below or or directly in your Excel workbook, spreadsheet, 'S7-Project M&E Plan' column D.

Monitoring:

11. These assumptions strategies and monitoring plan are your TOC! Review them to make sure they are correct and will create an enabling environment for achieving your project targets.

## Session 6: Planning the details of your project

**Time:** 3 hours

### Materials:

- Flipchart paper
- 3-4 colors or markers
- Different color note cards (optional)
- Different color sticky notes (optional)
- Computer with graphic software and these facilitation notes
- 'Generic CCAFS flagship project impact pathway planning table' Excel file

### Background Documents:

- Project proposal
- CCAFS Regional Impact Pathways
  - Impact Pathway for East Africa
  - Impact Pathway for West Africa
  - Impact Pathway for Latin America
  - Impact pathway for Southeast Asia
  - Impact Pathway for South Asia
- CCAFS Flagship impact pathways
  - Flagship 1 impact pathway
  - Flagship 2 impact pathway
  - Flagship 3 impact pathway
  - Flagship 4 impact pathway

**Participants:** The project team. You should also include some of the CCAFS staff from the region and flagship. You may also consider including other key informants from the region (government, academia, NARS, private sector, etc.).

**Objective:** To plan in detail the research and other activities the project needs to carry out to make sure it is contributing as expected to the regional and flagship impact pathways through the MOGs and MRAs identified in session 5.

**Output:** A complete project impact pathway fully harmonized with relevant CCAFS regional and flagship impact pathways.

### Steps:

1. Now consider the specific research activities that your project will engage in and research deliverables the project will provide. Capture your activities and deliverables in terms of the target next-user group in columns 1-4 of the table below or in your Excel workbook, spreadsheet 'Project table' columns J-M. Revisit what you have captured from the previous sessions 1-4 and in your Excel workbook, spreadsheet 'Project table' for the anticipated changes in practice, knowledge, attitude and skills in these next user groups.

#### TIPS

- Keep the list of activities as short as possible, although you may combine sub-activities to produce a complete activity.

- Your activities should focus more on production of the information and support your next-users need, and less on the research you and your partners like to do.
- You may find you have some activities that your current partners can't cover, capture them and then consider what additional partnerships you need to carry out that activity.
- You also need to include production and analysis of the data for your project-based indicator.

2. Now consider who will be responsible for the production and completion of each activity and deliverable. Ensure that there is one person responsible as your contact person. Capture this person and their affiliation (partner organization) in column 5 of the below table or directly in your Excel workbook, spreadsheet 'Project table' columns N.
3. What assumptions have you made when thinking through the research activities for your project? Document these assumptions in the following box or directly in your Excel workbook, spreadsheet 'Project table' column P:

Assumptions:

4. What are your project's strategies to make sure that its activities contribute to the identified necessary practice and KAS changes (outcomes)? Capture this strategy for each activity in column 6 of the table below or directly in your Excel workbook, spreadsheet 'Project table' column Q. *Strategies* can be the way (e.g., co-develop instead of impose) you do things. Strategies are also the timing, methods, partnerships, 'language', etc. you choose to use to make sure any negative assumptions are managed and each is achieved?

Strategies:

5. How will you monitor to ensure those strategies are fruitful? Capture in the box below or directly in your Excel workbook, spreadsheet 'S7-Project M&E Plan' column D.

Monitoring:

6. These assumptions strategies and monitoring plan are part of your TOC! Review them to make sure they are correct and will create an enabling environment for achieving your project's targets.

Activity	Deliverable	(Target) Next-user group	Activity specific Knowledge, Attitude, Skills changes	Indicator of practice and/or Knowledge, Attitude, Skills change	Responsibilities: Partners	Assumption	Strategies

7. And finally, review your project proposal and make sure there is good correspondence between your project plan and the MRA(s) your project is contributing to. You may need to reconsider and revise the project plan in collaboration with the RPL and flagship leaders so that there is good correspondence.

## Conclusion

Congratulations, you have completed your impact pathway so that it harmonizes well with the scientific priorities of the flagships but meets the specific priorities of the region where you work (Figure 6).

**TIPS**

You will likely be asked to participate in regionally-based planning sessions where some or all project leaders working in the region plan how their specific research activities and deliverables contribute to the regional MOGs and MRAs. This is very important for identifying synergies, redundancies and gaps in the regional portfolio of projects.

