Solving 'wicked' problems: can social learning catalyse adaptive responses to climate change?

A compendium of case studies

Edited by Marissa Van Epp and Ben Garside

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Overview

Social learning approaches can catalyse knowledge co-creation and action, so having the potential to help solve complex "wicked" problems such as climate change and food insecurity. Social learning is more than just group learning; it has an agenda for wider change. It encourages stakeholders to work together to implement and test solutions through iterative cycles of learning, action and reflection. Spreading the learning from this iterative process to wider stakeholder groups and networks allows for change on a larger scale. Institutional openness and support for such approaches is crucial for realising the potential for change.

The eight case studies in this compendium come from five diverse initiatives employing social learning approaches in responses to such problems using the Climate Change and Social Learning (CCSL) initiative's Monitoring and Evaluation framework. Working with each of these initiatives, the four dimensions of the framework have been explored in-depth – namely engagement, iterative learning, capacity development, and challenging institutions. The aim, to better understand when and how different processes across each dimension foster social learning in different contexts. Additionally, to track the progression from fostering process to resulting learning outcomes and positive changes in values and practice. The synthesis analysis across all the initiatives can be found in the working paper "Solving 'wicked' problems: can social learning catalyse adaptive responses to climate change?" (IIED 2016) available at http://pubs.iied.org/17390IIED

The peer assist approach used to gather these findings, aimed, as far as possible, to be a useful exercise in learning and reflection for the initiatives concerned. The authors of each case study in this compendium are listed in the respective study. The International Institute for Environment and Development (IIED) would like to thank the following for their participation in this work:

- **African Climate Change Resilience Alliance (ACCRA)**
  (case study page 2)
- **Fundacão Amazonas Sustentável (FAS), leading the Bolsa Floresta Programme**
  (case study page 23)
- **Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA)**
  (case study page 85)
- **Policy Action for Climate Change Adaptation (PACCA)**
  (case study page 106)
- **The Potato Park communities, ANDES, and CIP**
  (case study page 121)

African Climate Change Resilience Alliance (ACCRA)

Climate Change Social Learning (CCSL) case study in Uganda

By Marissa Van Epp and Tracy Kajumba

November 2016

iied ACCRA AFRICA CLIMATE CHANGE RESILIENCE ALLIANCE

1.Key findings

Social learning occurred: over the course of the project, multiple stakeholder groups across three levels (community, district, and national) came together repeatedly to learn from each other and coordinate action on mainstreaming climate change adaptation monitoring.

ACCRA's **strengths were in engagement and capacity development**. Iterative learning and challenging institutions were also features of the project process; however, within this specific process, focus in these areas was less on long-term, systemic changes and more on short-term changes necessary for the process at hand.

Context was important: several national government bodies had recently undertaken processes to mainstream climate change, facilitating the engagement of key officials. ACCRA was able to capitalise on this window of opportunity.

Though the implementation phase (ie the integration of indicators developed over the course of the project) has not yet started, there is evidence that ACCRA's approach, and the social learning it enabled, has led to the **potential for better and more sustainable outcomes**.

1.Project description

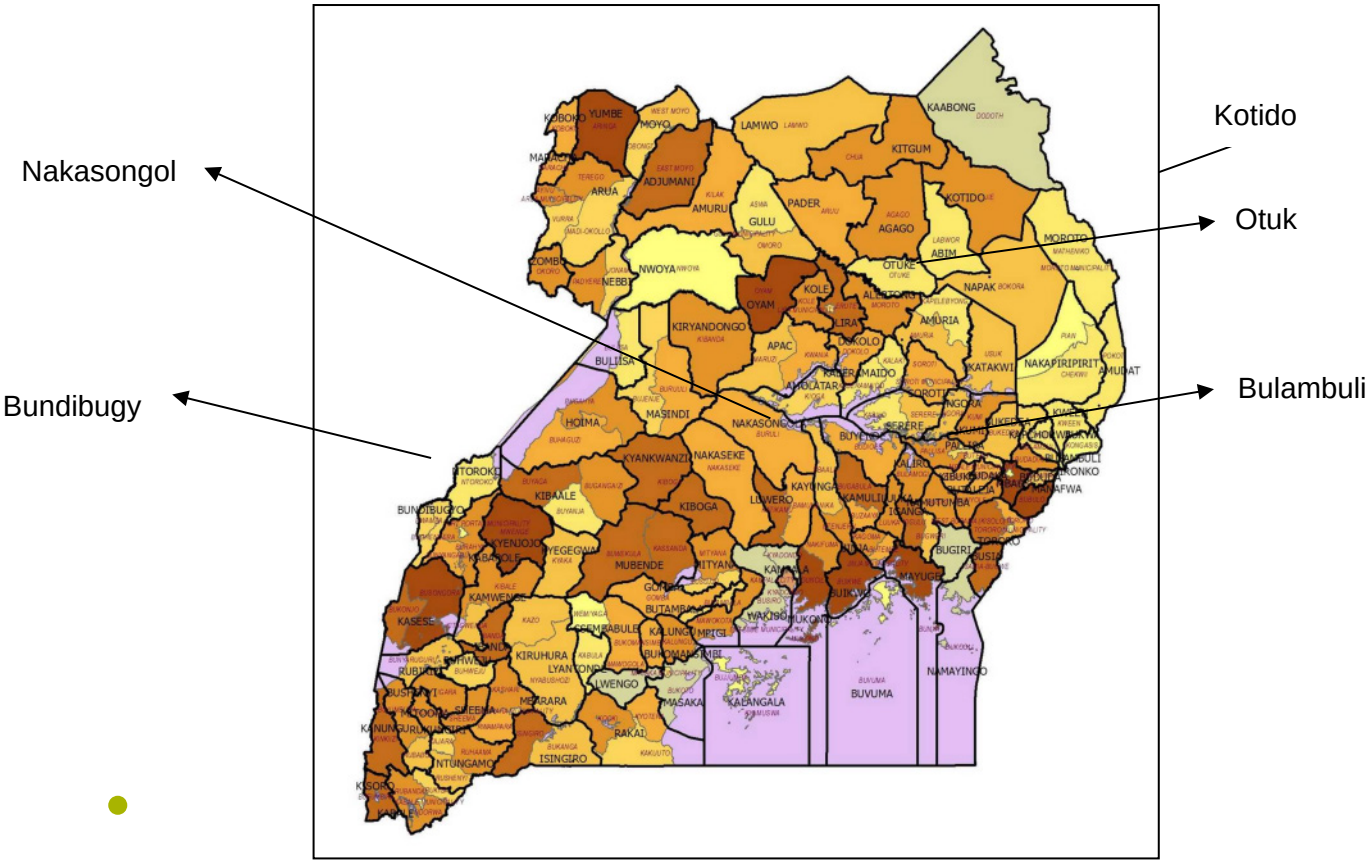


Figure 1. Map of project area

Uganda's reliance on natural resources renders its economy extremely vulnerable to climate change. This makes it essential to track progress on adaptation initiatives and ensure the whole country is on a path towards climate resilience. Any national framework for assessing a country's climate change strategy needs to take into account changes in resilience and development.

For the past five years, ACCRA has been engaged with research and capacity building support to government to mainstream climate change into their plans and budgets. Initial research conducted in 2010 found that local governments were not aware of the need to address climate change, which remained an area with unanswered questions and doubts. Plus, financial, human and technical capacity was limited to support community adaptive capacity for climate change. Indeed, the absence of a climate change policy and related performance measurement framework at the time meant that local governments were not required to mainstream climate change in their development planning and therefore had no obligation to work on related issues. In a bid to address this capacity gap, ACCRA trained local government staff in conducting risk assessments and mainstreaming climate change issues into plans and budgets. As a result, the pilot district scored a nine out of ten for the natural resources sector in its annual assessment by the national Ministry of Local Government, resulting in a district budget bonus of 20 per cent. This bonus was invested back into the natural resources sector.

Shortly after, the government of Uganda began the process of developing the National Climate Change Policy (NCCP), and working with the National Planning Authority to develop national climate change mainstreaming guidelines. However, there was no overall system yet in place to track and measure progress towards achieving resilience. ACCRA in Uganda, in partnership with the UK-based International Institute for Environment and Development (IIED) aimed to fill this gap by facilitating a process for bottom-up development of common indicators and their integration into relevant existing monitoring and evaluation (M&E) frameworks at the national level.

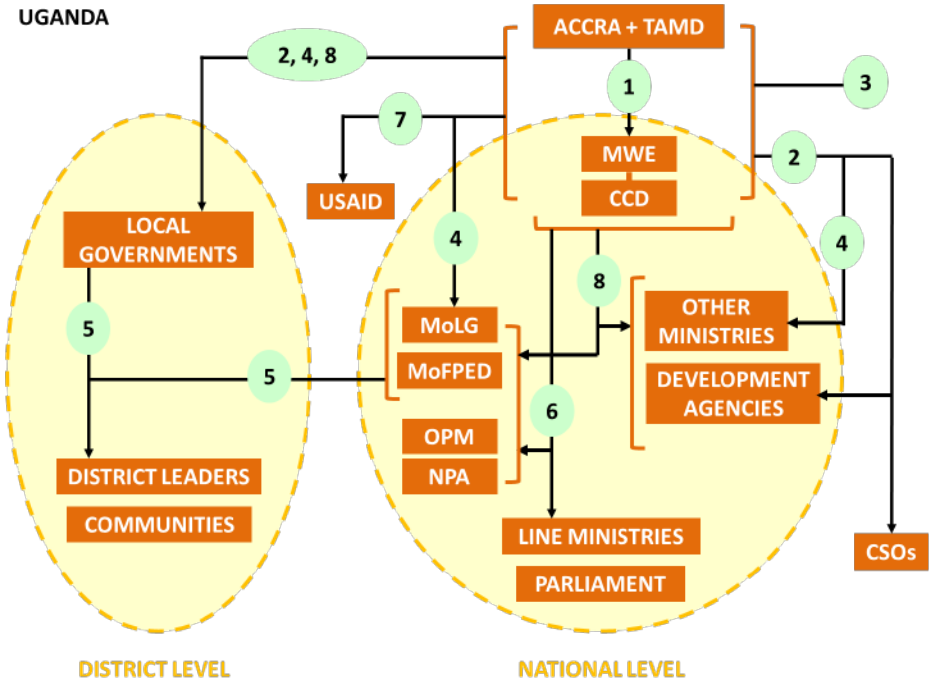
The successful engagement of government in the process was enabled in part by the conducive policy context in Uganda. For example, the Ministry of Water and Environment (MWE) had completed the NCCP and its costed Implementation Strategy (IS). The Climate Change Department (CCD) under the MWE, with support from the French Development Agency, had started the process of developing the Performance Measurement Framework (PMF) for monitoring the NCCP and IS. However, the indicators developed for this tool were at national level and focused on outputs. The Tracking Adaptation and Measuring Development (TAMD) process initiated by ACCRA and IIED filled a gap and strengthened the PMF by providing outcome indicators for the community and district levels, to complete the reporting cycle. Lastly, the NPA had also finalised the second National Development Plan 2015/16–2019/20 (NDPII) in line with Uganda's Vision 2040, in which climate change was already integrated. The collection and integration of local outcome indicators thus provided a framework for reporting on the NDP II because initially local governments did not have indicators for climate change at the local level, yet were supposed to report on climate change indicators in the national development plan. With specific local indicators now aligned with NDP II indicators, reporting will be harmonised.

In developing the national standard climate change indicators, the CCD identified entry points for some existing tools into which it could integrate climate change adaptation and risk reduction indicators:

1. The PMF, described above, for tracking the performance of the NCCP and IS
2. The Ministry of Finance, Planning and Economic Development's (MoFPED) Output Budget Tool (OBT) for allocating resources and setting reporting guidelines, and
3. The Ministry of Local Government's (MoLG) national performance assessment tool (LGAT) for assessing the performance of local governments across different sectors.

Instead of developing a separate M&E framework and reporting tools, it made sense to mainstream climate change indicators into these existing systems. ACCRA's bottom-up, participatory process of developing indicators ensured that all ministries, departments, agencies and local governments had ownership.

4. Mapping the project process



Building on TAMD and ACCRA's success in other countries to initiate a process in Uganda. As a result of TAMD and ACCRA's successful collaboration in Mozambique, ACCRA in Uganda, through IIED, invited the Ugandan Head of the CCD (also the focal person for the UN Framework Convention on Climate Change in the MWE) to attend one of the IIED-supported multi-country meetings in which TAMD pilot countries shared their experiences on national climate change M&E frameworks and reporting systems. In August 2014, the Ugandan government committed to initiate a process similar to Mozambique's with support from IIED and ACCRA.

Consultative meetings between key mandated ministries, ACCRA and IIED. CCD, with support from ACCRA and IIED, convened two consultative meetings, targeting all ministries responsible for implementing the NCCP and IS, plus local governments, development agencies (UNDP, USAID, GIZ) and civil society organisations. These meetings aimed to introduce TAMD, generate consensus on the process, select sample districts for data collection and map the process of developing indicators.

Country scoping study on M&E and reporting frameworks. A national scoping study was carried out to determine existing M&E and reporting frameworks and identify entry points for influencing and integrating national indicators for climate change. (See the online country report at: http://pubs.iied.org/10116IIED.)

Training and data collection using the TAMD framework and tools. Capacity and skills enhancement was added to this process to ensure ownership and continuity. ACCRA and LTS Africa conducted a training of trainers (ToT) in the TAMD methodology in one of the pilot districts, Bulambuli. This was attended by 35 Bulambuli district staff and 16 staff from the ministries of Local Government, Water and Environment – CCD, Works and Transport, Gender, Labour and Social Development, Agriculture, Animal Industry and Fisheries, and the National Meteorology Authority.

Hands-on data collection. Experience started in Bulambuli district with four communities in four different sub-counties (two highland and two lowland communities). The practical training exercise aimed to collect indicators for the district and the communities, while ensuring that participants grasped the methodology of indicator development and could use the tools to collect data at both

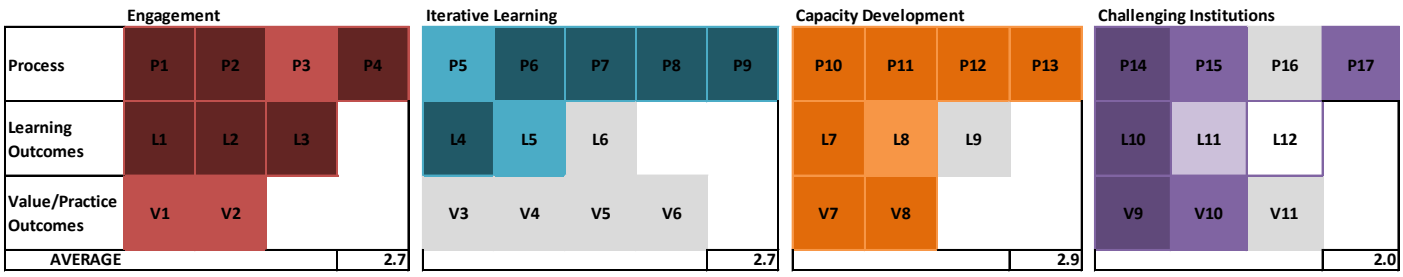
district and community level in other districts. Climate risk management was assessed by engaging the District Technical Planning Committee (DTPC) in each of the districts involved, and using the TAMD scorecard with a list of agreed parameters. At community level, data were collected using a theory of change to generate climate change and development indicators. After the ToT, participants were divided into groups and sent to four other districts where they collected data at both district and community levels, using the scorecard and the theory of change respectively. The local climate change adaptation indicators suggested by communities and their district leaders in the five districts were compiled into a report, which was used to engage national government and other stakeholders to review relevant indicators per sector for integration into the PMF, OBT and LGAT.

Linking the results of the TAMD process to existing national frameworks in different sectors. Working with the MWE-CCD, ACCRA began lobbying the key leads of government ministries, including the MoLG, NPA, OPM and MoFPED, to ensure that district-level adaptation indicators are included in the national planning, budgeting and monitoring processes. A briefing paper outlining the importance of this process was published (see http://pubs.iied.org/17287IIED). As a result of this process, MWE invited ACCRA to present the TAMD framework, process used and the local climate change adaptation indicators suggested in the five districts. The meeting brought together 80 staff from all government ministries, departments and agencies responsible for implementing the NCCP. Another presentation was made to the parliamentary working group on natural resources. Several meetings followed, all of which recognised the relevance of the local indicators generated by the TAMD process, as well as the need to align them with the PMF and NDPII indicators in relation to the OBT and LGAT. Further meetings with decision makers in key line ministries were also conducted to secure their buy-in.

Coordination and harmonisation of processes and indicators at national level. While ACCRA was working on these processes, USAID was engaged in a parallel process, working with MoFPED and MoLG to collect indicators for the integration of climate change into the OBT through their project, 'Feed the Future: Enabling Environment for Agriculture' (FtF). ACCRA raised its concerns about developing parallel indicators with CCD and Ministry of Local Government, and this prompted the CCD to call a coordination meeting between USAID, ACCRA and MoLG. Through this meeting, the parallel processes were harmonised and a calendar was drawn up to finalise the work. ACCRA's engagement with USAID enriched the process: indicators collected by ACCRA and FtF were combined into one coherent set with the existing PMF indicators. This set was then reviewed, refined and validated by all ministries, departments and agencies (MDAs) and local governments.

Review and validation of the national-level standard climate change indicators. The CCD, with support from ACCRA and USAID, convened three highly participatory consultative forums in which local governments and national government ministries, departments and agencies vetted, reviewed and recommended climate change indicators to be integrated into the OBT and the LGAT, by sector. The consultations ended with a national validation workshop attended by all national government ministries, departments and agencies, as well as civil society organisations and representatives from 31 local governments, including chief administrative officers, natural resources officers, production officers and district planners.

5. Snapshot against CCSL indicators



6. Social learning results

Engagement

Score: 2.7

P1	P2	P3	P4	L1	L2	L3	V1	V2

Engagement has been an important element of success so far.

The project identified all relevant stakeholders and engaged through appropriately tailored means, resulting in their active participation. Traditional engagement methods were used.

Stakeholders' interaction through the project contributed to better relations, integration of different types of knowledge, and a common understanding of the issue between different stakeholder groups. There is less evidence that trust (in facilitators, between stakeholders, etc) was a key factor, though trust in ACCRA as a facilitator of the overall process was important.

A strategic approach ensuring commitment has ensured engagement, rather than the other way around, for some stakeholder groups. It is too early to assess empowerment of most vulnerable beneficiaries as an outcome of the project.

- **Process**

Gender was embedded in the tools ACCRA used in communities to capture the issues of women, men, boys and girls. During the focus group discussions (FGDs), community groups were disaggregated into old men, old women, young men, young women, boys and girls. This ensured that women and other vulnerable groups participated in the discussions [P1]. This is also an example of how engagement of key stakeholders was tailored to different stakeholder groups.

At national level, the process of developing indicators engaged mandated institutions — the CCD, MoLG, NPA, and MoFPED — by helping them to understand their sector-specific contributions as well as the benefits of the project to their monitoring and reporting processes. They were then given a leadership role to ensure ownership of the process. Individual commissioners in these ministries were also engaged through one-on-one meetings to discuss the merits of the process, to ensure their buy-in and the participation of their staff, as well as uptake of the final indicators. These meetings were crucial for engaging high-level decision makers who do not attend the other meetings but still retain decision-making powers over the process [P2]. Through these kinds of tailored engagement strategies, all stakeholders targeted participated in the project [P3]. Emergence of champions was also fostered. For example, ACCRA trained ten national trainers on conducting climate change capacity and vulnerability assessments and using TAMD tools; these trainers will champion the work where need arises. Selection of the trainers was based on individuals' commitment and interest. Some have taken the learning to their organisations. And, with USAID, they recently supported the Makerere University Climate Change Resource Center to train other climate change champions working with the university [P4].

- **Learning**

Throughout the process the different stakeholder groups learned from each other [L1]. Relations between different groups (for example, between district- and national-level ministries) improved due to their interactions (two-way knowledge sharing and learning) during capacity development sessions [L2]. Different kinds of learning were integrated as well. For example, the ToC process at community level helped community members reflect on their problems in relation to climate change. Though the ToC

sounds technically complicated, communities were able to understand and build narratives around it [L3].

- **Value/Practice**

Engagement has led to increased commitment to the goal of the project, though for the most part it is the other way around: ACCRA's strategic approach has been crucial to generating commitment, which in turn ensures engagement. For example, local governments want support to mainstream climate change into their plans using the indicators generated; but this is because integrating the indicators into the LGAT means all local governments will have to report against them. Likewise, the MoFPED was moving from monitoring outputs to outcomes, and the project goals conveniently coincided with the ministry's needs, ensuring their commitment [V1]. Several follow-on projects have been proposed [V2b]. It is too early to evaluate empowerment of the most vulnerable as implementation has yet to begin [V2c].

Iterative learning

Score: 2.7

P5	P6	P7	P8	P9	L4	L5	L6	V3	V4	V5	V6

Iterative learning was also important for this project, but took place primarily through formal, facilitated meetings and workshops, often involving a subset of stakeholder groups thinking about a specific step in the process.

The process led by ACCRA was flexible enough to change course as necessary and support new ideas. Though the process did not necessarily include moments for the entire group to reflect on the entire process, ACCRA ensured a bottom-up approach to problem solving and facilitated smaller group reflections in which different stakeholder groups shared and learned from each other.

Iterative learning was not explicitly built into a process that the programme encouraged stakeholders (especially government) to own, and thus the legacy of the process itself may be limited.

It is too early to look for evidence that the learning above has spread to wider stakeholder groups, though there is certainly potential for this in the future, as other national governments may see the results of ACCRA's work and want to follow a similar path to develop climate change adaptation indicators from the bottom up.

- **Process**

Cyclical evaluation moments for the entire group to reflect on the entire process were not a focus of this project. That said, ACCRA ensured a bottom-up approach to problem solving and facilitated smaller group reflections in which different stakeholder groups shared and learned from each other in the context of deciding how best to achieve specific outcomes [P5, P6]. The ACCRA team also revisits its TOC and assumptions every year [P8].

The process led by ACCRA was flexible enough to change course as necessary. For example, when it became evident that USAID's TfT project was also developing indicators for the OBT, all relevant stakeholders were convened and a process for combining projects was agreed on and implemented [P7]. Stakeholders — particularly government officials — were encouraged to question the norms and governance underlying the issue [P9].

- **Learning**

Results of the learning and evaluation moments were integrated into the project's strategy [L4]. National stakeholders understood that they must improve the communication channels and procedures between them to achieve the changes they desired in terms of national policy and monitoring frameworks. But there is limited evidence of a desire to change relationships with/at other levels [L5].

During the validation meetings, open discussion allowed local governments to express a desire for greater support from the national level with reporting on the new indicators; however, no changes in practice have yet taken place as implementation has not yet begun. It is also unclear whether these potential changes in practice would extend beyond communication and capacity support on this single process to others relevant to climate change. Room to fail was not a focus of the programme and there is no evidence on this topic [L6].

- **Value/Practice**

There is no evidence that wider stakeholder groups have changed their values or practice regarding their relationships with each other. And again room to fail was not a focus of the programme and no evidence was collected on this topic [V5, V6].

Capacity development

Score: 2.9

P10	P11	P12	P13	L7	L8	L9	V7	V8

Capacity development is an important factor in ACCRA's success to date, and almost all of the capacity development indicators have been met.

Capacity development activities were integrated into the programme and addressed needs that were determined in a bottom-up manner. Capacity development activities targeted different groups of stakeholders in appropriate ways. Though fairly standard methods were used, these were sufficient.

Capacity development activities led to more agreement by different stakeholders on the nature of the issue being addressed. Different stakeholder groups showed a better understanding of other groups' needs and perspectives.

The result of the learning outlined above was more informed stakeholders that worked together better, and changes in values and practice that reflected a better understanding of the issue and potential solutions.

- **Process**

Capacity development was an integral part of the project, especially in relation to developing indicators with communities [P10]. A capacity gap analysis was carried out with local government staff, who identified their own institutional issues.

ACCRA also used the institutional score card to identify capacity gaps [P12]. This analysis fed into the capacity development agenda, and activities were then tailored to specific stakeholder groups [P11]. For example, communities received capacity development regarding the concepts of capacity, vulnerability, climate change, and theories of change, thus aiding future community action planning.

At local government level, capacity building targeted skills building for internal assessment using the institutional scorecards and ToTs to facilitate vulnerability assessments at community level. Sessions on how to mainstream climate change and gender were also facilitated. At national level, a ToT for ministry officials was conducted to use assessment tools to support district staff to do the same processes at the local level [P13].

- **Learning**

Capacity development activities increased clarity at all levels that the country needed indicators for climate change to be able to plan, budget and assess performance and report on the climate change policy [L7]. It also clarified the needs of different stakeholders. For example, the indicator validation workshops created space for lead agencies to share their different needs [L8].

- **Value/Practice**

As Uganda had already begun to mainstream climate change into its policy frameworks before the project, stakeholders already valued the project's goal before hearing about it. That said, the project's capacity development activities informed stakeholders of the value of monitoring adaptation at outcome level, and the multi-stakeholder co-development of indicators that could be used to do this reflect this change in stakeholders' values [V7].

Coordination between different stakeholder groups is assumed to have increased, though there is no evidence for long-term changes in systems for communication between groups [V8].

Challenging institutions

Score: 2.0

P14	P15	P16	P17	L10	L11	L12	V9	V10	V11

While challenging institutions to make the changes needed to develop a system for monitoring and evaluating climate change adaptation is a central feature of the project, there was less focus on challenging institutions to make lasting changes to systems that would enable them to continue engaging in social learning on their own. This is an opportunity for the project to leave a longer-lasting legacy.

A change strategy that took into account existing processes and norms was developed. Key individuals who would support/champion change were identified.

Participants showed an understanding of the barriers and opportunities and were eager to act on this understanding to solve the problem. That said, there is no evidence that the process resulted in an understanding among stakeholders that a) social learning was necessary or b) that changes in values and practice would need to be made to foster social learning in the future.

Within the problem that the project aimed to address, institutional barriers have decreased and opportunities have increased. Beyond this there is no evidence of changes in values and practice that reflect institutional openness to (attitudes) and support for (resources) social learning.

- **Process**

ACCRA used capacity assessments to identify gaps and norms and to build a change strategy around them [P15]. The project identified key ministries (CCD, NPA, MOFPED, MoLG), and individuals within them, to champion the indicator development process and take the work forward into implementation [P14]. Upon discovering the existence of the USAID programme to develop climate change indicators for the OBT (see Step 7 above), ACCRA challenged the CCD — which is mandated to coordinate government work on climate change — to harmonise different (sometimes overlapping) processes related to mainstreaming climate change. ACCRA also helped the MoLG clarify changes to communication channels between ministries and between external groups (like CSOs) and ministries [P17].

- **Learning**

The project helped different stakeholders gain a common understanding of the existing barriers to mainstreaming climate change (via the indicators), as well as the opportunities around mainstreaming. Key outcomes of ACCRA's challenges to inter-ministry coordination and communication include:

1. Action points on coordination meetings between the CCD, OPM, MoLG and NPA, as well as a shared list of key partners, and
2. Designation of the climate change task force leadership as focus points for external communication.

There is evidence that ministries are better coordinating how indicators are prioritised and integrated [L10, L11, L12].

- **Value/Practice**

Barriers to social learning have decreased through the increased coordination that ACCRA facilitated. Time will tell whether these efforts have led to long-term changes [V9]. Through the indicator validation exercise, different stakeholders willingly learned from each other to coordinate a national process. This shows an openness to an social learning approach [V10]; however, it is too early to say whether institutional support (in the form of resources) will continue for such approaches [V11].

7. Summary: social learning challenges and lessons learned

The CCSL initiative aims to answer three key questions through piloting its M&E Framework for Social Learning:

1. Did social learning take place?
2. What factors contributed to successful social learning?
3. Did social learning contribute to better and more sustainable development outcomes?

The ultimate goal is to build an evidence base, and understanding, around when social learning contributes to better and more sustainable development outcomes (and under what circumstances it does not) in the context of climate change adaptation and food security.

For ACCRA in Uganda we can say that social learning — that is, collective, iterative learning — has occurred. Over the course of the project, multiple stakeholder groups across three levels (community, district and national) repeatedly came together in different ways to learn from each other and coordinate action on mainstreaming the monitoring of climate change adaptation efforts into government plans, tools and budgets.

ACCRA's strengths in contributing to the social learning lay in engagement and capacity development. The context of the project, explained in the introduction, was also important: the fact that several national government bodies had recently undertaken processes to mainstream climate change

facilitated the engagement of key officials. ACCRA was able to capitalise on this window of opportunity with strategic engagement and capacity development activities that helped to bring these stakeholders closer together and streamline mainstreaming across different departments, ministries, and levels of government.

Iterative learning and challenging institutions were also features of ACCRA's process, however, the focus in these areas was less on long-term, systemic changes (though there are some examples of this, too) and more on short-term changes necessary for the process at hand. This is not to say that the level of coordination and the changes achieved are not notable; in the context of working directly with government, long-term, systemic changes are probably quite difficult, especially when instigated by an external organisation which has not been invited explicitly to do so. It is also not to say that there is not still room for such changes. The implementation phase will be the real test of the coordination efforts that have been made so far, and if ACCRA continues to work with the government the project can capitalise on the trust that has been built thus far to encourage deeper institutional changes that will facilitate social learning in the future.

Though the implementation phase (ie the integration of the indicators developed over the course of the project) has not yet started, there is evidence that ACCRA's approach, and the social learning it enabled, has led to the potential for better and more sustainable outcomes. It is difficult to imagine that the results achieved thus far (including the bottom-up identification of indicators, buy-in to the process and verification of the indicators by multiple stakeholder groups, and coordination of these stakeholders and their climate change mainstreaming efforts across multiple departments, ministries and levels of government) would have been possible with a different approach. The engagement, capacity development, and institutional challenging efforts will go a long way towards successfully implementing the indicators, which, it is hoped, will ultimately lead to more successful adaptation to climate change at community, district and national levels.

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Indicator table

	Process indicators	ACCRA results
ENGAGEMENT	Women, youth and other disadvantaged groups are identified and targeted	**Yes.** ACCRA embedded gender analysis in the tools used to capture the issues of women, men, boys and girls. During the FGDs, community groups were disaggregated into old men, old women, young men, young women, boys and girls. This ensured that women and other vulnerable groups participated in the discussions and learned from each other through knowledge sharing, including about the adaptation strategies targeting their specific issues. At community level the mobilisation also specified the number of old men, women, boys, girls, and youth to ensure there was adequate representation of these stakeholder groups. Local governments were also chosen in a manner that included communities in hard-to-reach areas that are often left out of planning processes.
	Groups/individuals identified are engaged through appropriately tailored means	**Yes.** *At community level*: see above. *At district level*: ACCRA targeted planning officers in the districts as well as the natural resource officers responsible for ensuring that climate change is integrated into planning processes as a cross cutting issue. Engagement methods included workshops, one-to-one meetings, and FGDs. Workshops and ToTs were for skills-building in terms of risk assessment, awareness, and mainstreaming. FGDs were used during planning: staff were divided by sector to analyse sector-specific impacts of climate change to determine what to include in their plans before sector plans were merged into the final district plan. *At national level*: the process of developing indicators targeted key mandated institutions — CCD, MoLG, NPA, and MOFPED — by helping them understand their sector contributions, and the benefits of the process to their monitoring and reporting processes. These institutions were then given a leadership role to ensure ownership of the process and government uptake of the results. ACCRA also targeted individual commissioners via one-on-one meetings to discuss the merits of the process and its links to existing processes to secure their buy-in, ensuring that the indicators developed would be integrated and that staff would participate. These meetings were crucial for engaging high-level decision makers who do not attend the other meetings but still retain decision-making powers. Validation workshops were used to assure agreement among all stakeholders on the indicators, and ensure they complemented existing indicators at sector level and in the NDPII.

	2 parts: a. All target groups/individuals are actively participating in the project b. All target groups /individuals are actively participating in the process *Facilitator role identified as trusted and effective by all parties*	**Partial (a. Yes and b. Hardly)** ACCRA's approaches to engaging target groups and individuals were successful. *At community level*: The numbers exceeded expectations, as communities were eager to participate in the discussions on climate change impacts and the changes they wanted. One key example is the community FGDs — disaggregating by gender enabled women to participate more fully. They noted that they felt better working in their own groups. *At local government level:* Local governments targeted were all forthcoming regarding learning, data collection, providing information and conducting realistic performance assessments using the scorecard. *At national level*: All MDAs, government sectors and CSOs targeted participated. b. ACCRA used a group of trained facilitators, as well as consultants versed in facilitation, and participation was high. *At community level*: The ministry and local government staff teams that were trained facilitated the meetings. *At district level:* The ministry staff facilitated the district discussions. *At national level:* The MWE CCD took up a facilitating role in the process, for example bringing together USAID, ACCRA and the MoLG to jointly support the process instead of working independently on the same process. Other actors also joined because they trusted CCD.
	Emergence of champions is fostered	**Yes**. ACCRA identified focal people in the key national ministries who led on presentations, discussions and validation. The programme is still working with them to integrate the indicators developed into the different existing tools. These people are not paid but champion the work because they feel it benefits the country. ACCRA trained national facilitators from ministries and local government to collect the TAMD indicators from selected districts. The facilitators owned the process from start to finish. They were not paid. ACCRA also trained ten national trainers on conducting climate change capacity and vulnerability assessments (CVCAs) and using TAMD tools; they will champion the work where need arises. Selection of trainers was based on commitment and interest; most people offered to be part of the team during the second consultative meeting. Some trainers have taken the learning to their organisations and recently they supported the Makerere University Climate Change Resource Center with USAID to train other climate change champions working with the university.

	[Cognitive] Knowledge of the problem enhanced by interactions	**Yes.** Community members learned through peer-to-peer learning during CVCAs. There was also learning between local governments and the national government; between the GoU and other governments from Africa and Asia; between NGOs; and between different ministries. This learning happened throughout the process. ACCRA targeted government ministries that are important in influencing processes starting at the local level and ending at the national level but which do not engage stakeholders, resulting in local governments and communities lacking information about the sectors that these ministries were responsible for. These ministries included: the UNMA, MWE CCD, Ministry of Agriculture (MAAIF), OPM, Disaster Department and MoLG. ACCRA facilitated visits to local governments and communities where these ministries shared information about different policies and processes at national level and got feedback.
	[Relational] Engagement has led to better relations between target groups/individuals *Trust created* *Engagement has led to awareness and valuing of other stakeholders*	**Yes.** Relations between district and national level ministries improved due to the interactions during capacity building sessions, as well as from two-way information sharing and learning facilitated by ACCRA. The district staff also established a relationship with communities in which they collected data and conducted vulnerability assessments; the meetings created feedback forums for different officials to share on government processes and also respond to community issues.
	[Normative] 2 parts: a. Different knowledge types successfully integrated b. Engagement has led towards a change in collective understanding of the problem and solutions	**Yes. (a. Yes, b. Yes)** a. The TAMD process enabled learning from different angles. For example, the ToC process at community level helped community members to reflect on climate change-related challenges, as well as ways to change the situation. The ToC sounds technically complicated, but communities were able to understand it and build narratives around it. In one of the meetings, an old man equated the process to an "egg producing a bull" and he led fellow community members in a discussion of chains of causation, risks and assumptions; this was remarkable learning. Communities understood climate change issues better, as well as pathways of change to build resilient communities. b. ACCRA's systematic bottom-up approach improved communication and interaction between communities, local governments and national government, facilitating the process and enabling stakeholders to understand each other's needs. The indicator validation workshops also created space for lead agencies to share their needs, for example: NPA needed to ensure that the indicators fell within the scope of the national development plan, MoFPED needed a few prioritised indicators to inform funding priorities, and MoLG also needed indicators relevant to their assessment tool. At the workshops these different perspectives were aligned and the final indicators validated to be used for the different purposes agreed upon.

	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**Partial.** At local level: there is demand from local governments to be supported to mainstream climate change into their plans using the indicators generated, because having climate change indicators integrated into the assessment tools means all local governments will have to do the same. Thus it is not that engagement led to commitment but rather that (forced) commitment led to engagement; that said, the programme was strategic to work in this way. At national level: Similarly, the Ministry of Finance was moving from output reporting to outcome reporting, and ACCRA's work solved the challenge for them by developing outcome indicators that MoFPED could use. This created a guarantee that the intervention was relevant and that indicators will be used. Overall, while many stakeholders' commitment to the project's goal increased due to ACCRA's engagement efforts, for others, ACCRA strategically positioned the programme to be relevant to commitments stakeholders had already made or would be forced to make, ensuring their engagement.
	[Practice] 3 parts: a. New social networks established b. New initiatives and projects c. Empowerment of most vulnerable beneficiaries (communities) inc. women & children	**Partial (a. No, b. Yes, c. No evidence)** a. None b. ACCRA and USAID entered into partnership to work with UNMA on another piece of work. In addition, IIED supported ACCRA to present this work in the Development and Climate days of COP 21 in Paris. IIED also recognised the fit of this work as a social learning case study. ACCRA has submitted a concept note to scale up capacity building for local governments. Lastly, GIZ wants to use the results to inform Uganda's accreditation for adaptation funding. c. It is too early to gauge empowerment of most vulnerable beneficiaries as the indicators have yet to be implemented.
ITERATIVE LEARNING	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Partially.** There were several such moments built into the process. For instance, the process involved validation of indicators over the course of three national workshops coordinated by the CCD. In these workshops, different sectors shared and everyone discussed the relevance of the indicators until a final process was agreed on. ACCRA also piloted integration of the indicators with one of the local governments. This process involved learning, discussions and reviewing sector plans, and was supported by the ministry staff. Feedback was given on the process, which informed ACCRA's focus for further implementation efforts.
	Learning and evaluation processes are supported and facilitated	**Yes.** See above.
	Systems are in place to foster and implement new ideas	**Yes**. During the validation of the indicators, the head of the CCD reported that instructions had been issued to all accounting officers in national and local government that from FY 2016/017, all sectors and local governments must mainstream and report on climate change. This requirement also means there should be resident capacity to do this. The local governments requested that ACCRA and USAID

		champion the capacity-building process for local governments. ACCRA had already piloted mainstreaming in three districts, so it fell within ACCRA's mandate to support this process. Due to funding limitations for this activity, ACCRA developed a proposal and had discussions with CDKN to fund capacity building for local governments. More efforts are being made to ensure that support is given to operationalise this work.
	Questioning the TOC itself and key assumptions is valued and happening regularly	**Yes.** ACCRA ToC is reviewed annually during planning meetings and the team evaluates the ToC and narratives around it. The ToC is reviewed to include new issues in the environment and the assumptions are also revised accordingly.
	Questioning of values, norms and governance underlying problem is valued and happening regularly	**Yes.** ACCRA encouraged this questioning by government stakeholders in Uganda. The programme aimed to demonstrate the importance of mainstreaming CCA to the Ugandan government (at both local and national levels). To do so, the programme used pilots, policy briefs, and meetings, as well as facilitating GoU teams to learn from other countries. Ultimately government stakeholders concurred on the problem to be addressed.
	[Cognitive] 2 parts: a. Results of learning/evaluation are incorporated into the project strategy *b. Creative solutions and innovations are developed*	**Yes(a. Yes, b. Yes)** a. There was flexibility in the process. For example, when ACCRA realised that different processes with the same aim were being carried out independently, CCD convened all relevant stakeholders and these actors agreed to work as a team, contributing resources for agreed actions and co-facilitating different processes as necessary. There was also agreement on harmonising the PMF, TAMD and USAID district indicators to come up with one list of indicators which everyone would use as a working document to avoid repetition. b. One example of creative solutions relates to the use of sample districts to represent the whole country when ACCRA could not obtain funding to engage all 135 districts in the country. Districts were classified by region, ecosystem, livelihoods, and disaster impacts, and the solution was agreed by all stakeholders.
	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups*	**Partially.** ACCRA started with a scoping study to understand the current M&E and reporting frameworks in the country. This was meant to secure buy-in and support for the changes that need to happen. Two consultative meetings were conducted and the recommendations from participants are what kicked off the work. During the consultation meetings the relevant ministries explained why it is important for the planning, budgeting and reporting processes to change. Consensus was reached on the necessity of change before the indicators were developed and validated. This was true especially in the case of communication between different ministries, and between USAID, ACCRA and the ministries. It was agreed that regular coordination meetings between MWE-CCD, MOLG, and OPM should be conducted to share information on partners and what they are doing with each ministry for harmony and synergy as well as targeting the right districts for support; the changes are being practiced.
	[Normative] Participants	**No evidence.**

	understand the need for alternatives and room to fail	
	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**No evidence.**
	[Practice] Wider stakeholder groups relate to each other differently	**No evidence.** Too early to assess this.
	[Value] The need for alternatives and room to fail is evident in other projects/programmes	**No evidence.**
	[Practice] Alternatives and room to fail are built in to other projects/programmes	**No evidence.**
CAPACITY DEVELOPMENT	*Capacity development activities are integrated into the project/program*	**Yes.** The process of mainstreaming climate change indicators incorporated capacity building activities, specifically capacity gap analysis studies, and training on conducting vulnerability assessments, theories of change and institutional assessment of climate change mainstreaming gaps. The specific capacity development exercises included: capacity gap analysis for local governments, training on integration of climate change and gender into district development plans, using scorecards and theories of change, and TOTs on conducting climate change capacity and vulnerability assessments.
	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**Yes.** The capacity building activities were thought out for specific groups along the way. *At community level*: the communities were facilitated to think about capacity and vulnerability in the context of climate change challenges and to use this thinking to develop theories of change that would aid community action planning and feed into local government plans. *At local government level*: capacity building consisted of skills building for internal assessments using the institutional scorecards, and ToTs to facilitate vulnerability assessments at community level. Sessions on how to mainstream climate change and gender were also conducted, and national level ministry staff — who are more familiar with relevant policies and guidelines — travelled to different districts to support the process.