- The region may facilitate your completion of these two mapping sessions during a larger regional meeting.
- Either way, it is helpful for your project team to work through these two sessions prior to joining a larger meeting so that you have sufficient background information and level of planning to fully contribute to the larger meeting.

Figure 6. Schematic representation of a harmonized CCAFS impact pathway, including projects. The diagram shows individual projects taking place in the different CCAFS regions contribute to a CCAFS flagship and support CCAFS in meeting its IDO targets.

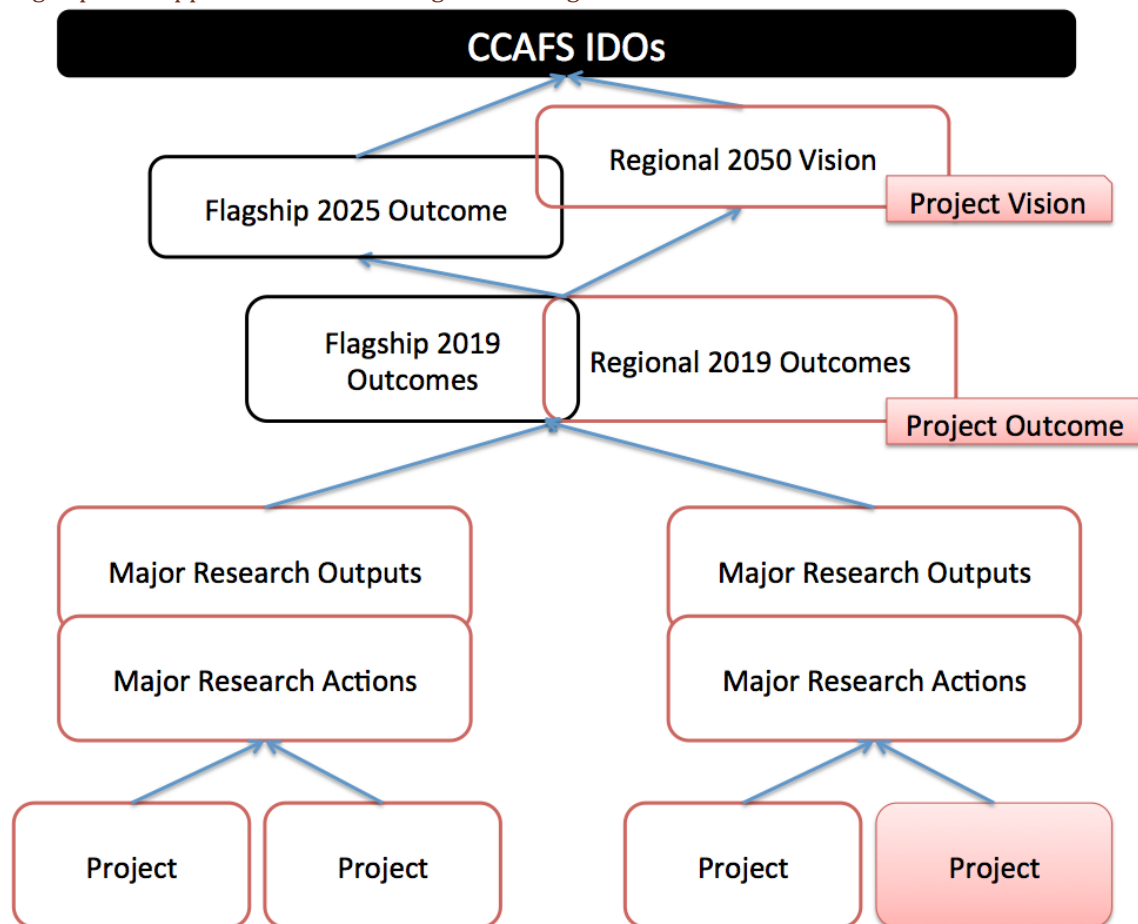
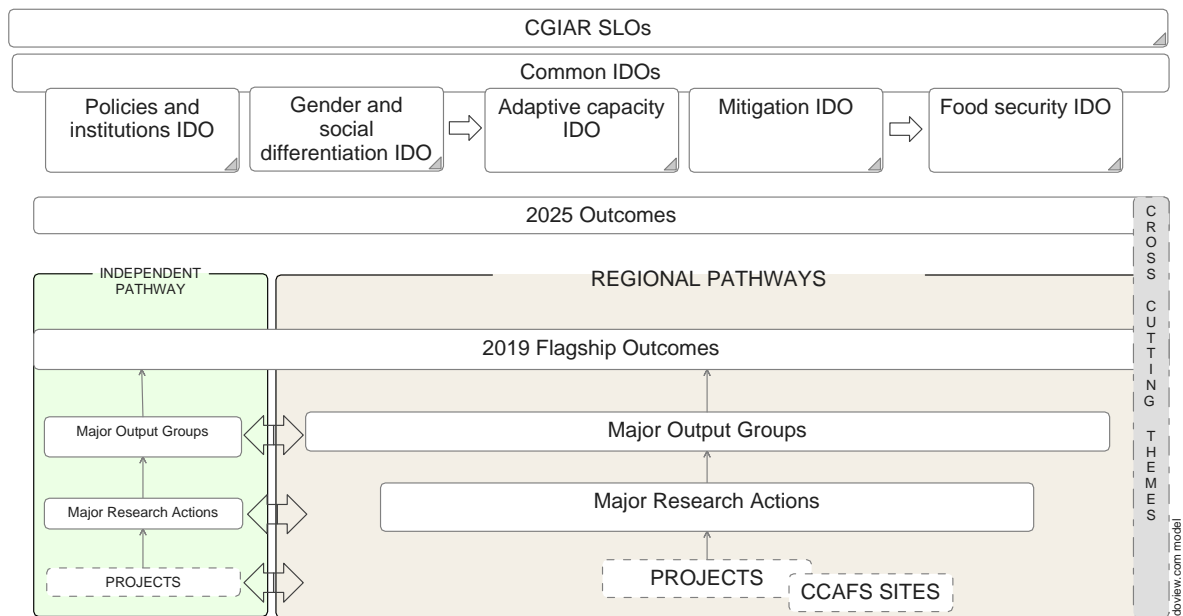


Figure 7. CCAFS contributes to the CGIAR strategic level outcomes (SLOs) through the common intermediate development outcomes (IDOs). The CCAFS impact pathway brings together 4 areas of flagship research to meet the climate change, agriculture and food security priorities of five global regions. Early progress on policies and institutions and gender and social differentiation is necessary in order to make later progress in terms of adaptive capacity and mitigation, eventually leading to food security.



## Your M+E Plan

### Summary

The last session will help you identify indicators of progress along your impact pathway towards achieving your project outcome. This is very important, because these indicators are your project's contribution to M+E in CCAFS. With the information provided, CCAFS will have the evidence necessary to report on our progress towards achieving our IDOs! You will also have an M+E plan that will allow you to report to your stakeholders about the specific impact that your project is having.

#### TIPS

- You will have seen that developing your impact pathway required close collaboration with relevant flagship and regional leaders to harmonize outcomes and identify research synergies, gaps and opportunities. Likewise, close collaboration with is critical when developing your impact pathway indicators. The data from the different regional impact pathways must:
  - Harmonize across the regions to provide convincing evidence of progress towards the 2019 and 2025 flagship outcomes.
  - Harmonize across the flagships to provide convincing evidence of progress towards the CCAFS IDOs.
- This level of harmonization requires good coordination, negotiation and compromise to create a system that provides CCAFS with the best possible evidence regarding annual progress towards the IDOs.
- The process is iterative. You will find that as the coordination occurs changes will be necessary to your indicators, and perhaps even to elements of your impact pathway.
- Completing the impact pathways will involve the art of compromise.
- The end result will be a nested system of impact pathways that represents the complexity of the CCAFS program of a science driven agenda to meet regional climate change, agriculture and food security priorities!



## Session 7: Basic M+E Plan

**Time:** 2 hours

**Materials:**

- Flipchart paper
- 3-4 colors or markers
- Computer with graphic software and these facilitation notes

**Participants:** The project team. You should also include some of the CCAFS staff from the region and flagship.

**Objective:** To create a plan that allows for innovative reflection and review of progress along the project’s impact pathway.