		At national level: a ToT was conducted to train ministry officials in using assessment tools to support district staff to carry out the same training process as well as data collection at community level.
	Capacity needs are determined collectively in a bottom-up manner	**Yes.** Capacity building for local governments was informed by the capacity gap analysis, in which local government staff identified their own institutional issues. ACCRA used the institutional scorecard to identify capacity gaps at local government level.
	Capacity development needs are systematically integrated into all project components	**Yes.** ACCRA's first phase research revealed that there was low capacity among local governments to mainstream climate change and DRR into district development plans. A capacity gap analysis was conducted for three local governments focusing on their ability to integrate climate change and DRR into their plans and budgets. The findings informed the capacity building agenda, which included gender integration and mainstreaming. Capacity building was integrated from the bottom up to ensure learning along the way.
	[Cognitive] Similar level of understanding of the problem by all stakeholders	**Yes.** For example, when the capacity building activities started at local government level, local government staff realised that there were no national indicators for climate change and so they were not being assessed on it. This prompted ACCRA to produce a policy brief on the importance of mainstreaming. Engagement with national level processes increased their understanding that the country needed indicators for climate change to be able to plan, budget and assess performance and report on the climate change policy. This clarity at different levels contributed to the success of the work.
	[Relational] Increased understanding between different participant groups of different needs and perspectives	**Partially.** See L3: although L3 is focused on how engagement, rather than capacity development activities, it increased understanding between different participant groups of others' different needs and perspectives.
	[Normative] Increase in collective challenging/understanding methods of building capacity for particular stakeholders	**No evidence.**
	[Value] More informed stakeholders	**Yes.** Discussed under other indicators above. *"Identifying entry points for integration of climate change in the national frameworks is one of steps of addressing climate change and its impacts. Therefore, inclusion of climate change indicators in the OBT and LGAT opens a new chapter in Uganda's efforts in addressing climate change and its impacts."* Aaron Werikhe, research officer, NPA.

		"Climate change, being a national and international concern, needs to be accorded its true position in the national assessment tool for local governments and in other government planning, budgeting and reporting frameworks, to adequately measure the achievements and address the challenges in an organised manner. This process of developing national indicators and mainstreaming them in the assessment tool presents a great opportunity. The MoLG team is committed to liaising with the CCD and other ministries to select climate change indicators for inclusion in the LGAT." Assistant Commissioner Andrew Musoke
	[Practice] 2 parts: a. Capacity development leads to different groups working together better b. Capacity development leads to changes in practice that reflect a better understanding of the problem and solutions	**Yes.** a. **Yes.** In general, capacity building for different stakeholder groups on the need for indicators and on the methodology/tools for developing those indicators in a bottom-up fashion brought stakeholder groups together and/or facilitated new kinds of communication between them. b. **Yes**. Capacity development enabled all local and national government stakeholders to make changes to address the problem, as explained under other indicators above.
CHALLENGING INSTITUTIONS	Key individuals/institutions who will support/champion change are identified	**Yes.** ACCRA identified key ministries — CCD, NPA, MOFPED, OPM and MoLG — who are continuing to implement the integration process and presenting to cabinet for approval. USAID, one of ACCRA's key partners, has also committed to develop M&E data sheets for the baseline studies at local level, which local governments will carry out to be able to report against the agreed indicators.
	A change strategy is developed, including mapping of existing norms and endogenous processes	**Partially.** ACCRA's capacity building work at the local government level revealed that there were no climate change indicators, making it difficult to enforce mainstreaming. Climate change indicators had not been thought of in Uganda before this process begun, even though Uganda had a climate change policy and strategy. A scoping study conducted by ACCRA and IIED brought out entry points within existing systems for monitoring and reporting on climate change. Though a change strategy was not necessarily mapped out at the beginning of the programme, the programme continually incorporated its findings about existing norms and processes as the project progressed into its engagement and capacity development strategies.
	Existing norms and endogenous	**No evidence.**

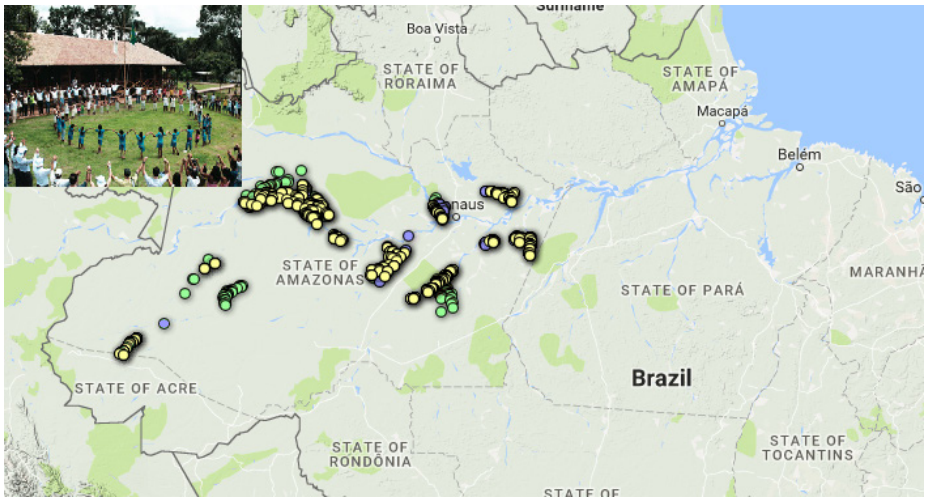
	processes are mapped	
	Key institutions are challenged to make changes that facilitate social learning	**Partially.** See P5 above.
	[Cognitive] Project participants understand the particular opportunities and barriers	**Yes.** *At community level*: ACCRA ensured that stakeholders reflected on the outcomes of this work to manage expectations. Communities were informed that a benefit of developing theories of change was that issues identified and indicators developed would be used at both local and national levels, but they were also informed that funding might be too limited to address all the issues identified. *At local government level*: the local governments identified an opportunity — the potential for better planning for climate change to prepare them to access climate change financing. Local governments also identified capacity issues, which ACCRA took up. *At national level*: this process is seen as preparing the country for adaptation accreditation, strengthening mainstreaming and preparedness, and leveraging funding for climate change adaptation efforts. The ministries also identified issues of capacity, lack of funds to allocate to climate change, and reporting challenges that might occur if baselines are not collected for some of the indicators.
	[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)	**Hardly.**
	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**Not met.**
	[Value/Practice] Reduced number and severity of barriers; increased number	**Yes.** Barriers to developing and implementing climate change indicators and climate change mainstreaming reduced as explained above under other indicators; number of opportunities has increased as a result, as explained under L10.

	and potential impact of opportunities	
	[Value] Challenges lead to changes in institutional openness towards SL-orientated approaches (evidenced in eg attitudes, conflicts)	**Partially.** Through the indicator validation exercise, different stakeholders willingly sat together to learn from each other to better coordinate a national process.
	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**No evidence.**

The Bolsa Floresta Program

Climate Change Social Learning (CCSL) case study

By Ben Garside, Leandro Pinheiro, Victor Salviati



Introduction

The Bolsa Floresta Program (BFP), established by the Amazonas State Government, Brazil, in 2007, aims to promote sustainable involvement, environmental conservation and the improvement of the quality of life of riverine communities across the State. Implemented by the nongovernmental organisation (NGO) Fundacão Amazonas Sustentável (FAS), the programme acts through four components: income, social, family and collective associations. By engaging families inside and surrounding the State Conservation areas, the project assures them direct benefits, community-level social benefits, support in forming collective associations, activities to support production and support to generate a sustainable income.

A core ethos of the programme is that communities self-select the social benefits and production activities based on their needs and preferences. Communities learn together, and succeed or fail together on a wide variety of projects that they decide on together — with support from FAS and partners, both public and private.

This research is a small snapshot of the portfolio of BFP projects. It is not intended to be representative of the 574 riverine communities that FAS works with (see map), but rather to explore and compare across a range of projects that have had varying degrees of success and challenges. The aim is to better understand where and for what reasons social learning in these bottom-up community projects is taking place, whether this has contributed to better project outcomes, and if there are indications that the absence of learning and reflection processes contributes to sub-optimal outcomes.

The four projects studies are:

- **Maiana Pirarucu sustainable fisheries management**
  (case study page 24)
- **Terra Preta — small-scale timber management**
  (case study page 41)
- **Xibauazinho fisheries management and Processing**
  (case study page 55)
- **Nosa Senhora do Perpetuo Socorro Water supply network**
  (case study page 71)

BFP - Pirarucu sustainable fisheries management

Climate Change Social Learning (CCSL) case study

By Ben Garside, Leandro Pinheiro, Victor Salviati

November 2016

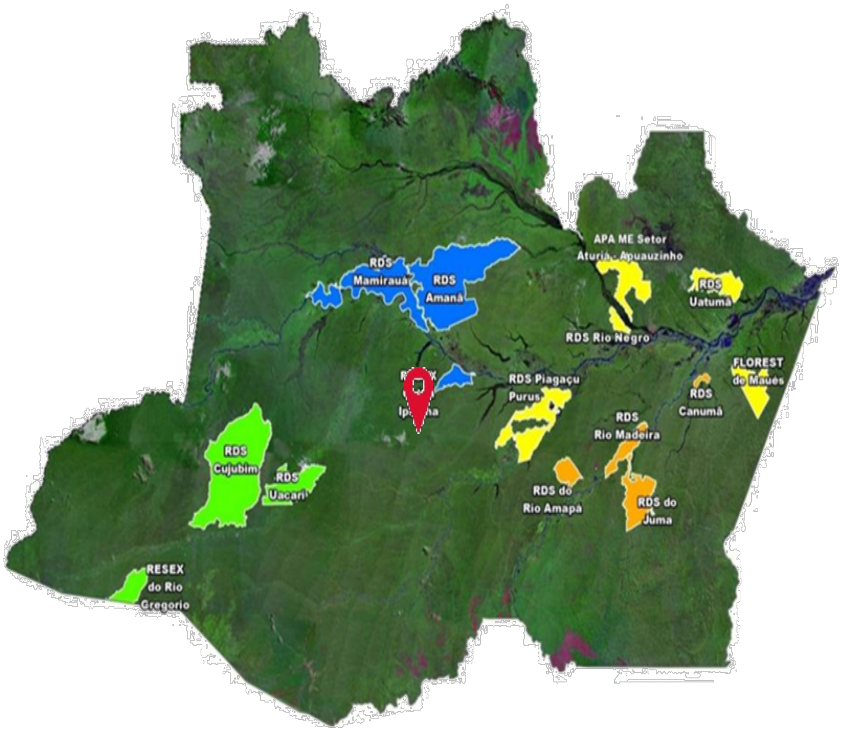
1. Key findings

- Trust in the process and the leaders had to be built to make the project happen. Leaders led by example and were trusted and very motivated.
- Continued engagement was important: there is evidence of youth being incentivised and trained for the next generation of lake managers.
- Learning by doing was important in building capacity in a way that also built shared understanding.
- It is important to consider that the project has been running for about ten years, and that quality of iterative learning is achieved (and improved) with time.
- The success of the initiative and associated confidence in the community, contributed to flatten the relations with external stakeholders and fostered a more mature partnership approach going forward. Shown particularly in a later challenging by the communities to FAS for reforming the Bolsa Floresta investment funding rules to improve flexibility in future projects.
- There was little external (to the communities) participation in the iterative learning processes happening as part of the project. Possibly this is one reason why there were no challenges raised to external stakeholders to reflect more systemically on their own practice, which could help with future initiatives.

2. Project description

Started in 2004, this community project aimed to increase income from fishing for Pirarucu through better natural resource management.

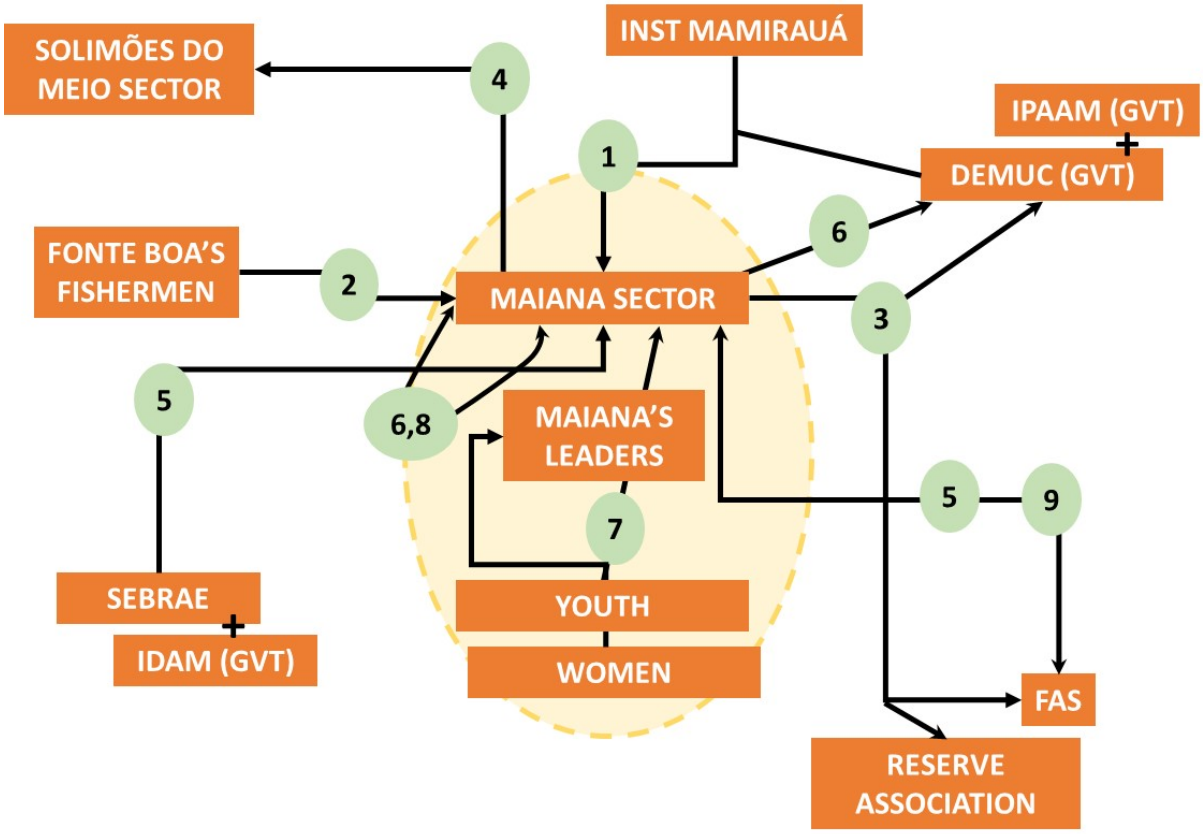
Figure 1. Project location in the Amazon region, Brazil



Pirarucu is a native fish of the Amazon found in lakes. Sustainable fishing of Pirarucu requires harvesting of the fish only once per year combined with year-round protection of the area. This requires group-level planning and coordination over an extended period to police the lake and prevent non-

agreed fishing. A method was developed to determine the optimal number of fish that could be caught per year for the fishing to be sustainable.[1,2,3] The sustainable fishing practices have increased productivity and reliable income. Before this, the community (illegally) logged timber to supplement income, which no longer happens.

3. Mapping the project process



- DEMUC[1] and the NGO Mamirauá Institute approached the 'sector' (a cluster of seven communities) to introduce a sustainable fisheries management approach. The Maiana sector was not initially interested in implementing it. They were also made aware that if the sustainable fishing approach was put in place, Maiana would have exclusive fishing rights in the area.
- Nearby commercial fishing boats from the Fonte Boa urban centre started fishing in Maiana's area without any previous agreed arrangement, which created a conflict with the Maiana sector communities. This triggered Maiana's renewed interest in the sustainable fishing approach.
- The Maiana sector asked the reserve association (representing 173 communities) and institutional stakeholders (IPAAM[2], Institute of Mamirauá, and later FAS) to help implement a fisheries management approach.
- Maiana approached a neighbouring sector (Solimões do Meio) to set boundaries for the fishing areas so that they could start defining the rules within their own area. This included some common ground rules that applied to both sectors, for example not blocking the passage of fish between their respective fishing areas. The Maiana sector led this process and the leaders of the sector intentionally approached a wide variety of stakeholders to make sure they were included in the process (including women's groups).

[1] Department of Protected Areas and Climate Change in the State Secretary of Environment in Amazonas.
[2] Environmental Protection Institute of Amazonas, a public agency linked the State Secretary of Environment.

- Maiana actively participated in opportunities to build their own capacity, for example, through training with SEBRAE (a government agency), the Institute of Mamirauá, and later with FAS.
- The Maiana sector agreed how the lakes should be managed in a meeting and the normative regarding the management of those lakes was approved by DEMUC. FAS BFP's investment was used to help monitor the lake (for infrastructure such as boats, a car and motorbike). The Maiana sector assessed the baseline of quantity of fish in the lake, which gave them a quota for the first year (50 fish). Over the next four years as fish stocks were replenished, the quota was increased to 700. It is important to note that the sector felt happy with the quota as they had been involved in defining the baseline and monitoring.
- Youths suggested that some of the BPF funds be used to buy computers for registering and tracking the fish. This gave them a role and engaged them further in the process.
- Each community in the sector shared the responsibility of 'protecting' (policing) the lakes to ensure that the rules were followed. This required 40–50 days of protection work per family per year. This was agreed in a sector meeting. Through this enforcement, infringements were kept to a minimum. Resources for monitoring (counting) and protecting were set aside from the fishing profits as part of the original fisheries agreement.
- The Maiana sector now regularly interacts with FAS to exchange ideas, and invite FAS to participate in meetings. This has cultivated learning in a flatter structure and kept FAS in the loop on the full range of issues. One outcome was the idea of increasing the income they are getting from the fish by adding value through processing, working with FAS to trial a fish dryer.

Challenges identified during the mapping process

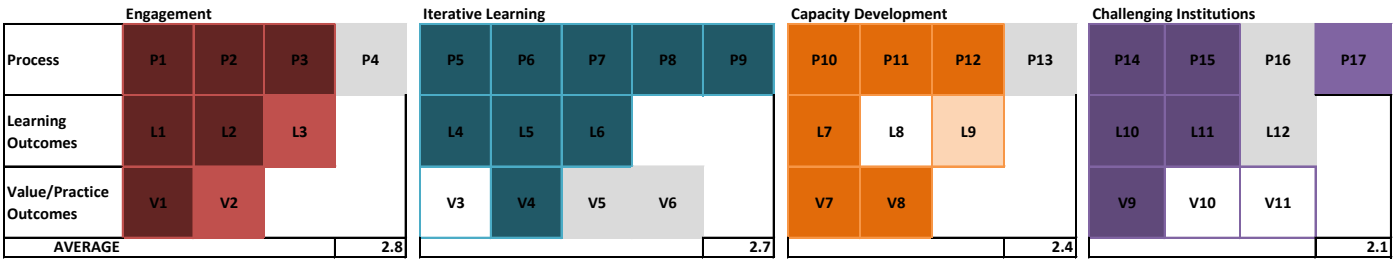
Protection work is time consuming

Despite being compensated for the protection work, it was still very time consuming. By learning over time the sector improved the efficiency of this protection work by pooling resources (for example, sharing boats, radios), which reduced 70 per cent of each family's time spent per year (to a total of 15 days each). Once the more efficient protection strategy had been put in place, the quota was significantly increased, showing that the protection was more effective, more efficient, and with a much better cost-benefit.

Pre-empting conflicts between community members/groups

The leaders decided that each protection team must be a mix of people from different communities. The purpose of this was to create a stronger common vision, improve social cohesion, and prevent conflict rooted in group rivalries. Sanctions were put in place for those not participating in their protection duties (150Brl per day they were absent).

4. Snapshot against CCSL indicators



5. Social learning results

Engagement

Score: 2.8

P1	P2	P3	P4	L1	L2	L3	V1	V2

Engagement has been inclusive and ongoing — important for learning, adapting, and creating buy-in across generations

There is an intentional strategy to engage most families, which (according to the communities) has been essential to making the approach work. There were also intentional strategies to enhance the social fabric and build trust among the communities, such as having mixed teams for lake surveillance (relational learning).

Trusted leadership, including leading by example, was important in initial phases when a significant behavior change was needed. The concept of lake management, which was initially treated with suspicion, has become a norm among these communities.

The strategic approach to planning engagement is apparent and is ongoing, even though the project has been in place for about ten years. For example, new engagement processes include young adults who were children when the project started. Young people are being actively fostered as new leaders by the existing leaders/champions. Spin-off initiatives have also been developed through the engagement and learning processes, including fish drying and handicrafts.