**Output:** A project M+E plan.

**Steps:**

1. Ask the group to review the project outcome indicator(s) from session 5, capturing them with a monitoring plan in the table below:

What to monitor?	For what?	For whom?	Indicator	How will you monitor?	How often? (Frequency)	Source	Means of verification	Responsible person

2. Now review the table of practice and KAS change indicators from session 6, (captured in your Excel workbook, spreadsheet ‘Project table’, columns M and N) and capture their monitoring details in the above table.
3. This table is the basis of your M+E plan. Complete parts a and b of the following outline for your plan:
  - a. Introduction – Description of the project and its contribution to CCAFS
  - b. Indicator M+E plan
    - i. Indicator table with relevant explanations
    - ii. Analysis and reporting
  - c. Theory of Change (TOC)
    - i. Assumptions
    - ii. Strategies
    - iii. M+E – including backstory and TOC reflection with guidelines
  - d. Appendix – project impact pathway
  - e. Appendix – project partners and personnel
4. Collect all of the notes you have made about indicators, assumptions, strategies, monitoring and evaluation. Discuss with the group how they would like to reflect on the impact pathway and TOC so that they are confident that the TOC has been reviewed, tested and revised annually. Complete sections c-e of the above outline. Your TOC M+E plan should include the following:

**Backstory**

- Provides a rich narrative, about the project and outcome indicators
- Be creative in choosing your methods: video, photo narrative, infographic, etc.
- Allows projects to tell their story of progress and contribution to the overall CCAFS impact pathway

**TOC Reflection**

- Review of the TOC in terms of progress, decisions and changes based on M+E and reflection. The project team should develop guidelines for the reflection, including a checklist of what to consider.

**TIPS**

Remember that at TOC is a hypothesis of what the group thinks is happening in the region, and will happen because of the work that CCAFS is doing. Think of this as a '**working hypothesis**' that should be reviewed regularly and revised based on that reflection process. The impact pathway and TOC annual review is an opportunity for the group to ask, "what is working", "what is not", and "**what do we need to change in our TOC and/or impact pathway to make sure we achieve our outcomes in a timely fashion?**"

## Conclusion

Congratulations! You have completed your project impact pathway and M+E plan. Your impact pathway and M+E system is a very detailed plan. For communication purposes, develop a simplified version that gets the important points across to your stakeholders. Visual software is quite handy for this – DoView, Power Point, Prezi, Novamind, etc.

By planning your project's work in this way, you have a solid plan for its implementation, management and evaluation. But it also allows you great flexibility. Your TOC and impact pathway are your best hypothesis right now on how to achieve your project outcome. Through the M+E and reflection process you get to critically evaluate the validity of that plan over time, and can adapt your impact pathway and TOC as required to regain momentum towards your outcome in a timely fashion and at as large a scale as possible. Considering revisions usually takes place during the annual reflection, and should be done in collaboration with the relevant RPL and flagship leader.

## TRAINING LESSONS LEARNT AND RECOMMENDATIONS

CCAFS is built around a science-driven agenda to meet regional climate change, agriculture and food security priorities. Our mandate is daunting, because we chose the regions where we work – Latin America, West Africa, East Africa, South Asia and Southeast Asia – because they are on the front line of climate change impacts on agriculture and the security of smallholder food systems. Achieving our mandate will take the best science, close partnerships, and time. Our ability to realize our mandate will be evaluated in terms of incremental progress towards our outcomes and IDOs.

The experience of this training has provided the CCAFS Working Group on impact pathways and M&E for results-based management with important skills in building TOCs, impact pathways and M&E systems, and experience helping others to do the same. It has also provided us with some insights regarding management of this process in a CRP.

Capacity to develop and implement TOCs/IPs/M&E plans needs to be mainstreamed throughout a CRP team, with at the very least capacity in each flagship, geographic area of implementation (region) and major partner. Ideally, the training of the CCAFS Working Group would have started at the very beginning of the TOC process, when the research flagships and CCAFS regions were identifying their priorities. This would have allowed them to work together to identify priorities and determinants using a problem tree analysis, cutting down on the need for so many iterations in the attempt to harmonize flagship and regional pathways. This type of collaborative process would have led to projects that harmonize well with the priorities of both flagships and regions, rather than needing to retrofit so many ongoing activities to impact pathways.