There is an intentional strategy to engage most families, which (according to the communities) has been essential to making the fisheries management approach work [P3]. Group learning is evidenced by deep understanding which evolved over time of new ideas, risks, and relational issues between community members [L1,L2]. The concept of lake management, which was initially treated with suspicion, has become a norm among these communities [L3].

Most forest people economic activities do not involve a year of time or resources investment, they culturally live on a day-by-day basis and change their practices according to the seasons (and associated opportunities). Therefore, the adopted practice of 'investing' a year in protecting and monitoring before fishing was a significant cultural and behavioural change for the communities [V1]. It required a relatively long-term investment of time before income generation. Trust in the approach to build fish stocks in the lake by not fishing for more than a year and monitoring was needed. This came from a trust in motivated leaders who championed the approach [P3b]. Trust in the leaders was further strengthened when fish stocks were observed to increase.

There were also intentional strategies to enhance the social fabric and build trust among the communities, such as having mixed teams for lake surveillance [P2, L2]. This ten-year project demonstrates that building trust takes time. FAS was a relatively late entrant, and over time FAS has become more trusted by working closely with the Maiana sector.

Engagement processes are ongoing, even though the project has been in place for about ten years. Strategies for inclusive engagement and improving overall participation in the project are still actively discussed. The project has been running long enough that it spans generations, requiring for example new engagement processes with young adults who were children when the project started. Young people are being actively fostered as new leaders by the existing leaders and champions. Spin-off

initiatives have also been developed through the engagement and learning processes, including fish drying and handicrafts [V2].

Iterative learning

Score: 2.7

P5	P6	P7	P8	P9	L4	L5	L6	V3	V4	V5	V6

Reflection moments are planned and happening regularly which has contributed to the quality and depth of group learning and follow-on action

The frequent (cyclical) meetings are structured to include reflection and learning moments, facilitated by the leaders. The communities' organised into mixed groups to carry out activities to enhance their own social fabric, indicating relational learning over time in the project. The depth of reflection saw them challenge their own institutions and norms — for example, they decided to stop their logging activities completely, and planned for this so as to not negatively impact individual households.

The communities found the lack of co-coordination between external institutions to interface collectively in a more effective way with them as a key barrier they faced. They also noted that external institutions did not change their own processes as a result of practical learning on fisheries management that came out of this initiative. This may have bene different if these institutions had been more engaged in the iterative learning process itself.

One other interesting point to note: the group's collective and iterative learning processes only started when the fisheries management issue became extremely important for the community when commercial fishing from a nearby sector started in their area without any previous agreement with them, indicating the need for a collective sense of urgency to spark learning/action cycles.

The frequent (cyclical) meetings are structured to include reflection and learning moments, facilitated by the leaders. The 'what we have achieved so far' moment is an interesting strategy to make the results tangible and noticed, and to bring up the problems that need to be addressed. Other frequent informal meetings were cited as spaces where critical reflection and learning took place [P5] [P6].

The communities' organised into mixed groups to carry out activities to enhance their own social fabric, indicating relational learning that happened over time in the project [L5]. Formal legal monitoring should be provided by the government agency IPAAM, but when it was not provided the communities realised they would need to self-organise to achieve results [P9]. However, the communities noted during interview process that institutional stakeholders didn't adapt their own processes to include practical learning from the projects. They considered this a key barrier ['no' to V3] in helping the learning to be followed through with action that would then further the success of the project.

One interesting part of the collective learning process is that group and iterative learning processes only started when the fisheries management issue became extremely important for the community, which happened when commercial fishing from a nearby sector started in their area. The Maiana communities were already aware of a sustainable fisheries solution, but the trigger for the project was this external pressure on fishing resources without any previous agreement with them.

Capacity development

Score: 2.4

P10	P11	P12	P13	L7	L8	L9	V7	V8

Capacity development helped foster social learning better when 'demand driven', but this in turn required pre-established engagement and learning processes

Support from external partners in fisheries management included capacity building on leadership, lake management, and fishing. Engagement processes for capacity development were tailored to local needs — in fact, as the project evolved the Maiana sector demanded specific training from its partners.

Part of this capacity development was specific training provided externally, but there was also important cross-community capacity building through 'learning by doing' and 'seeing is believing' driven by a growing sense of confidence on the project due to good leadership and social engagement. This helped build a common view and understanding of the lake management technology and results.

Support from external partners in fisheries management included capacity building on leadership, lake management, and fishing [P10]. Engagement processes for capacity development were tailored to local needs (as noted in engagement) [P11]. As the project evolved the Maiana sector demanded specific training from its partners [P12].

Because the communities are involved in all processes, including fish monitoring and lake protection, they understand the rationale behind the lake management technology and over time the causal relationship between their fishing practices and the fish stock [L7].

It appears to be important in this case that capacity development happened over an extended period, and across a broad section of the community. Part of this capacity development was specific training provided externally, but there was also important cross-community capacity building through 'learning by doing' and 'seeing is believing'. This helped build a common view and understanding of the lake management technology and results [V7]. This also facilitated an enabling environment for developing solutions to issues within the project, for fostering champions, and a desire to build capacity in new ventures including drying fish and handicrafts [V8].

Challenging institutions

Score: 2.1

P14	P15	P16	P17	L10	L11	L12	V9	V10	V11

Challenging cultural and institutional norms within the community to improve the fishing project helped iterative learning and led to positive outcomes, with some evidence that this also built confidence to challenge external institutions

The communities decided to organise meetings to discuss progress and reflect on the institutional arrangements that made up the project and the set of wider stakeholders that it interacts with. The description of these meetings gives some indication that they were open to new ideas and that they questioned the theory of change, and the stakeholders' roles, norms and rules.

There was also some evidence of reflection on challenging institutions specifically to facilitate social learning, but this was tentative: it was not particularly proactive, and did not extend beyond communities to wider stakeholders. This challenging of institutions can be seen in part as a result (outcome) of the social learning taking place in the fishing communities.

More indirectly (and not as a result of challenging institutions to facilitate learning in itself) the challenging of external institutions to make the Bolsa Foresta investment funding rules more flexible has ended up facilitating ongoing learning by allowing the communities to make more flexible investment decisions, better supporting the learn–reflect–act iterative cycles.

Due to the sector's annual agenda, and because it has multiple stakeholders, the communities decided to organise meetings to discuss progress and reflect on the institutional arrangements that make up the project and the set of wider stakeholders that it interacts with. The description of these meetings gives some indication that the sector is open to new ideas and that it questions the theory of change and the stakeholders' roles, norms and rules. There was evidence of reflection on challenging institutions to facilitate social learning [P17], but this was tentative: it was not particularly proactive, and did not extend beyond communities to wider stakeholders. This could be a contributing factor to the finding that there has not been an increase in institutional openness or support for the learning processes themselves [V10, V11]. A future assessment, within 3–5 years, could confirm this.

One important relational learning outcome was the communities' strategy to keep all community members and wider stakeholders engaged. This was a process of continual engagement and cultivation of relationships within the communities, for example with youth who were 'growing up' to enter the fishing project, and with wider stakeholders. This was important in building a shared understanding of the issues and approaches to solving them [L11]. Building this understanding was critical in overcoming a number of barriers and increased the success of the project, for example through the changes the sector proposed to Bolsa Floresta to better suit the needs of their project [V9].

Another finding which was related to the fisheries project was that the communities within the sector and the wider reserve, along with other reserve's leaders, supported changes in the Bolsa Floresta Program investments arrangement. These changes were championed by individuals in the fisheries management project [P14] and included changes in spending allocations between the different components of the programme.

In addition, FAS also had to change its arrangements with donors (for example, Amazon Fund/BNDES) for reporting how funds were spent. This challenging of institutions can be seen in part as a result (outcome) of the social learning taking place in the fishing communities. More indirectly, and not as a result of challenging institutions to facilitate learning in itself, the challenging of external institutions has ended up facilitating ongoing learning by allowing the communities to make more flexible investment decisions, better supporting the learn–reflect–act iterative cycles.

There were indications of a conscious change strategy being developed [P15], as the Pirarucu fish became more profitable there was a move away from traditional logging activities. In doing this there was challenging of established institutions within the community: how different organised logging groups would be impacted as well as a cultural shift away from logging.

6. Summary: social learning challenges and lessons learned

The CCSL initiative aims to answer three key questions through the piloting of its M&E Framework for Social Learning:

- Did social learning take place?
- What factors contributed to successful social learning?
- Did social learning contribute to better and more sustainable development outcomes?

The ultimate goal is to build an evidence base, and understanding, around when social learning contributes to better and more sustainable development outcomes (and under what circumstances it does not) in the context of climate change adaptation and food security.

The Maiana case shows good evidence that social learning (that is, collective, iterative learning) has occurred. In Maiana this has happened over an extended period of time across multiple communities and external stakeholders to change entrenched 'traditional' community practice in fishing and broader livelihoods. Overall there is evidence of double loop learning reflecting on core questions of livelihood practice, and some tentative evidence of challenging values and norms within community groups (triple loop learning).

Inclusive engagement sustained over a long period was an important part of fostering social learning (and action) cycles which created not only learning on fish management but improved relational learning, social cohesion and overall buy-in to the process. Indeed, the aspect of 'investing' a year in protecting and monitoring before the annual fishing was a deep change in the communities' behavior and required patience along with trusted leaders and champions.

It is also important to note that the project has been running for about ten years, and that the quality of iterative learning was achieved (and improved) with time. Learning by doing as a method of capacity development and building shared understanding were also important in fostering the learning processes.

The good results, and the confidence derived from them, contributed to flattening the relational hierarchies with external stakeholders. Together with a more mature 'partnership' approach, this created an enabling environment for challenging institutions' propositions (for example, for practical aspects such as licensing and managing the reserve). However, there were no outcomes that could be associated with changes in institutional openness towards or support for social learning approaches themselves perhaps due to limited challenging of institutions.

External stakeholders have learned at a practical level from this process, with the communities demanding actions from them to fit with their approach (rather than the other way around). But there was little external (to the communities) participation in the iterative learning processes happening as part of the project. Possibly this is one reason why there were no challenges raised to external stakeholders to reflect more systemically on their own practice, with the exception of the later challenge to FAS on the flexibility of the BFP rules. This includes reflecting on their own learning processes so as to achieve better practice when engaging with community initiatives such as the Maiana fish management project.

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Indicator table

	ID#	Process indicators	Pirarucu results
ENGAGEMENT	P1	Women, youth and other disadvantaged groups are identified and targeted	**Yes.** Active targeting and inclusion of women and youth. A women's group was created and a women's soccer championship also created (with an incentive that women could only participate in the championship if they participated in the meetings). Youth ideas were listened to and included eg computerisation of fish monitoring. New families can engage anytime in the process. And they are trying to raise awareness of other groups (eg isolated families or elders that do not believe in fish management and do not attend meetings).
	P2	Groups/individuals identified are engaged through appropriately tailored means	**Yes.** See P1 for examples. They consider the youth as future leaders by inviting them to attend meetings. This is making youth interested on reserve's issues.
	P3	2 parts: All target groups/individuals are actively participating in the project a. All target groups /individuals are actively participating in the process *b. Facilitator role identified as trusted and effective by all parties*	a. **Yes**. See P1 above. Good attention to including different groups through tailored means. Outside the project, other groups/individuals were considered by implementing other projects. b. **Yes**. The leaders were actively facilitating and reaching out to different groups, including external parties such as DEMUC.
	P4	*Emergence of champions is fostered*	**No evidence.** Although it seems likely, based on the track of good results leaded by the communities
	L1	[Cognitive]Knowledge of the problem enhanced by interactions	**Yes**. They could list their needs through discussions (sector meetings). They go deep on analysis discussing risks and ideas. The issue of lake protection is an example of enhanced knowledge of the problem.
	L2	[Relational] a. Engagement has led to better relations between target groups/individuals *b. Trust created* *c. Engagement has led to awareness and valuing of other stakeholders*	a. **Yes.** Among the communities. b. **Yes.** Among communities and sectors. c. **Yes.** They understood through learning and reflection that partnerships (rather than demand to externals) were more effective in achieving goals. Institutions have been more responsive as a result.

	L3	[Normative] 2 parts: a. Different knowledge types successfully integrated b. Engagement has led towards a change in collective understanding of the problem and solutions	a. **No evidence**. There is no evidence from the interview. b. **Yes**. Lake management is broadly accepted and they have shown initiatives to improve the processes demonstrating understanding of the problem and ability to reach solutions.
	V1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**Partially (at some level).** That has not come up in a specific question. But there is a clear indication of the communities' ownership of the project.
	V2	[Practice] 3 parts: a. New social networks established b. New initiatives and projects c. Empowerment of most vulnerable beneficiaries (communities) including women and children	a. **No**. There is no new network but a significant enhancement of current ones (eg women's groups, reserves' association, sector meetings). b. **Yes**. Fish dryer and handicraft. c. **Yes**. The monitoring is made mostly by women. They also had an intentional strategy to engage youth groups. Those who were not able to fish were also included in other projects.
ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Yes**. Every meeting they started presenting their past achievements to share and assess such. In addition, there are frequent informal moments to talk and discuss .
	P6	*Learning and evaluation processes are supported and facilitated*	**Yes**. Sector's leaders could facilitate such general assessment to others (not just for Pirarucu fishermen).
	P7	Systems are in place to foster and implement new ideas	**Yes**. The 'drying fish' new business case represents clearly that they are system that foster new ideas. Outside the project, there are other systems that support other projects/ideas (eg in sector meetings). Another example is the 'multirão ambiental' (environmental group) that optimises the lake protection reducing the number of days that each family dedicate to monitoring the lakes.
	P8	Questioning the TOC itself and key assumptions is valued and happening regularly	**Yes**. When they realised that IPAAM was not going to protect lakes, they organised themselves to do so.

	P9	Questioning of values, norms and governance underlying problem is valued and happening regularly	**Yes**. They could question governance of different institutions, eg lake protection should be made by IPAAM. They realised that IPAAM was not able to do so, and then they organised themselves to come up with a protection plan as this was impacting reserve's fishing results.
	L4	[Cognitive] 2 parts: a. Results of learning/evaluation are incorporated into the project strategy *b. Creative solutions and innovations are developed*	a. **Yes**. They incorporated the learning by analysing strategies ie lake protection case. Then they came up with a better idea and optimised their resources. b. **Yes**. Within an innovative environmental, and due to opportunities to create, they were able to assess different ideas and come up with an alternative (eg lake protection case with and without interaction).
	L5	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups*	**Yes**. When they built mixed groups to protect their lakes, they increased awareness on collectively goods/services and enhanced their 'social fabric'.
	L6	[Normative] Participants understand the need for alternatives and room to fail	**Yes**. Alternative: 'drying fish' new business. Room to fail: Yes, as they mentioned they are trying a new method to dry fish.
	V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**No**. External institutions ask for communities to be organised and articulated, but they themselves are not — they do not lead by example. The community sees the lack of coordination between external institutions to interact more effectively with them as a major barrier. They also note that the external institutions did not change their own processes as a result of the practical learning on fisheries management that came out of this initiative.
	V4	*[Practice] Wider stakeholder groups relate to each other differently*	**Yes**. Over time trust has been built with stakeholders like local government and the relationship has become more horizontal. They understood over time that just demanding was not as effective as working to create more fruitful and horizontal partnerships.
	V5	*[Value] The need for alternatives and room to fail is evident in other projects/programmes*	**No evidence**. Not enough information.
	V6	[Practice] Alternatives and room to fail are built in to other projects/programmes	**No evidence**. Not enough information and considering handicraft there is poor registry of the failure.
CAPACITY DEVEL	*P10*	*Capacity development activities are integrated into the project/programme*	**Yes**. Project partners have brought capacity on leadership, lake management, fishing etc.

P11	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**Yes**. See P1 and P3a for elder groups, and V8b.
P12	Capacity needs are determined collectively in a bottom-up manner	**Yes**. The sector has demanded specific training to its partners.
P13	*Capacity development needs are systematically integrated into all project components*	**No evidence**.
L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**Yes**. However, there was some institutional differentiation: they used a common rule ground to manage the lake as a strategy to community development and lake protection.
L8	[Relational] Increased understanding between different participant groups of different needs and perspectives	**No.** There is no evidence for that. However, as they have a very good relationship within the communities, they could set some ground rules, which have helped them to understand different needs and perspectives in formal forums (eg sector meetings).
L9	*[Normative] Increase in collective challenging/understanding methods of building capacity for particular stakeholders*	**Partially (at some level)**. Not specific inputs on the lake management project (fish project), but they were able to add different methods on building capacities for the artisans.
V7	[Value] More informed stakeholders	**Yes**. Most of the capacity building was towards to the sector filling in technical gaps. In addition they could recognise their needs on capacity building.
V8	[Practice] 2 parts: a. Capacity development leads to different groups working together better b. Capacity development leads to changes in practice that reflect a	a. **Yes**. Where there is capacity building there is also a relational change (eg handicraft => with all training and Pirarucú fish engagement experience, they were able to learn more easily both the process and to engage different groups). b. **Yes**. Training and capacity brought practical changes in lake management and a better understanding of challenges and a better environment to come up w solutions.

		better understanding of the problem and solutions	
CHALLENGING INSTITUTIONS	P14	Key individuals/institutions who will support/champion change are identified	**Yes**. Communities, sectors and the reserve supported some changes in the BF investments arrangement. FAS also had to change its arrangements with donors (eg Amazon Fund/BNDES) to make project's accountability report.
	P15	A change strategy is developed, including mapping of existing norms and endogenous processes	**Yes**. As the Pirarucu fish got more profitable they decided to quit logging, challenging their own traditions and organised logging processes.
	P16	*Existing norms and endogenous processes are mapped*	**No evidence**.
	P17	Key institutions are challenged to make changes that facilitate social learning	**Partially**. Due to sector's annual agenda, and as they have several stakeholders, they have to get together at the same place and time: this might facilitate interactions to social learning.
	L10	[Cognitive] Project participants understand the particular opportunities and barriers	**Yes**. They understand by identifying both opportunities and barriers and proposing solutions to involved stakeholders (see V9).
	L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)*	**Yes**. The lead role of the communities and their strategy to engage and partner kept everyone at the same page by communities engagement (ie they cultivate their relations with stakeholders).
	L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**No evidence**. See P17 for further details.
	V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**Yes**. They understand (see L10) and propose to involved stakeholders, eg they proposed some changes in the BF rationale to overcome some barriers.
	V10	[Value] Challenges lead to changes in institutional openness towards SL-orientated approaches	**No**

		(evidenced in eg attitudes, conflicts)	
	V11	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**No**

BFP - Terra Preta: small-scale timber management

Climate Change Social Learning (CCSL) case study

By Ben Garside, Leandro Pinheiro, Victor Salviati

November 2016

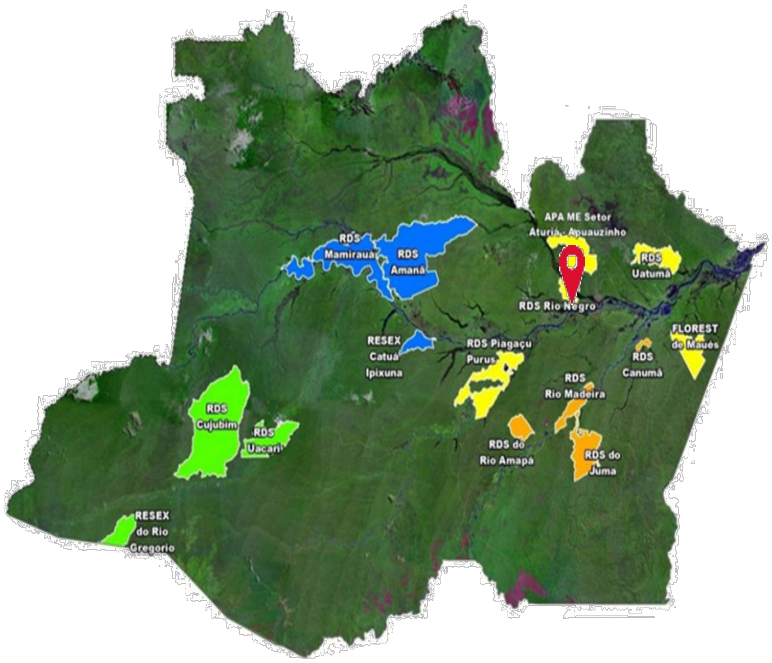
1. Key findings

- Engagement was limited but did take place, given the length of time the project has been going.
- Trusted leaders were able to keep group cohesion even during project setbacks. Leaders with a clear mandate and a set of responsibilities to be accountable for are likely to be more trusted in the long run.
- Even with low scoring on the capacity development process indicators, the participants showed a similar level of understanding of the project and its problems. This might be a consequence of a cohesive group with some knowledge of the activity prior to the initiative.
- There was little fundamental questioning of which project to do and why — the initiative relied on the previous livelihood strategy and changes focused on moving from illegal to legal logging. There was no questioning of the underlying theory of change as to whether they should continue logging and many assumptions were made which proved incorrect over time. This had negative impacts on results.
- Both the community and other stakeholders could have been more proactive in reflecting on, challenging, and addressing the significant bureaucratic barriers imposed by regulation agencies, which impact small-scale forest management for timber in a similar way across the Amazon.

2. Project description

Started in 2008, this community project aimed to replace the previous unsustainable timber logging for a sustainable and legal small scale forest management.

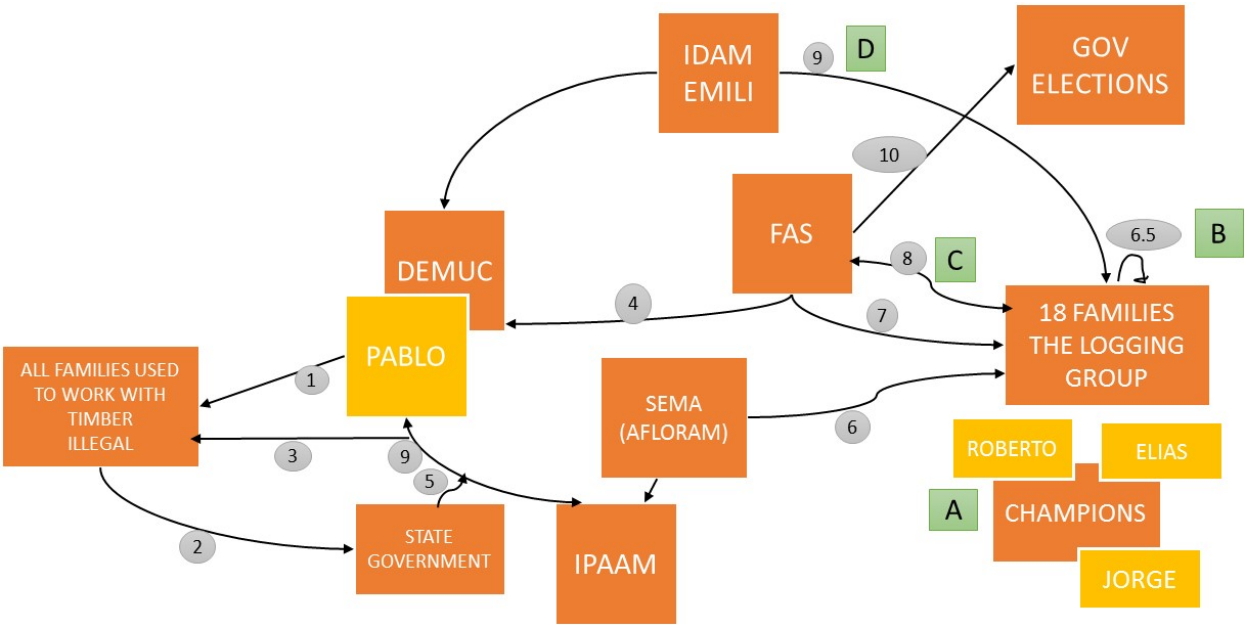
Figure 1. Project location in the Amazon region of Brazil.



The Sustainable Development Reserve of Rio Negro was a traditional source of Manaus' illegal timber due to its proximity. In the Terra Preta community the timber was, along with seasonal fishing, the main source of income. Timber logging was made using chainsaws and leveraging water movements (dry and wet season) to move the timber to the riverbanks. Timber traders used to navigate up the Rio Negro river buying precious woods to sell in Manaus market. In 2008, the Rio Negro Reserve was

created and the logging activity fell dramatically due to the reserve's rules and increase of command and control actions. The communities of the reserve (including Terra Preta) protested, complaining to the government that creating the reserve destroyed their logging livelihoods. The small-scale forest management initiative was an alternative approach intended to replace the previously unsustainable (and illegal) logging practices.

3. Mapping the project process



- The communities of the reserve (including Terra Preta) protested, complaining to the government that creating the reserve destroyed their logging livelihoods.
- Amazonas government asked the State Secretary of Environment (SEMA) to look for a solution.
- SEMA asked the State Forestry Agency to help with the technical procedures needed to legalise the logging activities including harvesting and sale.
- In 2009, IPAAM issued a logging license for a group in the Terra Preta community (that includes 18 families).
- The community group harvested and transported the timber to the riverine area, but due to the distance of the logging area and a lack of equipment (chainsaws and a tractor) their licence expired before they were could sell the timber (approx. 50m^3).
- The group couldn't get another licence and the timber was lost.
- FAS approached the community and DEMUC and offered to help issue another licence. The PBF resources could be directed to support the logging activity.
- The new licences were issued to three community leaders (Zé Roberto, Elias and Jorge) that have the trust of the others.
- FAS support helped the group to better understand all the bureaucratic procedures to legalise their logging livelihood.
- The community decided to invest in more chainsaws and a tractor to speed up the harvesting.

- They also decided to invest in a woodwork/carpentry shop to produce furniture, doors and windows. They mentioned that if they could not sell the timber during the period of the harvesting licence they could still use it in the workshop.
- The woodwork/carpentry shop also needed licensing. This process includes a technical supervision of the structure and equipment.
- FAS can't deliver the equipment during the election period, due to specific laws.
- During this period, they are still trying to fulfil the bureaucratic requirements to get the harvesting licence (not issued yet).

Challenges identified during the mapping process

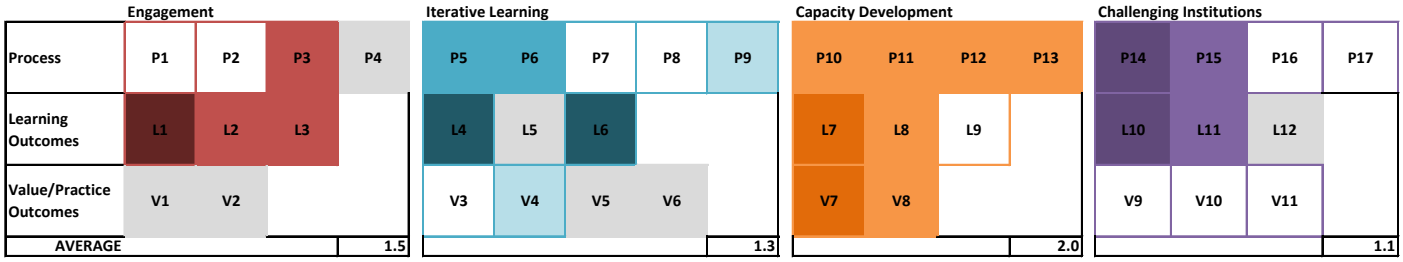
Interviewees:

Initial lack of understanding of the licensing process. The licensing process is quite complex and requires considerable paperwork and bureaucracy. Once legalised there is a short window to trade the timber and this situation can put pressure on timber sale price reducing or even eliminating the profits.

Interviewers:

It's unlikely that a community like Terra Preta can overcome the bureaucracy by itself. The actual process for licensing small-scale timber is highly compartmentalised among several institutions with a lack of proper articulation. During the interview it was mentioned that a single document to allow the licensing process to move on took 18 months to be issued.

4. Snapshot against CCSL indicators



5. Social learning results

Engagement

Score: 1.5

Engagement was limited to a small group of men in logging families. There is some evidence that this engagement fostered learning, particularly given the length of time the project has been running.

The engagement at Terra Preta seems to be limited to those families with some previous experience in logging. Logging is also a traditionally male activity in the community, with significant physical requirements. There is no evidence of intentional efforts to engage youth, maybe because the project is not fully operational. There are a limited number of participants the project can include and still be viable and profitable.

Among the participants there seems to be a clear role for three leaders that are trusted and do most of the pre-operational work and share with the others when common decisions are required or breakthroughs are achieved. They also seem to identify leaders that are more skilled to deal with the bureaucracy. There seems to be cohesion among the group but it's not clear if it has any causal link to the project. Their understanding of the problem, especially regarding the licensing process, was enhanced by the interactions within the group and with the external institutional stakeholders.

Logging is a traditionally male activity with significant physical requirements. Women and the elderly hardly participate and were not engaged. There is no evidence of intentional efforts to engage youth, maybe because the project is not fully operational. There are a limited number of participants the project can include and still be viable and profitable.

The group of 18 families remained the same from the beginning and is composed of the families that use to log timber. Although it's known that other communities also are developing forest management initiatives in the reserve, there was no specific mention of involving other groups for collectively trading, producing or doing other joint efforts [P1, P2, P3].

The engagement at Terra Preta seems to be limited to those families with some previous experience in logging — other families don't seem interested, or adopt a 'wait to see what happens' position before engaging in the initiative. Among the participants there seems to be a clear role for three leaders that are trusted and do most of the pre-operational work and share with the others when common decisions are required or breakthroughs are achieved. They also seem to identify leaders that are more skilled to deal with the bureaucracy [L3]. There seems to be cohesion among the group but it's not clear if it has any causal link to the project [L2]. Their understanding of the problem, especially regarding the licensing process, was enhanced by the interactions within the group and with the external institutional stakeholders [L1].

Iterative learning

Score: 1.3

Iterative learning happened but was fairly reactive to issues. Outcomes were poor because of institutional barriers around the project choice, and opportunities for broader learning were missed.

The iterative learning observed in the project could be described as reactive. When a bottleneck iss identified the leaders gather some information and share in occasional meetings to agree how to proceed, or how to invest the annual income from Bolsa Floresta Program. Part of these learning moments was facilitated by institutional stakeholders, such as FAS and DEMUC. Specifically for the investments, meetings were open enough to foster new ideas to move the initiative further.

On the other hand, it seems that there wasn't a moment to evaluate if keeping logging timber was the best income generation alternative under the new context. The project was just an adjustment of their previous livelihood strategy.

The project is clearly struggling to overcome the massive bureaucracy related to legal timber. Unfortunately, this project experience is not being used to simplify the process or lobby for reduced bureaucracy on small-scale forest management. There is no systematisation of the experience by either external stakeholders (including FAS and DEMUC) or internal ones — and no regular process of questioning values, norms and governance related with small-scale forest management for timber. An outcome related to this could be one of the main legacies of this project.

The iterative learning observed in the project could be described as reactive. Once a bottleneck was identified the leaders gather some information and share in occasional meetings in order to seek for a common agreement on how to proceed, or how to invest the annual income related invest from Bolsa Floresta Program. Part of these learning moments was facilitated by institutional stakeholders, such as FAS and DEMUC. Specifically for the investments, meetings were open enough to foster new ideas to move the initiative further [P5, P6, P7].

On the other hand, it seems there wasn't a moment to evaluate whether continuing to log timber was the best income generation alternative under the new context. The project was just an adjustment of their previous livelihood strategy. [P8].

The project is clearly struggling to overcome the massive bureaucracy related to legal timber. Unfortunately, this project experience is not being used to simplify the process or to lobby for reduced bureaucracy on small-scale forest management. There is no systematisation of the experience by either external stakeholders (including FAS and DEMUC) or internal ones, and no regular process of questioning values, norms and governance related with small-scale forest management for timber [P9]. An outcome related to this could be one of the main legacies of this project.

The group demonstrated that they could adapt and incorporate new ideas to the project to overcome problems [L4]. For example, using woodwork/carpentry as a way of having a viable output for forest management production that they couldn't sell on the licence timeframe. Even with all the project's drawbacks, the group demonstrated resilience and an understanding that there must be room for failure [L6] — unusual in many forest communities.

Unfortunately, there has been almost no observed changes from the wider stakeholder groups as a result of this project — especially the licensing agency (IPAAM) — to ease the process for local communities access the market for legal timber. [V3].

Capacity development

Score: 2.0

P10	P11	P12	P13	L7	L8	L9	V7	V8

Capacity development was a little ad hoc, focusing on particular issues as they arose, but over time had the benefit on collective understanding of the issues. It did not extend to capacity development of external stakeholders, which was a key blocker for the project success.

The partial scoring on the capacity development process indicators still led to the project participants demonstrating a similar level of understanding of the project and its problems. In general, they are more informed on the bureaucratic barriers and other issues related to legal timber logging. This might be explained by the fact that it's a cohesive group that had some knowledge of the activity before the initiative.

The capacity development within the project group can be described as incremental instead of disruptive. The way they relate to each other and with the market was mostly unchanged.

It is also noticeable that there was no capacity development efforts from other institutional stakeholders, which is linked to critical bottlenecks related to the initiative.

In addition to BFP, the project had funding to provide training opportunities ranging from technical issues to entrepreneurship. Some of the leaders also benefited from the capacity development process of BFP [P10]. No specific capacity building around group learning was mentioned. It is noticeable that there was no capacity development efforts from the other institutional stakeholders, which is linked to critical bottlenecks related to the initiative [P11].

Even though capacity development indicators scored poorly, the participants showed a similar level of understanding of the project and its problems [L7] and are in general more informed on the bureaucratic barriers and other issues related to legal timber logging [V7]. This might be explained by the fact that they are a cohesive group with prior knowledge of the activity.

The changes provided to capacity development can be described as incremental instead of disruptive. The way they relate to each other and with the market are mostly unchanged [V8].

Challenging institutions

Score: 1.1

P14	P15	P16	P17	L10	L11	L12	V9	V10	V11

Champions were identified and supported institutional change (FAS and DEMUC). However, no mapping of existing norms and endogenous processes were made. Rather institutional/political bottlenecks were discovered and tackled during the process. As a result, after a couple of years of trial and error the project participants have a common understanding of the opportunities and barriers.

However, there were no internal reflection moments within the group regarding the wider project scenario and the need to relate with institutional stakeholders in another way. No shift in values or practices was mentioned. In particular, the licensing agency (IPAAM) was not challenged to make changes based on the project learning to make its procedures more practical for small-scale timber management, which could have benefited other communities.

FAS and DEMUC are supporting change from the traditional illegal logging to a legal and sustainable system. The support has led the group to better conditions (equipment) and understanding of the problem. The wider set of norms, procedures and requirements are still a major barrier for the sustainability of moving from unplanned illegal logging to a more structured small-scale community based legal logging activity.

There was no mapping of existing norms and endogenous processes. Rather, bottlenecks were discovered during the process [P16]. As a result, after a couple of years of trial and error, project participants have a common understanding of the opportunities and barriers [L10]. No shift in values or practices was mentioned [L12].

Overall there were no internal reflection moments within the group about the wider project scenario and the need to relate with institutional stakeholders in another way. In particular, the group did not challenge the licensing agency (IPAAM) to make changes based on the project's learning — to simplify its procedures [P17] and make them more practical for small-scale timber management (which could have benefited other communities). In March 2016, since this research, FAS and partners have started engaging IPAAM to develop a more manageable licensing system for small-scale, low-impact forest management.

6. Summary: social learning challenges and lessons learned

The CCSL initiative aims to answer three key questions through the piloting of its M&E Framework for Social Learning:

- Did social learning take place?
- What factors contributed to successful social learning?
- Did social learning contribute to better and more sustainable development outcomes?

The ultimate goal is to build an evidence base, and understanding, around when social learning contributes to better and more sustainable development outcomes (and under what circumstances it does not) in the context of climate change adaptation and food security.

Some social learning took place, but it was more reflective of the immediate issues than fundamental questioning of how to proceed. It is evident that the community group learned during the implementation process and have a better understanding of the requirements to engage in legal logging. They were able to react to the bottlenecks identified. In the future when required to get a new licence, they will deal with the process in a better way. Despite the lack of routine reflection over practice in regular meetings,

they were able to share a common level of understanding among the (small) group through more ad-hoc engagement.

The project has been ongoing since 2009, and is still pre-operational. Looking at the indicators, most of the positives were related to process, with almost no value/practice changes. This continued attempt to engage in the process with little results might be related to the momentum of the project — the desire to make the logging livelihoods work driven by a few champions.

On the other hand, there have been some positive learning outcomes, as shown by the indicators. This is despite the process indicators being relatively weak. This could be result of the group cohesion and trusted leaders that in some way compensate the lack of reflection over practice structure.

The capacity development was effective to provide new tools to improve their logging practices, but there wasn't much regarding continuous reflection over the whole scenario and how to relate with the wider institutional stakeholders. The project leverage from the trusted leaders which kept the initiative going, there seems not to be a backup plan if one, or more of them, decide to leave the initiative.

Arguably, the challenging institutions dimension is probably the single most important component in the social learning framework with respect to this project's success. Considering the most significant bottlenecks were related to the quality of interaction with institutional stakeholders and their willingness to change their values and practices towards small scale management, it seems more efforts on this dimension would benefit the initiative.

This case is an example of how the wider institutional stakeholders' context can impact the development of a community-based initiative. Even though there was cohesion among the direct participants from the very beginning, the engagement process should have focused on the institutional stakeholders.

The external bureaucratic barriers were extremely challenging in this case and there was a need to relate to external institutional stakeholders in another way. The actual process for licensing small scale timber is highly compartmentalized among several institutions with a lack of proper articulation. This was not necessarily something the community could do alone but they were passive in engaging, reflecting on the wider project scenario, or asking for help.

Wider learning and lobbying could have been achieved in this project by FAS and others on the difficulty of complying with the overly bureaucratic requirements faced by small-scale forest loggers.

Indicator table

	ID#	Process indicators	Terra Preta results
ENGAGEMENT	P1	Women, youth and other disadvantaged groups are identified and targeted	**No evidence**. The nature of the activity limits the engagement of several groups. No mention was made of intentional efforts to engage youth and women in the woodwork/carpentry shop.
	P2	Groups/individuals identified are engaged through appropriately tailored means	**No**. The group of 18 families remains the same, no mention of change and inclusion of other individuals was made. Although it is known that other communities also work with logging activities in the reserve, there was no specific mention of engagement with other groups.
	P3	2 parts: All target groups/individuals are actively participating in the project a. All target groups/individuals are actively participating in the process *b. Facilitator role identified as trusted and effective by all parties*	a. **No.** It seems that the leaders do most of the work. Meetings are made when decisions are needed, or specific tasks or goals are established but most of the families are waiting for the licence. The space for the woodwork shop was made by the group. b. **Yes.** FAS staff role of facilitator and DEMUC reserve manager were identified as facilitators. Both were considered trusted and effective in distinct ways. FAS staff by their knowledge of the requirements and procedures and DEMUC manager as someone able to engage other stakeholders.
	P4	*Emergence of champions is fostered*	**No evidence**. Three group leaders were pointed as champions
	L1	[Cognitive]Knowledge of the problem enhanced by interactions	**Yes**. The group discussed what happens with the timber harvested on the first license and improved their strategy and knowledge of the bureaucratic barriers to legalise the activity.
	L2	[Relational] d. Engagement has led to better relations between target groups/individuals *e. Trust created* *f. Engagement has led to awareness and valuing of other stakeholders*	**a. No evidence**. The group seems cohesive. No inference of conflicts among the group and with other groups. **b. Yes**. The group trust their champions to represent them in the licensing process. **c. Partially (at some level)**. They mentioned several stakeholders and were able to identify their roles, and participation on the process.
	L3	[Normative] 2 parts: c. Different knowledge types successfully integrated d. Engagement has led towards a change in	a. **Yes**. They mentioned that there are group members with experience in logging and others (few) with experience in carpentry. They also identified leaders that are more skilled in dealing with bureaucracy. b. **Partially (at some level)**. The woodwork/carpentry shop was presented as a collective solution that probably came up from the meetings.

		collective understanding of the problem and solutions	
	V1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**No evidence.** At this moment it is hard to assess this indicator.
	V2	[Practice] 3 parts: d. New social networks established e. New initiatives and projects f. Empowerment of most vulnerable beneficiaries (communities) including women and children	a. **No evidence**. Some indications that they expand the number of stakeholders involved in the project b. **Yes.** Although the woodwork/carpentry shop presents as a solution for the project, it is also a new initiative. c. **No evidence.**
ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Partially (at some level)**. They have (i) meetings to decide the annual investments; (ii) meetings with the facilitators; and some reflection happens at FAS training opportunities.
	P6	*Learning and evaluation processes are supported and facilitated*	**Partially (at some level).** There is some support from the facilitator to contribute with the project progress, although it's not intentionally structured as learning and evaluation moments.
	P7	Systems are in place to foster and implement new ideas	**No.**
	P8	Questioning the TOC itself and key assumptions is valued and happening regularly	**No.** The initiative relies on the previous livelihood strategy. The change is a focus on moving from illegal to legal logging. Some incremental innovation like the woodwork/carpentry shop do not qualify as "*questioning the TOC and the key assumptions*".
	P9	Questioning of values, norms and governance underlying problem is valued and happening regularly	**Hardly**. Besides the initial protest, it seems there is a tacit acceptance of the norms at the reserve and the some level of disapproval related to requirements for the logging activity and for the woodwork/carpentry shop.
	L4	[Cognitive] 2 parts: c. Results of learning/evaluation are incorporated into the project strategy *d. Creative solutions and innovations are developed*	a. **Yes**. The woodwork/carpentry shop is an example. b. **Yes.** The woodwork/carpentry shop is an example.