We recommend the following broad steps to capacity building and TOC development for CRPs:

- Identify a TOC/IP/M&E working group within the CRP with representatives from each flagship, region and major partner.
- Hold an introductory training for the working group in TOC and impact pathway development, with the objective of building their understanding of the process and capacity to facilitate others in the process.
- Co-develop draft flagship and regional impact pathways from IDOs to MRAs.
- Develop projects to meet the priorities spelled out in the MOGs and MRAs.
- Hold a refresher training for the working group in impact pathway harmonization and M&E planning.
- Map projects to impact pathways and M&E plan development.

We found that the working group members came with different levels of familiarity with the TOC process, and different levels of empowerment from their supervisors to represent their units. Given the limited amount of time available in a training-type setting, it is important that participants familiarize themselves with background materials prior to arriving at the training venue. The ability of the participants in our training to prepare themselves was limited by the short lead-up time to our training. It is also important for working group members to be fully conversant with the unit (flagship, region, centre) they are representing and that they have been empowered by their supervisor to participate in the training and TOC development process. The CGIAR is home to highly skilled professionals

that can be entrusted to communicate the mandate of the unit they represent, and to appropriately seek the input and validation of their team members.

A TOC process must be owned and supported by all levels of CRP management. By mainstreaming capacity from the beginning of the TOC process and empowering working group members, a CRP can manage much of the training and planning work as a collaborative process with CRP actors.

It is our plan, building on the learning provided by the CCAFS experience, to consolidate and simplify this manual for use by other CRPs along the lines of maximizing collaboration and co-development of impact pathways between flagships, regions and centres. Until then, the strong correspondence between sessions for flagships, regions and centres in this manual should be evident, and a skilled facilitator should be able to combine the sessions for the different units into co-development sessions.

In the end, designing outcomes oriented research is a change process. We are being challenged through the process to leave behind what we've all been trained to do as scientists – planning our work in terms of the research outputs we can create – and adopt a more development impact oriented approach. Such impacts cannot be achieved by science alone. We must work with strong partners – change agents – to achieve them. And we must ensure that all necessities are in place to enable that change. Often this means including in our plan non-research activities and strategies to enable outcomes. This level of change takes practice and time. As we become comfortable with our TOC as a hypothesis of how to best achieve our IDOs, we will be more comfortable in planning our work starting with the behavioral change that is necessary for those IDOs to happen.

## ANNEX 1: Theory of Change Format\*

*\*This is a joint format for regions and flagships. Where appropriate region or flagship specificity is indicated.*

1. Background
  - a. Brief description of CCAFS
  - b. Brief description of your CCAFS unit (flagship or region) – objectives, priorities, etc.
  - c. Vision (regions)
  - d. Flagships the region is participating in and why (regions)
  - e. Brief description of how the unit’s impact pathway was developed
2. Overall assumptions and strategies – those that cut across entire impact pathway
  - a. Assumptions
  - b. Strategies to ensure assumptions are positively managed
  - c. Monitoring of strategies
3. IDOs – the IDOs that the unit contributes to – why and how
  - a. Assumptions regarding this contribution to IDOs
  - b. Strategies to ensure assumptions are positively managed
  - c. Monitoring of strategies
4. Next-users
  - a. Problem tree analysis (regions)
  - b. Next-user groups, barriers and changes (import your table from your worksheets)

Regional worksheet table:

Next-user group	Barriers	Outcome(s)			Incentives
		Knowledge	Attitude	Skills	

Flagship worksheet table:

Next-user group	Barriers	Practice change

5. Outcomes

- a. 2025
  - i. 2025 outcome(s) relevant to your unit (1 for flagships, 3-4 for regions)
  - ii. Explanation of why these next-users and practice changes were prioritized (flagships)
- b. 2019
  - i. 2019 outcomes (regions complete for all flagships you're participating in)
    - 1. Flagship 1
      - a. Flagship 2019 outcomes
      - b. Corresponding regional 2019 outcomes
      - c. Explanation of why these next-users and practice changes were prioritized
      - d. How/why the flagship outcomes capture the regional ones (flagships)
      - e. Assumptions about how the 2019 outcomes contributes to the 2025 outcome(s)
      - f. Strategies to ensure assumptions are positively managed
      - g. Monitoring of strategies
    - 2. Flagship 2 (as above)
    - 3. Flagship 3 (as above)
    - 4. Flagship 4 (as above)