	L5	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups*	**No evidence.** No relation and behaviour change was identified during the interview.
	L6	[Normative] Participants understand the need for alternatives and room to fail	**Yes.** Even though it is not explicit, the fact that they insisted on the project after the initial failure indicates that they understand there must be room for failure.
	V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**No**. For example, this would be the case of the government agency (IPAAM) responsible for the licensing to identify reasons to change behaviours and relations to simplify the small-scale community based timber logging activity, but there is no evidence of this.
	V4	*[Practice] Wider stakeholder groups relate to each other differently*	**Hardly.** There was some intensification of contact between FAS and IPAAM to try to speed up the licensing.
	V5	*[Value] The need for alternatives and room to fail is evident in other projects/programmes*	**No evidence.** The special project 'Manejar para Conservar' does not include room to fail (maybe due to donor limitations).
	V6	[Practice] Alternatives and room to fail are built in to other projects/programmes	**No evidence.**
CAPACITY DEVELOPMENT	*P10*	*Capacity development activities are integrated into the project/programme*	**Partially (at some level).** There were several training opportunities, from technical issues to entrepreneurship. No specific capacity building for social learning was identified.
	P11	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**Partially (at some level).** The capacity development targets only the forest dwellers. No evidence of capacity development for other stakeholders in the project.
	P12	Capacity needs are determined collectively in a bottom-up manner.	**Partially (at some level)**. Most of the capacity needs are determined previously during the project design by the technical staff. Some are demanded by the group(s) in a bottom-up manner (ie carpentry).

	P13	*Capacity development needs are systematically integrated into all project components*	**Partially (at some level)**. The project is flexible to include new needs such as capacity development. The process of identifying the needs and systematically integrating them is limited.
	L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**Yes.** All the stakeholders, including the group, share a similar level of understanding of the problem (including barriers and opportunities).
	L8	[Relational] Increased understanding between different participant groups of different needs and perspectives	**Partially (at some level)**. The stakeholders understand in a superficial way others' perspectives, but it is not shared in a structured way.
	L9	*[Normative] Increase in collective challenging/understanding methods of building capacity for particular stakeholders*	**No.** There is a lack of building capacity for foster social learning.
	V7	[Value] More informed stakeholders	**Yes.** For example, the community group is much more informed on the bureaucratic barriers and other issues related to legal timber logging.
	V8	[Practice] 2 parts: c. Capacity development leads to different groups working together better d. Capacity development leads to changes in practice that reflect a better understanding of the problem and solutions	a. **No evidence**. b. **Partially (at some level)**. There is some evidence of changes in practice that reflect a better understanding of the problem, but no evidence that it is related to capacity development.
CHALLENGING INSTITUTIONS	P14	Key individuals/institutions who will support/champion change are identified	**Yes.** FAS and CEUC support change from the traditional illegal logging to a legal logging system. The support has led the group to better conditions (equipment) and understanding of the problem. The wider set of norms, procedures and requirements are still a major barrier for sustaining the project outcomes.
	P15	A change strategy is developed, including mapping of existing norms and endogenous processes.	**Partially (at some level)**. There is the broad strategy of moving from unplanned illegal logging to a more structured small-scale community based legal logging activity. No mapping of existing norms and endogenous processes was made, though.

P16	*Existing norms and endogenous processes are mapped*	**No.**
P17	Key institutions are challenged to make changes that facilitate social learning	**No.** The institutions are not being challenged in this way.
L10	[Cognitive] Project participants understand the particular opportunities and barriers	**Yes.** There is a common understanding of the structured small-scale community based legal logging activity as an opportunity and a common understanding of the bureaucratic requirements as the major barriers.
L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)*	**Partially (at some level)**. They share a common understanding of the problem but no approach to solving it.
L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**No evidence.**
V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**No.** It would be a major contribution of the project if happens.
V10	[Value] Challenges lead to changes in institutional openness towards SL-orientated approaches (evidenced in eg attitudes, conflicts)	**No.** Besides FAS and DEMUC at some level, the other institutions involved in the process do not demonstrate openness towards SL-oriented approaches.
V11	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**No**. See V10.

BFP - Xibauazinho sustainable fisheries management

Climate Change Social Learning (CCSL) case study

By Ben Garside, Leandro Pinheiro, and Victor Salviati

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1. Key findings

- At a project level, engagement processes were not actively thought out, and champions were not actively fostered. However, an important enabling factor for local capacity, trust, leadership, and institutions was the 15 years Brazilian Ecclesiastical Movement (MEB) church worked on fostering leaders along with the two very active reserve's associations.
- Given the above, the community was more self-reliant and pro-active, and FAS fostering a 'standard' participatory process on the BFP investment led to very good outcomes.
- The community has shown significant initiative and ability to learn together, although not at the deeper normative levels of learning. There was a lot of 'learning by doing' which included reflection over practice and ability to adapt the learning from the courses to better fit their reality. Inclusive co-learning was a key part of this, and both youth groups and women were actively included.
- At a relational level, it is hard to determine whether the 'good results' led to better relations and decreased conflict, or whether increasing good relations has been a driver for improved results — possibly a combination of the two.
- The community challenged institutions at a level of 'getting things done' in the fisheries management project. Possibly as a result of the previous work by the church (MEB), they are more used to engaging with external stakeholders and being assertive about what they want or need. This has led to changes in external stakeholders' approaches to engaging with the community (and learning from this with other communities).

2. Project description

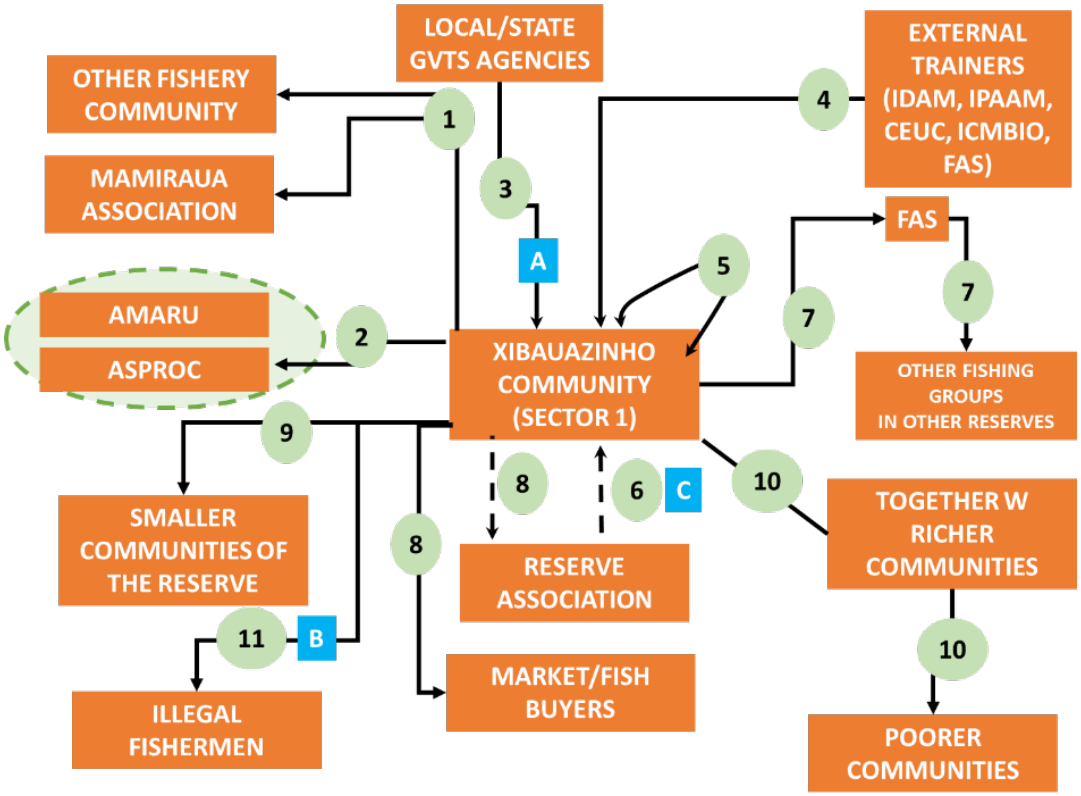
Xibauazinho community is a very remote community in Sector 1 of Uacari reserve, Amazon, Brazil. It is made up of just 12 families. One of the community's main livelihoods is fishing. Despite access to markets to sell the fish not being an issue for the community, they had faced several invasions of their fishing areas by other communities, and were initially poorly organised to respond to this problem of over-fishing. Xibauazinho saw other communities making money with sustainable management of Pirarucu fish. They decided this would be a good thing to invest in. There was a good level of participation from the beginning of everyone in the community, including women.

Through reflect and act learning cycles, Xibauazinho community learned how to improve the way they organised themselves for fishing, including policing waters for non-compliance with rules and selling their fish directly to markets rather than through the reserve association. They also learned how to more effectively manage funds coming from the Bolsa Floresta programme to maximise their benefits by using funds to maintain and repair equipment rather than replacing it.

Their successful model was used by other communities, and Xibauazinho provided some peer-to-peer training for this. It also impacted the way FAS did training on fisheries management elsewhere in the Amazon.

One other important factor in how readily the community organised themselves and learned collectively was the history of other interventions in the community. Fifteen years ago there was a strong church movement (the MEB) that focused on leadership and capacity building. One of the major outputs of this was the creation of the first reserve grassroots association (ASPROC). As part of the reserve, the Xibauazinho community benefited from this.

3. Mapping the project process



- Xibauazinho saw other communities making money with sustainable management of Pirarucu fish. They decided this would be a good thing to invest in. The rules they adopted were based on the Mamirauá reserve, where sustainable fishing was already happening.
- They requested support from the reserve associations (AMARU, ASPROC) which are well organised and were able to give them initial insights on how to do it.
- They needed to apply to a number of different government agencies to legally set up the sustainable fishing area.
- They seized every opportunity presented to them (by DEMUC, IDAM, FAS, ICMBIO) to get training in lake management, business management and other skills.
- They learned by themselves to better organise the work during the annual fishing season (splitting fish processing into specific tasks for each group).
- The reserve association noticed that the community was repeatedly asking for the same equipment over time. Discussing and learning with the community, instead of investing all of the money of BFP on new fishing equipment, the community decided to reserve part of it for maintaining existing equipment. This process also included monitoring the number of requests for funds to repair equipment, which limited the number of applications to the fund (and any potential fund abuse).
- Other stakeholders had to change the way they interacted with communities as a result of learning from interactions with Xibauazinho community. For example, FAS staff incorporated the way Xibauazinho organised their fishing work in their capacity building (training) of other communities in other reserves.
- In the beginning, they were selling through the reserve association but over a period time they developed their own channels of sale for the fish.

- The community's success was so high that they gained local respect and cross-trained other communities within their reserve on efficient fish management and processing techniques.
- Together with other communities' in the reserve they decided to allocate their own social investment fund to other less well-off communities so that they could benefit from new ways of fishing (and so improve their livelihoods).
- The community set up surveillance to police the lakes for illegal fishermen.

Challenges identified during the mapping process

Engaging multiple stakeholders

Challenge of having to engage with multiple stakeholders to fulfill all the bureaucracy required to set up the sustainable fishing area. They did succeed but it was difficult.

Legal powers

The surveillance teams had no legal power to stop or arrest those illegally fishing. However, they used a three strikes system: three warnings formally presented to the reserve association and a request from the reserve association on the third warning that the individual be expelled from the Bolsa Floresta Program.

Lack of maintenance

Lack of maintenance of equipment acquired with BFP investments was recognised as an issue that was leading to excessive costs on replacing equipment.

4. Snapshot against CCSL indicators

	Engagement				Iterative Learning					Capacity Development				Challenging Institutions			
Process	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
Learning Outcomes	L1	L2	L3		L4	L5	L6			L7	L8	L9		L10	L11	L12	
Value/Practice Outcomes	V1	V2			V3	V4	V5	V6		V7	V8			V9	V10	V11	
AVERAGE				2.8					1.9				1.6				1.7

5. Social learning results

Engagement

Score: 2.8

P1	P2	P3	P4	L1	L2	L3	V1	V2

Engagement has been inclusive and ongoing, there are local institutions for reflection and champions have been fostered over many years by MEB (unrelated to this project).

At Xibauazinho everybody participates, including women. The youth group are recognised and trusted by project participants and are themselves fostering a new generation of leaders. The community self-facilitated to a large degree evidenced by the autonomy of meetings. Particular reserve leaders are trusted and act as facilitators. Xibauazinho is now invited to help facilitate other community meetings.

Overall the engagement process of the community with each other and external stakeholders has improved their collective understanding of the problem and their approach to implementing a solution. A support fund was put together by the wealthier communities (including this community) using their social investment money to help with this learning/training process in some of the poorer communities — demonstrating a desire to foster new initiatives/projects throughout the reserve. There was also partial evidence that this project helped strengthen existing social networks.

Given that there was very little intervention from FAS in this case to foster engagement processes, one could speculate that there is little need to actively foster engagement processes to encourage social learning as part of achieving positive project outcomes. However, delving deeper there are other factors which have helped build a culture of reflective engagement over time. The most significant factor in building cohesion and engagement has been previous leadership training and capacity building processes run by the MEB church movement, which has resulted in strong community champions and supportive community institutions that engaged in this fisheries management project.

Xibauazinho has a high level of social capital and cohesion. "At Xibauazinho everybody participates," [P3] including women [P1]. This is potentially in part because it is a small community of 12 families, but a significant factor in building cohesion has been previous leadership training and capacity building processes run by the church, which has resulted in strong community champions and supportive community institutions that engaged in this fisheries management project [P4][P2]. Although the project has not fostered these directly, it is clearly an important enabling factor — for example, the youth group are recognised and trusted by project participants and are themselves fostering a new generation of leaders.

FAS, ASPROC, AMARU and DEMUC have provided some facilitation but the community self-facilitated to a large degree evidenced by the autonomy of meetings. Particular reserve leaders were trusted and acted as facilitators. Xibauazinho is now invited to help facilitate other community meetings.

During the decision to choose the fishing project, there was a process of prioritising and selecting which project they wanted to do in which they learned more about the pros and cons of each project as well as innovation around fish processing, demonstrating knowledge of the problems being enhanced by interactions [L1]. The community working together and making collective decisions led to stronger community relations. There are still some conflicts (decreasing over time), but they "manage well, mostly" [V1]. Overall, by engaging with each other and with external stakeholders, the community has improved its collective understanding of the problem and its approach to implementing a solution [L3b]; arguably the ability to effectively engage in problem solving on fisheries management.

The project's success led to respect of the community and their fishing techniques elsewhere in the reserve. This has led to cross-training and learning in other communities. A support fund was also put together by the wealthier communities (including this community) using their social investment money — to help with this learning/training process in some of the poorer communities. This demonstrates a desire to foster new initiatives/projects [V2b, V2c] throughout the reserve. There is also some evidence that this project helped strengthen existing social networks [V2a partial].

Iterative learning

Score: 1.9

P5	P6	P7	P8	P9	L4	L5	L6	V3	V4	V5	V6

Iterative learning focused on reflecting on fisheries management practice led to a key innovation that required significant relational behavior change.

The community held frequent meetings, reflecting on the project's progress and its learning. The key innovative learning on fish processing was incorporated and became the 'norm' for fish projects in other communities. This required change in relations and behaviours and the enforcement of the fish protection also required learning to take place both among the project group and among wider stakeholders (communities nearby).

Evaluation processes were also supported and facilitated by the reserve association during assemblies and specific meetings to deal with BFP (and other) initiatives in the reserve [P6]. Deeper reflection on values, norms and governance did not take place. However, the relational learning between each other and other stakeholder communities resulted in behaviour change in managing the fisheries. In particular, the three strikes policy for the illegal fisherman pushed the illegal fisherman to change their behaviour. Room to fail was not something considered explicitly by the community, and in there are cultural issues on registering and discussing failure, particularly if it is due to negligence rather than accident.

There were frequent meetings to reflect on the project's progress and learning [P5]. Meetings happened at several levels: community, sector, and reserve. The fish processing learning was incorporated to the project and became the norm for fish projects in other communities [L4a]. Evaluation processes were also supported and facilitated by the reserve association during assemblies and specific meetings to deal with BFP (and other) initiatives in the reserve [P6].

Interactions among the communities to learn from each other were mentioned throughout the interview and could be an indication that learning and reflection was happening more widely. The fish processing itself required change in relations and behaviours, and the enforcement of the fish protection also required learning to take place both among the project group and among wider stakeholders (communities nearby) [L5].

There was no evidence on whether systems were actively put in place to foster new ideas, although new ideas such as how to better organise for fish processing came out of discussions. Deeper reflection on values, norms and governance did not take place. However, the relational learning between each other and other stakeholder communities resulted in behaviour change in managing the fisheries. In particular, the three strikes policy for the illegal fisherman pushed the illegal fisherman to change their behaviour [V3]. Room to fail was not something considered explicitly by the community — and in there are cultural issues on registering and discussing failure, particularly if it is due to negligence rather than accident.

Capacity development

Score: 1.6

P12	P13	L7	L8	L9	V7	V8

Capacity development evolved to be a little more demand driven. Learning by doing as a form of capacity building to improve technical capacity and capacity on how the community learned together was also a factor.

Most of the capacity development (when it occurred) was offered by external stakeholders, but the communities and the reserve association asked for some demand-driven activities. Leaders participate in the recently established (long term) technical education program offered at the reserve, actively deciding the subjects and details of the courses offered.

Learning by doing as a form of technical capacity building which also impacted capacity to learn together was a factor in this case. The community innovated in the processing of fish — clustering into dedicated work groups to do the processing to improve efficiency. This was their own innovation which changed the way they worked with each other (and evolved over time through group learning).

It was so successful that it was the one of the most significant factors leading to the community training other nearby communities. This peer-assist approach to capacity development also helped other communities to learn better together — with positive outcomes for fishing practice and yields for all involved.

The earlier assistance of the church in capacity building on leadership helped build a learning environment within the community (but was not part of this project). Some of the technical capacity building on the project may have contributed to people's level of understanding coming to a similar platform (and hence facilitating learning), but the evidence is quite tentative.

Most of the capacity development (when it occurred) was offered by external stakeholders, although the communities and reserve association did request some demand-driven training activities [P11-partial]. Leaders participate in the recently established (long term) technical education program offered at the reserve, actively deciding the subjects and details of the courses offered. At the community level there was a similar level of understanding by all stakeholders [L7]. This was more from the engagement and iterative learning than from any active capacity building. Although, to some extent, the capacity development they had from external organisations enhanced awareness of the lake management problem and helped people relate more closely and learn better together.

As mentioned before, the relational learning was significant, in particular on instilling the rules of the fisheries management in fishermen from the community and surrounding areas. They took learning on 'soft enforcement' of illegal fishing ('three strikes and you're out of BFP' rule) from Mamirauá reserve and adapted this to their own context. This changed the way fishermen interacted and learned from each other.

They also innovated on the processing of fish — clustering into dedicated work groups to do the processing to improve efficiency. This was their own innovation which changed the way they worked with each other (and evolved over time through group learning). It was so successful that it was the one of the most significant factors that led to the community training other nearby communities L8]. This peer-assist approach to capacity development also helped other communities to learn better together, with positive outcomes for fishing practice and yields for all involved [V8].

Challenging institutions

Score: 1.7

P16	P17	L10	L11	L12	V9	V10	V11

Challenging FAS as an institution helped with developing youth learning and inclusion, also challenging wider stakeholders (with some success) in engaging with their participatory process.

A change strategy was developed, in the sense that they actively planned to change the way they (and others) managed the local fisheries. One interesting process point of note was the unusual request for FAS to support local youth groups as a way of fostering learning and inclusion in the project.

The community challenged the supporting institutions (including FAS, DEMUC) to have a co-creative/participatory approach to working with them. As a result, key institutional and project actors shared a common understanding of the problem and approach to solving it — those actors in the fisheries management project itself and wider actors such as the reserve association, community association FAS, DEMUC (and others). They were resistant to top-down approaches and pushed the concept that any process must be participatory and engage the whole range of stakeholders. Attitudes of some individuals within the supporting organisations have changed although there is little evidence of institutional changes as a result.

A change strategy was developed, in the sense that they actively planned to change the way they (and others) managed the local fisheries — from a traditional way of fishing to the lake management approach. This in turn required challenging their own institutions and ways of working and although there wasn't a formal mapping of norms and processes, norms were taken into consideration to build the new strategy [P15]. FAS was also asked to support the youth groups as part of the engagement with the community. It cannot be said that there were active learning outcomes on understanding institutional opportunities and barriers. However, one process point of note was the unusual request for FAS to support the local youth groups as a way of fostering learning and inclusion in the project [P17].