6. Major Output Groups and Major Research Actions (regions complete for all flagships they're participating in)

- a. Flagship 1 (table expanded from flagship worksheets to capture info from each region)

Flagship 2019 outcomes	Corresponding regional 2019 outcomes	Corresponding 2-3 major output groups	Corresponding major research actions
1.	EA WA SA SEA LA	EA WA SA SEA LA Global	EA WA SA SEA LA Global
2.	EA WA SA SEA LA	EA WA SA SEA LA Global	EA WA SA SEA LA Global
3.	EA WA SA SEA LA	EA WA SA SEA LA Global	EA WA SA SEA LA Global

- i. Assumptions about how the major research actions will create the major output groups, and how the major output groups will contribute to the 2019 outcomes
- ii. Strategies to ensure assumptions are positively managed
- iii. Monitoring of strategies
- b. Flagship 2 (as above)
- c. Flagship 3 (as above)
- d. Flagship 4 (as above)

7. Research projects

- a. Flagship 1 current projects under each major research action (regions will complete one table for each flagship they are participating in)

Region (EA, WA, LA, SA, SEA or Global)	Corresponding major research actions	Projects per major research action	Synergies	Gaps

- i. Assumptions about how these projects contribute to the major research actions
- ii. Strategies to ensure assumptions are positively managed
- iii. Monitoring of strategies
- b. Flagship 2 (as above)
- c. Flagship 3 (as above)
- d. Flagship 4 (as above)

8. Indicators

- a. Outcomes (regions will complete one table for each flagship they are participating in)
  - i. Flagship 1

IDO indicator	2025 outcome indicator(s) per IDO	Flagship 2019 outcome indicator(s)	Regional 2019 outcome indicator(s) per flagship indicator

- ii. Flagship 2 (as above)
- iii. Flagship 3 (as above)
- iv. Flagship 4 (as above)
- b. Unit M+E template

Level (e.g. project, major research	Indicator	Source	MoV	Responsible
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<i>action, major output group, outcome)</i>				<b>person</b>

9. Review and reflection for unit

<b>Outcomes</b> <ul style="list-style-type: none"> <li>- 2025 indicator(s)</li> <li>- 2019 indicators</li> </ul>		
<b>Major output groups</b> <ul style="list-style-type: none"> <li>- Documents progress in achieving the output groups</li> <li>- Include indicators from M+E template as well as a qualitative reflection</li> </ul>	<b>Major research actions</b> <ul style="list-style-type: none"> <li>- Documents progress in achieving the research actions</li> <li>- Include indicators from M+E template as well as a qualitative reflection</li> </ul>	<b>Projects</b> <ul style="list-style-type: none"> <li>- Documents contribution of each project to flagship actions and output group</li> <li>- Include indicators from M+E template as well as a qualitative reflection</li> </ul>
<b>Backstory</b> <ul style="list-style-type: none"> <li>- Provides a rich narrative</li> <li>- Be creative in choosing your methods: video, photo narrative, infographic, etc.</li> <li>- Allows projects, regions, flagships to tell their story of progress and contribution to the overall CCAFS impact pathway</li> </ul>		
<b>TOC Reflection</b> <ul style="list-style-type: none"> <li>- Review of the TOC in terms of progress, decisions and changes based on M+E and reflection. The flagship team should develop guidelines for the reflection, including a checklist of what to consider.</li> </ul>		

## ANNEX 2: Glossary of Definitions used by CCAFS

**Adoption:** In research in development impact pathways, adoption refers to the primary and direct use of the research output by beneficiaries. This use may lead to changes; i.e. outcomes and impacts.

**Beneficiaries:** the individuals, groups or organisations, whether targeted or not, that benefit, directly or indirectly, from the chain of events that research has contributed to.

**Baseline:** analytical description of the situation prior to research activities, against which progress can be assessed or comparisons made.

**Change Indicator:** A variable that provides evidence that sustainable change in next-user behavior has occurred that is consistent with the planned outcome.

**End-user:** The beneficiary population, usually quite massive, making it unfeasible for a project or program to work with them directly.

**Impact Indicator:** A variable that provides evidence that a sustainable development impact has occurred that is consistent with the planned IDO.

**Indicator:** 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 organisational or research performance.

**Intermediate development outcome (IDO):** targets are CRP level representing CRP specific target domains that are generated as a result of multiple activities by diverse actors outside CGIAR. Their scales reflect CRP target domain and estimated volume of benefits.

**Evidence:** The information presented to support a finding or conclusion. Such evidence should be sufficient, competent and relevant. There are several sources for evidence: observations (obtained through direct observation of people or events); documentary (obtained from written information); analytical (based on computations and comparisons); self-reported (obtained through, for example, surveys) and experiential (based on professions understanding and expertise that is accumulated over time).

**Impact:** the changes in welfare of final users (or beneficiaries), mostly farmer communities and others, as in the case of environmental impacts in the long-term (20, 50, 100 years), resulting from a chain of events to which research has contributed, directly or indirectly, intended or unintended.

**Impact Pathways (IPs):** Describe results chains, showing the linkages between the sequence of results in getting to impact (including assumptions underpinning the causal chain); causal pathways for research project or program that outlines the expected

sequence to achieve desired objectives beginning with inputs, moving through activities and outputs, and culminating in outcomes and impacts.

**Major output groups (MOGs):** 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.

**Major research actions (MRAs):** The large groups of activities that are necessary to create a major output group.

**Next-user:** actors such as national research institutions, extension organizations, NGOs and others, which access CG products directly. Next users can create an environment that enables the target impact for end-users; decision makers that we want to influence to achieve outcomes.

**Outcome:** The changes in next-users that need to happen so that an enabling environment is created and the impact target can occur. These are medium-term practice changes that occur through the adoption, use or influence of the research product by the next-users, who end up doing things in different ways. These practice changes are underpinned by the related necessary changes in knowledge, attitudes and/or skills. What do next-users need to **DO** to contribute to the enabling environment needed for achieving the impact target? In CCAFS we have 2 levels of outcomes, with 2019 outcomes shared between regions and flagships contributing to 2025 outcomes. The timestamp on the outcome represents the year by which CCAFS anticipates meeting the related outcome target in each flagship.

**Partners:** Individuals and organizations that we work with to generate our outputs and products and to interact with next users

- Expertise, network and influence with next-users
- Implementers

**Progress Indicator:** 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.

**Project:** The individual projects of research or development that contribute to a major research action.

**Results-based management:** management strategy focusing on performance and achievement of outputs, outcomes, and impacts.

**Theory of Change (ToC):** Complements impact pathways by describing the causal linkages through which it is expected that an intervention will bring about the desired results. Theory of Change is expressed as a causal model or a series of hypotheses of how the intervention worked or is expected to work.

**Use:** See Adoption

**Update:** See Adoption

## **ANNEX 3: Participant feedback and evaluation on the training**

At the completion of the training, participants were invited to vote on a scale of 5 (excellent) to 0 (poor) the training in terms of:

- Training objectives
  - o Were the objectives good?
  - o Were they met?
- Did you learn something new?
- Did you learn something that you will use?
- Friendliness of the environment
- Facilitation of the process
- The process itself – design of the facilitation notes and exercises

Voting results show that while all felt the process presented in this guide is good to excellent, some felt that the objectives of the training were too likely ambitious and they were not able to develop the full capacity that they had hoped for. In providing specific comments, participants made the following points:

- There is concern about regions taking the lead.
- There should have been more communication between groups, for example daily 10 minutes plenaries.
- Circulate materials earlier so we have a chance to look them over and discuss with people in our unit. Also, we can get started on the materials a little earlier if we get them in advance.
- It would be good to have all of the boxes in the facilitation notes up front, so we can see the big picture process at the beginning.
- Would have liked to spend more time on TOC processes, not just impact pathway.
- Different speeds in groups and between groups created challenges in progress.
- Provide more information about the participants.
- Centre/project level work lost sense of focus/purpose/integration by the middle of the week.
- Never heard what the centre group did.
- For the training later in the year: each unit should present at the beginning, highlighting feedback, changes, questions and concerns.
- For the training later in the year: Each flagship and region needs to come already with concrete proposals on how they suggest addressing the feedback and comments from the review process, and highlight the main issues to be solved.
- Ensure harmonization happens.
- Real exchange with and input from the regions is needed for the flagship impact pathways – they should drive the process too.