Key institutional and project actors share a common understanding of the problem and approach to solving it — those actors in the fisheries management project itself and wider actors such as the reserve association, community association FAS, DEMUC (and others) [L11]. The community challenged the supporting institutions (including FAS, DEMUC) to have a co-creative/participatory approach to working with them. They were resistant to top-down approaches and pushed the concept that any process must be participatory and engage the whole range of stakeholders. Attitudes of some individuals within the supporting organisations have changed although there is little evidence of institutional change as a result [V10].

6. Summary: social learning challenges and lessons learned

The CCSL initiative aims to answer three key questions through the piloting of its M&E Framework for Social Learning:

- Did social learning take place?

- What factors contributed to successful social learning?
- Did social learning contribute to better and more sustainable development outcomes?

The ultimate goal is to build an evidence base, and understanding, around when social learning contributes to better and more sustainable development outcomes (and under what circumstances it does not) in the context of climate change adaptation and food security.

The Xibauazinho community has shown a significant amount of initiative and ability to learn together, although not at the deeper normative levels of learning. Social learning happened — often through 'learning by doing', which included reflection over practice and ability to adapt the learning from the courses to better fit their reality. At a relational level, it is hard to determine whether the 'good results' led to better relations and decreased conflict, or whether increasing good relations has been a driver for improved results; possibly a combination of the two.

The community is small (12 families), which in itself is likely to have made engagement easier. The engagement process was somewhat unplanned, with no specific strategy to overcome eventual barriers. But we consider that there was a very positive enabling environment already in place as a result of the 15 years that the MEB church spent fostering leaders and two very active reserve associations in Uacari and Mamirauá. A number of external stakeholders were also actively fostering sustainable livelihoods initiatives in the reserve. In this positive environment, a standard participatory approach was enough to trigger good engagement.

The community developed strong project ownership, which led to several other actions that created learning opportunities. The breakthrough in the widely perceived success of this case was their initiative to organise participants into teams with specific roles to increase efficiency. This big improvement in efficiency/productivity also gave the community a sense of pride as it is highly regarded by other communities in the reserve and is being used by FAS on capacity development in other reserves (such as Cujubim). It is also noteworthy that the community was the very first in the reserve to create written rules for lake management and to share results. Now others use their rules as a template.

They have challenged institutions at a level of 'getting things done' in the fisheries management project. Possibly as a result of the previous work by the church, they are more used to engaging with external stakeholders and being assertive about what they want or need. This has led to changes in how external stakeholders engage with the community (and learn from this with other communities).

Indicator table

	ID#	Process Indicators	Xibauazinho results
ENGAGEMENT	P1	Women, youth and other disadvantaged groups are identified and targeted	**Yes.** The participation of women at the community and in the project is high according to the interviewee. Women and youth participate in general.
	P2	Groups/individuals identified are engaged through appropriately tailored means	**Yes.** The reserve has a women's association and youth groups are fostered by ICMBio.
	P3	2 parts: All target groups/individuals are actively participating in the project c. All target groups/individuals are actively participating in the process *d. Facilitator role identified as trusted and effective by all parties*	*a.* **Yes.** The participation of women at the community level and in the project is high according to the interviewee. The project covers a small community (12 families). There were no quiet groups identified by the interviewee. "At Xibauazinho everybody participates". b. **Yes.** FAS, ASPROC, AMARU and DEMUC provided some facilitation but the community structure already had a high level of social capital because of previous leadership training and capacity building. The community self-facilitated to a large degree evidenced by autonomy of meetings. Particular reserve leaders were trusted and acted as facilitators (one example given was Francisca). These days, they are invited to help facilitate other community meetings.
	P4	*Emergence of champions is fostered*	**Yes.** Champions were actively fostered by the church over the previous 15 years in the community, creating a support structure for this project. The youth group is fostering a new generation of leaders. These efforts are not strictly related to the project, but they are complementary and the leaders from the MEB, ASPROC and youth groups are recognised and trusted by the project participants.
	L1	[Cognitive] Knowledge of the problem enhanced by interactions	**Yes**. During the decision to choose the fishing project, there was a process of prioritising and selecting which project they wanted to do in which they learned more about the pros/cons of each project. Also see L8 on the innovation in fish processing that was learned through the process of engagement.
	L2	[Relational] g. Engagement has led to better relations between target groups/individuals *h. Trust created* *i. Engagement has led to awareness and valuing of other stakeholders*	a. **Partially (at some level).** The community working together and making collective decisions led to stronger community relations. On the other hand there still some conflicts (decreasing), but they "manage well, mostly." b. **Yes.** They are seen as a well-organised group by other communities, reserve association and other stakeholders. c. **Partially (at some level).** They recognise their role but seek independence.

	L3	[Normative] 2 parts: e. Different knowledge types successfully integrated f. Engagement has led towards a change in collective understanding of the problem and solutions	**a. No evidence.** **b. Yes.** The community's engagement with each other and with external stakeholders has improved their understanding of the problem and their approach to implementing a solution.
	V1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**Yes.** The wide participatory approach from the beginning and continued engagement of stakeholders has led to increased commitment. Levels of conflict were also seen to decrease over time.
	V2	[Practice] 3 parts: g. New social networks established h. New initiatives and projects i. Empowerment of most vulnerable beneficiaries (communities) including women and children	a. **Partially (at some level).** The project brought the community together and strengthened social capital. This is more of an enhancement of an existing social network. The project meetings were also held quite often without FAS, showing a level of autonomy. It should be noted that the community had quite strong cohesion and organisation before the project started because of extensive efforts by the church to build leadership skills over the previous 15 years. b. **Yes.** The project's success led to respect for the community and their fishing techniques elsewhere in the reserve. This has led to cross-training and learning for other communities. A support fund was also put together by the wealthier communities (including the project community) using their social investment money to help this learning/training process in some of the poorer communities. c. **Yes.** Women were empowered, and poorer communities are being considered with special attention in the reserve gatherings.
ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Yes.** Frequent meetings, with reflections on the progress of the project and what has been learned. There are meetings happening at several levels: the community, the sector, and the reserve. These reflected on the project (it was of high interest to others as it began to be more successful).
	P6	*Learning and evaluation processes are supported and facilitated*	**Yes**. Evaluation processes are supported and facilitated by the reserve association during assemblies and specific meetings to deal with PBF (and other) initiatives in the reserve. Interactions among the communities to learn from each other were mentioned throughout the interview and could be an indication that learning and reflection is happening.
	P7	Systems are in place to foster and implement new ideas	**No evidence.**
	P8	Questioning the TOC itself and key assumptions is	**No evidence** of this level of reflection

	valued and happening regularly	
P9	Questioning of values, norms and governance underlying problem is valued and happening regularly	**No.**
L4	[Cognitive] 2 parts: e. Results of learning/evaluation are incorporated into the project strategy *f. Creative solutions and innovations are developed*	a. **Yes.** The fish processing learning was incorporated to the project and became the norm for fish projects in other communities. b. **Partially (at some level).** (see a)
L5	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups*	**Yes.** The fish processing required change in relations and behaviours. Enforcing the fish protection also required learning to take place both among the project group and among wider stakeholders (communities nearby).
L6	[Normative] Participants understand the need for alternatives and room to fail	**No evidence.**
V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**Yes**. The 'three strikes and you're out' policy helped the illegal fisherman change their behaviour. There is also some evidence of changing wider behaviour in the way the reserve as a whole discussed overall fish management policy and decided to help poorer communities with investments to improve their livelihoods.
V4	*[Practice] Wider stakeholder groups relate to each other differently*	**No evidence.**
V5	*[Value] The need for alternatives and room to fail is evident in other projects/programmes*	**No.**
V6	[Practice] Alternatives and room to fail are built in to other projects/programmes	**No.** Failure is usually not registered. This reflects a broader cultural issue on registering and discussing failure, particularly if it is due to negligence rather than accident.

CAPACITY DEVELOPMENT	*P10*	*Capacity development activities are integrated into the project/programme*	**Hardly**. Some of the technical capacity building may have contributed to people's level of understanding coming to a similar platform (and hence facilitating learning). The earlier assistance of the church (MEB) in capacity building on leadership also helped building a learning environment within the community but was not part of this project.
	P11	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**Partially (at some level).** Most of the capacity development is top-down, but some is requested by the communities and the reserve association. Leaders participate in the technical education program offered at the reserve, actively deciding the subjects and details of the courses offered**.**
	P12	Capacity needs are determined collectively in a bottom-up manner	**Hardly.** Besides the long term where leaders played an active role to define the programme structure, most of the opportunities are decided by external stakeholders. But capacity building was taken up strongly when offered from outside.
	P13	*Capacity development needs are systematically integrated into all project components*	**No.** There was no mention of specific capacity development integrated into the project during the interview.
	L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**Yes.** At the community level, yes.
	L8	[Relational] Increased understanding between different participant groups of different needs and perspectives	**Yes**. They took learning on 'soft enforcement' of illegal fishing ('three strikes and you're out' rule) from Mamiraua reserve and adapted it to their own context. This changed the way fisherman interacted and learned from each other. They also innovated on the process of fish, clustering into dedicated work groups to do the processing more efficiently. This was their own innovation, and it changed the way they worked with each other (and evolved over time through group learning). It was so successful that it was the one of the most significant factors that led to the community training other nearby communities.
	L9	*[Normative] Increase in collective challenging/understanding methods of building capacity for particular stakeholders*	**No.**
	V7	[Value] More informed stakeholders	**Partially (at some level). S**ee V8
	V8	[Practice] 2 parts: e. Capacity development leads to different groups working together better f. Capacity development leads to changes in practice that reflect a	**Partially (at some level).** To some extent the capacity development they had from external organisations (FAS, DEMUC etc), which they actively sought, enhanced the awareness on the lake management problem and helped people relate more closely and learn better together. The capacity development they gave to other communities in terms of the approach also helped these other communities to learn better together, with positive outcomes for the fishing.

		better understanding of the problem and solutions	
CHALLENGING INSTITUTIONS	P14	Key individuals/institutions who will support/champion change are identified	**Partially (at some level).** Not in this specific project. Leaders/champions in community institutions were fostered by the MEB over the previous 15 years, creating an environment for more conducive co-learning. Nowadays ICMBio foster the youth groups and the reserve associations support the women's association. FAS support the reserve association and promote a bi-annual reserve leaders meeting. It's not strictly related to the project itself but complementary.
	P15	A change strategy is developed, including mapping of existing norms and endogenous processes	**Yes**. They changed from the traditional way of fishing to the lake management approach. There wasn´t a mapping of norms and processes, but these were taken into consideration to build the new strategy.
	P16	*Existing norms and endogenous processes are mapped*	**No.**
	P17	Key institutions are challenged to make changes that facilitate social learning	**Yes.** They demanded FAS help support the youth groups, which does not happen in the usual PBF approach.
	L10	[Cognitive] Project participants understand the particular opportunities and barriers	**No.** Not with respect to challenging institutions.
	L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)*	**Yes.** At the level of the project problem (sustainable fish management). Reserve association, community association FAS, DEMUC (and others) had a common understanding and approach to solving it.
	L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**No**. Not intentionally, shift is usually in reaction to a situation the scales.
	V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**No.**
	V10	[Value] Challenges lead to changes in institutional openness towards SL-	**Yes.** The community challenged the supporting institutions (FAS, DEMUC etc) to have a co-creative/participatory approach to working with them. They resisted top-down approaches and pushed the concept that any process must be participatory and engage the whole range of stakeholders.

	orientated approaches (evidenced in eg attitudes, conflicts)	Attitudes of some individuals within the supporting organisations have changed, although there is little evidence of institutional change as a result.
V11	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**Yes.** For example, in the reserve FAS support youth groups. Women's groups have their own spaces for learning, reflection, and development of new projects.

BFP - Nossa Senhora do Socorro water supply network

Climate Change Social Learning (CCSL) case study

By Ben Garside, Leandro Pinheiro, and Victor Salviati

November 2016

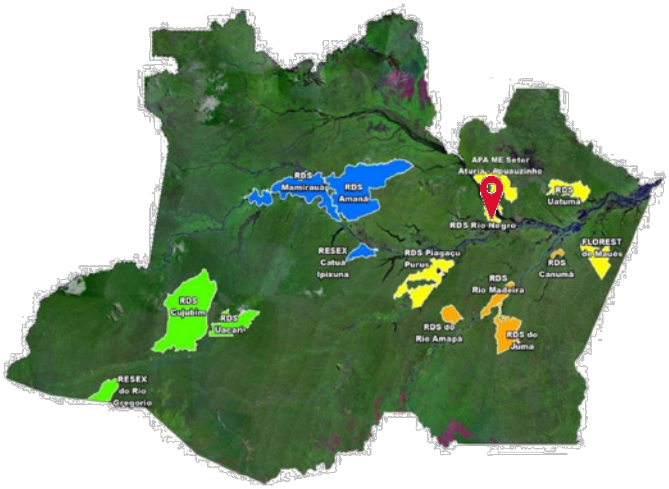
1. Key findings

- Communities with low levels of active engagement, limited leadership skills and weak community organisation tend to face difficulties in adequately promoting the necessary engagement required to maximise learning from an initiative.
- The potential impact of infrastructure projects is significantly lower in communities with low engagement.
- Without adequate engagement, it is not possible to reflect upon practices, limiting the understanding of the root causes of the problem the community is trying to resolve.
- In the absence of reflection upon these practices, the community tends not to understand the need to develop new skills.
- The process of critical thinking by external stakeholders in relation to infrastructure projects is necessary to foster and promote the necessary conditions for learning to take place as part of the capital investment.

2. Project description

The community Nossa Senhora do Perpétuo Socorro, on the banks of Acajatuba Lake in Iranduba, Brasil, is relatively well supplied by a water well. It has a stable electricity supply, as well as a school and a health clinic, among other welfare services provided by the state. The community also has the advantage of being quite close to Manaus, which lies half an hour away by speedboat.

Figure 1: Project's location in Rio Negro, Sustainable Preservation Area



A few years ago, the community began suffering from water shortages, mainly affecting the houses most distant from the central area of the supply system. The network, installed 20 years ago, supplied half the houses in the community, and has not been expanded sufficiently in the years since to keep up with the community's growth. According to residents, several water consumption habits have also changed in that time. The old habits of washing clothes, dishes and performing personal hygiene procedures in the lake have changed, as well as the habit of using 'dry eco toilets', which have been replaced by the infrastructure commonly used in urban settlements.

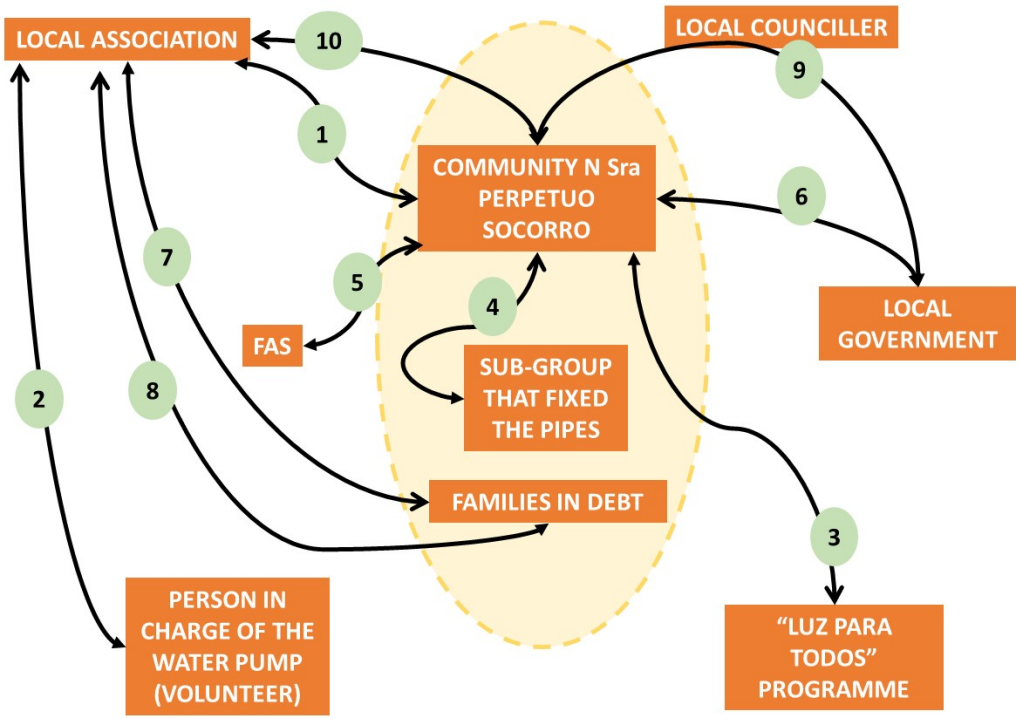
The energy for the well's pump came from a diesel generator and the fuel cost was shared between the municipality and the residents. When the community was connected to the national grid, the pump was also connected and the community association now pays the electricity bill on a monthly basis, similar to an urban site. The pump is not automatic; it requires a volunteer to switch it on and off to fill the

storage tank. With the community's increase in water consumption, electricity consumption has also increased, as residents demanded more and more from the pump. It now works at full capacity and relies on electricity from the main grid. The community can no longer pay the energy bill.

The community's perception is that the old distribution network did not experience many breakdowns; however, leakages were causing water shortages; and the increasing use of the pump had caused increased electricity consumption.

As a result of an internal community assessment of the growing issues caused by water shortages, the community decided to invest the resources provided by BFP in a new water supply network for the community.

3. Mapping the project process



- Under the old system, each family is expected to contribute BRL 5.00 monthly (GBP 0.95/USD 1.35) to pay for the electricity used by the pump. The amount was set at a community meeting and the community association is in charge of managing it.
- The tank and well operation are carried out by an unpaid community volunteer.
- After the community was connected to the grid (as part of national programme called Programa Luz para Todos, or Light for All), many families purchased washing machines, which also increased water consumption.
- The old water supply network needs repairs, without which there are leaks. Community members have identified and fixed one major leak. The repair had a visible impact on the water supply. As a result, community members understood the need for a new water supply system to reduce losses and to supply the entire community.
- The community requested the materials though BFP. The labour would be provided by community members or paid for by them.

- The community had asked the municipality to pay for labour costs but the municipality declined to do so.
- More than 50 per cent of the families are in debt in relation to their monthly payments of BRL 5.00 because collective rules are not enforced (the rules state that the family should be disconnected if payment is outstanding).
- The community devised a plan for debtors to settle their payments offering their labour during the installation of the new water supply system. Other beneficiaries would contribute with voluntary work. Only a few debtors agreed to help.
- The network is being installed by a small number of people in the community. Although it will improve the water supply, the lack of consumption awareness undermines this effort.
- The community is now considering expanding the system with a new well and a larger tank. They expect to obtain financial support from the municipality with the help of a local councillor.

The community association is planning to increase the charge from BRL 5.00 to BRL 10.00 once the system is expanded. This increase was not calculated using an appropriate formula and is therefore seen as arbitrary.

Challenges identified during the mapping process

Community

It is necessary to improve water wastage to reduce system-operating costs. It is necessary to increase storage to avoid using the pump as frequently and to avoid water shortages during electricity cuts. The ideal scenario would be to replace the volunteer with a paid worker, who would be responsible for operating the water supply system.

Interviewers

The community's initial assessment only focused on infrastructure and didn't consider water use practices and adequate management of the supply system issues. The community's level of awareness of good practice in water use is low. The superficial analysis of the issue did not engage institutional stakeholders who could facilitate social learning and provide technical support for making the most out of the investment.

4. Snapshot against CCSL indicators

	Engagement				Iterative Learning					Capacity Development				Challenging Institutions			
Process	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
Learning Outcomes	L1	L2	L3		L4	L5	L6			L7	L8	L9		L10	L11	L12	
Value/Practice Outcomes	V1	V2			V3	V4	V5	V6		V7	V8			V9	V10	V11	
AVERAGE				0.4					0.1				0.0				0.3

5. Social learning results

Engagement

Score: 0.4

P1	P2	P3	P4	L1	L2	L3	V1	V2

Engagement in the project was limited due to lack of trusted leadership, weak community organisations, and interest.

There was an initial effort to involve the entire community in the project, especially those who were not paying for the electricity to switch on the pump. The proposal was to pay the debt by working in the new water supply system. But few people agreed to it, showing a low efficacy in the engagement carried out by leaders [P1]. This process is linked to other indicators related to trust in current leaders, the rise of new leaders [P4], and active community engagement in collective initiatives [P3].

The lack of reflection on the issues involved might be a direct consequence of the lack of community engagement [L1]; an engagement which is ultimately necessary if a more intelligent (sustainable) water management system is to be introduced for the community [L3b]. Therefore, only a small group of people are committed to the initiative [V1], limiting the potential investment impact and the improvement in quality of life in the medium term. This reflects the fact that the root causes of the issue have not been adequately discussed and resolved.

Iterative learning

Score: 0.1

P5	P6	P7	P8	P9	L4	L5	L6	V3	V4	V5	V6

Learning and reflection is not organised, reflections and evaluations are ad hoc, due to lack of engagement.

Assessment of indicators related to interactive learning or reflection on practices is very limited and none of the indicators received a positive evaluation. Without more effective organisation of the community, including working with members who do not belong to the community association, reflection on effective investment of BFP's resources are embryonic and meetings are limited to discussing how to use resources for the following year.

Evaluations completed are ad hoc, informal and restricted to existing social circles. These circles have not included (or been replenished) by young people. They are not completed with facilitation or in a structured manner designed to improve understanding of the issues. There is an evident co-relation between the lack of engagement and the lack of iterative learning.

Capacity development

Score: 0

P10	**P11**	**P12**	**P13**	**L7**	**L8**	**L9**	**V7**	**V8**

No capacity development took place.

For this specific project, no training or capacity building activities have been recorded, either on water supply specifically, or to improve community organisational skills and, as a consequence, social learning.

There seems to be a co-relation between reflection upon practices (or iterative learning) and the perceived need to develop new skills.

Challenging institutions

Score: 0.3

P14	**P15**	**P16**	**P17**	**L10**	**L11**	**L12**	**V9**	**V10**	**V11**

Politics and collective lack of ownership of the project within the community and with external stakeholders has resulted in no active challenging of institutions.

It is clear that there is a lack of understanding about who is responsible for the water supply system. As a result, several institutional players have been complacent.

The state-owned water supply company could take over the system, but community residents would have to pay monthly bills based on their consumption and run the risk of having their supply cut if they fall into arrears. More than half the residents do not pay their monthly contributions to the association; most do not support this initiative. The municipality administration is not responsible for the well, for the distribution network, or for the electricity used by the pump. They only provide materials and equipment upon request, usually negotiated during political election campaigns. The community association lacks structured management; it does not have the power to demand payment from debtors or to foster good use practices. Despite this, supply has been maintained even with many people failing to pay for their electricity.

With this institutional background, it has proven difficult to modify the behaviour of institutional players, as they currently foster passivity among community members in relation to this issue. Change will only occur if there is a disruption in this institutional environment either by internal reform (for example, through better organisation and social empowerment) or through external support.

6. Summary: social learning challenges and lessons learned

The CCSL initiative aims to answer three key questions through the piloting of its M&E Framework for Social Learning:

- Did social learning take place?
- What factors contributed to successful social learning?
- Did social learning contribute to better and more sustainable development outcomes?

Although there has been some reflection on the issues, it has been very superficial and has not taken place at a group level: no real social learning has taken place. This case study illustrates a common situation in collective community infrastructure investments in which management issues undermine positive achievements.

Community engagement in this case is limited and residents are complacent because they have access to the resource (water) and the supply network (pump and distribution), whether they pay for it or not, and whether or not they help maintain it.

In this case study, there is a series of community-ingrained institutional issues that prevent the association effectively managing the system. There is a lack of both leadership and clearly assigned roles. It would be possible to reverse this situation with a permanent strategy to build capacity to develop local leadership. This would also help the community to build their ability to manage and operate the water system.

The community's awareness of the problem and its root causes is limited, and the perception displayed by interviewees is that the solution is to expand the existing infrastructure (a new well and a larger tank). Issues related to good system management and awareness in using resources were rarely mentioned during interviews.

The decision to invest resources in the water system is therefore a reaction to an ingrained problem faced by the community. The institutional support received by the community to deal with this issue does not promote the means to reflect upon the community's development as a whole, or to build capacity to manage community infrastructure.

Indicator table

	ID#	Process indicators	Nossa Senhora do Socorro results
ENGAGEMENT	P1	Women, youth and other disadvantaged groups are identified and targeted	**No.**
	P2	Groups/individuals identified are engaged through appropriately tailored means	**Yes.** Tried to engage different groups, particularly those not paying their bills. But their approach of writing off water bill debts in exchange for labour was unsuccessful. Little reflection on other ways of engaging groups not participating.
	P3	2 parts: All target groups/individuals are actively participating in the project c. All target groups/individuals are actively participating in the process *d. Facilitator role identified as trusted and effective by all parties*	a. **Hardly.** Most of the households did not participate, just a small cluster close to the president. b. **Hardly.** No facilitator role. President didn't appear to be trusted by the majority.
	P4	*Emergence of champions is fostered*	**No.** eg The manager of the system is not actively engaged in the decision process.
	L1	[Cognitive]Knowledge of the problem enhanced by interactions	**No.** Limited view on the water problem and few reflections on it. Just looking at next step in fixing the system (attitude of when something doesn't work, discuss the issue then).
	L2	[Relational] j. Engagement has led to better	a. **No.** Possibly a dormant conflict as the issues of people not paying/participating have not been addressed through active engagement. **b. No.** **c. No.**

	relations between target groups/individuals *k. Trust created* *l. Engagement has led to awareness and valuing of other stakeholders*	
L3	[Normative] 2 parts: g. Different knowledge types successfully integrated h. Engagement has led towards a change in collective understanding of the problem and solutions	**a. No.** b. **Hardly.** Superficial understanding of causes of shortage of water (exclusively focusing on supply) through discussion and learning together. Solutions are limited to asking external stakeholders to improve their infrastructure.
V1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**No.** Little commitment: a small group engaged with each other which led to some installation of new pipes but little engagement with wider groups which is likely needed to have a sustainable system.
V2	[Practice] 3 parts: j. New social networks established k. New initiatives and projects l. Empowerment of most vulnerable beneficiaries (communities) including women and children	**a. No** **b. No** **c. No.**

ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation "moments" are available for the group	**No.** Meetings happen ad hoc, usually when things go wrong.
	P6	*Learning and evaluation processes are supported and facilitated*	**No evidence.**
	P7	Systems are in place to foster and implement new ideas	**No.**
	P8	Questioning the TOC itself and key assumptions is valued and happening regularly	**No.**
	P9	Questioning of values, norms and governance underlying problem is valued and happening regularly	**No.**
	L4	[Cognitive] 2 parts: g. Results of learning/evaluation are incorporated into the project strategy *h. Creative solutions and innovations are developed*	**a. Hardly.** They realise the need to repair/improve the water distribution network based on observation of the existing one and its leaks. The previous network leaks and lack of valves to isolate parts of the network were not reflected on and improved with the new design. **b. No.**
	L5	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and*	**No.**

		behaviours between people and groups	
	L6	[Normative] Participants understand the need for alternatives and room to fail	**No.**
	V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**No.**
	V4	*[Practice] Wider stakeholder groups relate to each other differently*	**No.**
	V5	*[Value] The need for alternatives and room to fail is evident in other projects/programmes*	**No.**
	V6	[Practice] Alternatives and room to fail are built in to other projects/programmes	**No.**
CAPACITY DEVELOPMENT	*P10*	*Capacity development activities are integrated into the project/programme*	**No.**
	P11	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**No.** No capacity development activities.

P12	Capacity needs are determined collectively in a bottom-up manner	**No.**
P13	*Capacity development needs are systematically integrated into all project components*	**No.**
L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**No.**
L8	[Relational] Increased understanding between different participant groups of different needs and perspectives	**No.**
L9	*[Normative] Increase in collective challenging/understanding methods of building capacity for particular stakeholders*	**No.**
V7	[Value] More informed stakeholders	**No.**

V8	[Practice] 2 parts: g. Capacity development leads to different groups working together better h. Capacity development leads to changes in practice that reflect a better understanding of the problem and solutions	**a. No.** **b. No.**
	CHALLENGING INSTITUTIONS	
P14	Key individuals/institutions who will support/champion change are identified	**No.**
P15	A change strategy is developed, including mapping of existing norms and endogenous processes	**No.**
P16	*Existing norms and endogenous processes are mapped*	**No.**
P17	Key institutions are challenged to make changes that facilitate social learning	**No.**
L10	[Cognitive] Project participants understand the	**Yes.** Part of the institutional barrier is that the leader is unwilling to cut water supply for those who don't pay. Many realise this but have not raised the issue.

	particular opportunities and barriers	
L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)*	**No.**
L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**No.**
V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**No.**
V10	[Value] Challenges lead to changes in institutional openness towards SL-orientated approaches (evidenced in eg attitudes, conflicts)	**No.**
V11	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**No.**

Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA)

Climate Change Social Learning (CCSL) case study

By Marissa Van Epp and Bernard Cantin

November 2016

1. Project description

Some parts of the world are especially vulnerable to extreme effects of climate change, such as sea level rise, changes in precipitation patterns, and glacial melt. These endanger the livelihoods of millions of poor people. Semi-arid regions, deltas, and glacier and snow-pack dependent river basins are three such climate change 'hot spots'.

The goal of the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) is to build the resilience of vulnerable populations and their livelihoods in these three 'hot spots' by supporting collaborative research to inform adaptation policy and practice in Africa and Asia.

CARIAA supports four consortiums — each consisting of four or five institutions — to conduct a common research programme on climate change adaptation. Each consortium is looking at how to improve the resilience of the poor and their livelihoods in one of the above climate change 'hot spots' in Africa and Asia. The four consortiums are:

- Adaptation at Scale in Semi-Arid Regions (ASSAR)
- Deltas, Vulnerability and Climate Change: Migration and Adaptation (DECCMA)
- Himalayan Adaptation, Water, and Resilience (HI-AWARE)
- Pathways to Resilience in Semi-Arid Economies (PRISE)

CARIAA's collaborative approach aims to broaden and share knowledge on how to address common adaptation challenges by informing adaptation policy and practice at the local, national, regional, and international levels.

2. Mapping the project process

The programme emphasises learning across countries and regions, scales, disciplines, and stakeholder groups. It aims to foster collaboration and knowledge synthesis between the member institutions of the four consortiums, as well as between the four consortiums themselves. A key assumption of the programme's theory of change is that the consortium model facilitates the linking of researchers with research users and knowledge sharing.

Halfway through the programme's life, CARIAA has put in place several spaces, processes and systems that enable collaboration and collective learning across the programme — effectively social learning. These include programme-wide working groups that bring members of the four consortiums together around research themes (gender, migration, economics, climate science) and geographic areas (India, Bangladesh, Pakistan, Ghana), and operational themes (knowledge management and communications, monitoring and evaluation).

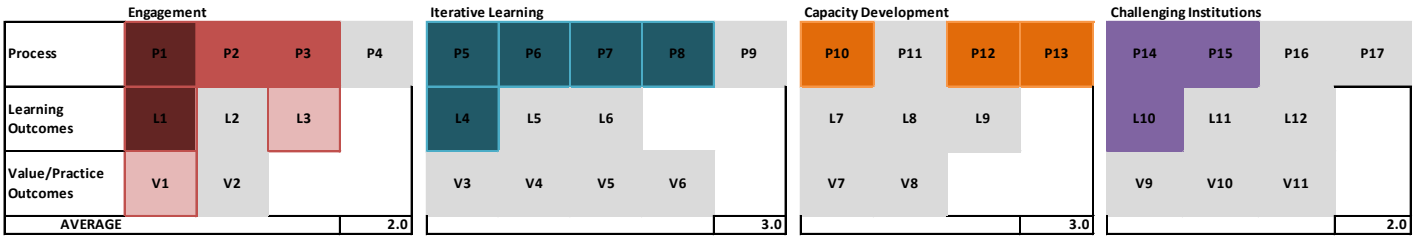
In addition to these spaces, there is a Program Management Committee (PMC), and various meetings between the Program Officers, Program Coordinators, and focal points of different kinds (research-into-use, knowledge management, etc) representing the four consortiums. These groups communicate internally, and with each other, bringing the needs and knowledge of their respective consortiums to the table.

There is also an Annual Learning Review (ALR), which is the main programme-wide opportunity to share learning on specific topics (learning included) and co-create knowledge, or organise groups to do so later. Two ALRs have taken place so far. Programme-wide training workshops and webinars provide additional opportunities to share knowledge. Lastly, an Opportunities and Synergies Fund has recently been created to resource consortiums members' proposals for work that bridges the consortiums in various ways.

The consortiums have their own internal annual or biannual meetings, management committees, and sometimes even working groups, that bring together learning from the member institutions. At

programme level, consortiums-specific 'research into use' (RiU) and stakeholder engagement strategies govern — or will in the near future — learning with external stakeholders. Stakeholder mapping feeds into both.

3. Snapshot against CCSL indicators



4. Social learning results

Engagement

Score: 2.0

Process

CARIAA consortiums were designed with the idea of fostering a two-way exchange of knowledge and capacity between Northern and Southern institutions working on climate change adaptation issues. IDRC's model encourages the funding of lower-capacity institutions and supporting the capacity

Overview: At programme level some stakeholder groups have yet to be engaged, but CARIAA consortiums and the programme team at IDRC are moving towards improving their stakeholder engagement strategies for RiU. Internally, Southern and Northern institutions are collaborating on research.

Process: CARIAA consortiums were designed with the idea of fostering a two-way exchange of knowledge and capacity between Northern and Southern institutions. Consortiums have also done stakeholder mapping and sought to engage communities and governments in the design of their research. That said, the dominance of research institutions over other kinds of stakeholders limits the extent of collective learning between different stakeholder groups internally and externally. For

development needed through IDRC Programme Officers. CARIAA members surveyed agree their institutions have policies or programmes that are effective in recruiting and developing female researchers as well as supporting gender-sensitive/aware research. Finally, CARIAA is making an effort to involve and develop the careers of young researchers [P1].

That said, being a collaborative research initiative, the composition of consortiums and their immediate partnerships is dominated by research institutions over policymakers and practitioners, and the programme needs to a) explore ways of integrating other types of stakeholders into the consortiums' work, and b) improve consortium members' capacity to communicate research findings to different audiences. At the 2015 ALR, CARIAA members noted a need for more appropriately tailored efforts to engage policymakers and link more generally to stakeholders the programme wants to influence [P2].

Since then, the CARIAA consortiums have been actively working to ensure identification and engagement of key stakeholder groups. Though several key stakeholder groups were identified as 'missing' during the 2015 ALR (private sector, regional and international stakeholders, and policymakers), by the 2016 ALR, CARIAA members surveyed cited improvement in engagement levels. IDRC has encouraged and supported the consortiums to review and revise their RiU strategies and complete stakeholder mapping. A staged evaluation currently underway is also looking at RiU, and a meeting to review the findings and work on a programme-wide RiU strategy is planned for the end of 2016 [P3].

Learning

The programme is actively fostering collaboration and learning between the four consortiums, promoting a better understanding of climate change adaptation in countries where different consortiums overlap (including Ghana, Bangladesh, Pakistan, and India) and on specific themes that are relevant to more than one of them. Consortium members come together in cross-consortium 'country tables' and thematic working groups to share and co-create knowledge. Program Officers are tasked with facilitating and monitoring the impact of these initiatives. Collaborative efforts have included training in gender-sensitive research, communications, and the development of stories of impact. Research collaborations are ongoing, and there are few outputs at this stage of the program [L1].

At consortium-level, the consortiums are designed to bring together institutions with complementary areas of expertise, methodologies and geographic areas of focus that can work together to build a more holistic and nuanced understanding of the climate change 'hot spot' each one focuses on, as well as of relevant issues within those 'hot spots'. Most research outputs of the consortiums are the product of collaborative efforts by two or more institutions [L1].

The bias towards research institutions and researchers in CARIAA consortiums has implications for the time required for consortiums to strategize efforts that could lead to changes in collective understanding of the issues CARIAA is tackling. This bias is recognised by programme staff and consortium members and efforts are underway to rectify it through review of RiU strategies and stakeholder mapping. But it is still notable that policymakers and community members are largely external to the programme, accessed through local partners [L3].

There is currently limited evidence that engagement has led to better relations between target groups/individuals. There is evidence of positive impacts of the engagement of different stakeholder groups at project level—e.g. local communities and policy makers—but a full review of this evidence was not feasible given the scope of the peer assist [L2].

Value/Practice

Within CARIAA, while buy-in may not be consistent across all levels of the consortiums, at the lead level (PIs, coordinators) it is high. Members of functional and thematic working groups also have a clearer sense of the collective vision and are invested in the overall programme goals. That said, consortiums' natural instinct is to represent themselves rather than the whole programme. In some ways it is too early to judge as the research is just beginning to yield results [V1].

As one interviewee commented, CARIAA has raised its profile since the beginning, but it may not have the level of recognition and visibility that other large programmes have. This may be due in part to the lack of centralised engagement of external stakeholders; plans are underway to develop a programme-level RiU strategy [V1].

It is too early to look for evidence of new social networks, initiatives/projects, or impact on most vulnerable beneficiaries [V2].

Iterative learning

Score: 3.0

Overview: Iterative learning at programme level happens primarily through the Annual Learning Reviews. CARIAA has a learning framework that informs reflection but is not used as a formal M&E tool.

Process: Processes are in place at programme level to foster and capture learning, though formal moments for reflection happen infrequently. Similarly, the consortiums do not have many formal processes for this purpose, but learning still occurs through informal processes.

Learning: CARIAA has a learning framework; it is not formally used to monitor and evaluate learning at programme level but does inform reflection on learning and programme priorities. After some delays, follow-up on issues identified during the 2015 Annual Learning Review — primarily around RiU — is happening.

Value/Practice: It is too early to assess whether CARIAA is having an impact on wider stakeholder groups and other projects and programmes that are not directly involved in CARIAA projects.

Process

At programme level, Annual Learning Reviews (ALRs) are the primary learning and evaluation 'moment' available for the CARIAA programme as a whole. The second ALR, in 2016, for instance, provided facilitated time and space for the consortiums to learn about each other's research, brainstorm and prioritise themes for collaboration, and begin to develop proposals on these themes. There was also time to share knowledge and learn collectively about theories of change, monitoring and evaluation, and work happening along the different learning dimensions. Working groups also provide space for programme-wide reflection, though not all working groups are geared towards this kind of activity [P5].

Each consortium has its own learning and evaluation 'moments' and systems, though some report finding time for reflection to be a significant challenge. This challenge is exacerbated by the physical distance and time difference between consortium members. Most 2016 survey respondents agreed that their consortium had processes in place for fostering, capturing and using collective learning. In another survey, a majority of respondents indicated that their respective institutions provide formal and informal opportunities for staff to reflect and learn from each other [P5].

IDRC supports and facilitates learning and evaluation processes through multiple channels. These include: the ALRs (which involve professional facilitators); the development and maintenance of the Knowledge Management (KM) Platform; the Opportunities and Synergies Fund (OSF), which is currently funding a proposal for a cross-consortiums RiU learning framework, as well as a programme-wide project on stories of change (to track impact); and Program Officers, one per consortium, who receive training to provide support. The consortiums do not have formal learning frameworks in place with the exception of PRISE's Outcome Mapping; instead, learning appears to be a natural outcome of formal and informal processes, like consortium-specific annual meetings [P6].

The OSF provides funding for new ideas. The ALR also provides space and time for the development of new ideas. In 2016, more than seven proposals on topics/themes for collaboration were developed. At member institution level, a majority of survey respondents agreed that their organisation allows or encourages staff to integrate new ideas into programming on an ongoing basis [P7].

Lastly, the ALRs provide an annual forum for revisiting the theory of change (ToC) and assumptions. While the 2015 ALR incorporated reflection on the ToC, inadequate time was allocated to identify issues and follow up; the semi-annual review did not take place. The 2016 ALR also incorporated reflection on the ToC, including a stock-take of consortiums' systems (ToCs, M&E frameworks, etc), assessment of their alignment with the overall programme ToC, and discussion on areas where overlap is lacking, and what is working or not working. At least some of the consortiums have systems for reviewing their own ToC [P8].

Learning

At programme level, results of learning and evaluation are integrated into the programme strategy. For example, though follow-up on the issues identified at the first Annual Learning Review was slow due to key IDRC staff leaving, it did eventually take place. Progress has been made in particular on issues raised at the first ALR around RIU, M&E, communications, and the need for funding encouraging cross-consortium collaboration.

Regarding learning about learning, while there is a CARIAA Learning Framework, there is no explicit or clear system to monitor progress against it (to identify gaps, next steps, and look back) outside the ALRs.

At consortium level, based on a 2016 survey, there are processes in place for fostering, capturing and using collective learning. About half of respondents said their consortium had changed their practice as a result of collective learning over the past year and that their consortium has systems to monitor the impact of those changes. A similar number also indicated that their consortium had a system to ensure that ALR results lead to changes in the consortium's practices, and most respondents indicated that their consortium had taken at least some of the challenges identified at the fist ARL into consideration and/or adjusted practices based on these challenges [L4].

Value/Practice

It is too early to assess whether CARIAA is having an impact on wider stakeholder groups and other projects and programmes that are not directly involved in CARIAA projects [V3–V6].

Capacity development

P10	**P11**	**P12**	**P13**	**L7**	**L8**	**L9**	**V7**	**V8**

Score: 3.0

Overview: Capacity development in relation to stakeholders' ability to engage in social learning is happening; so far it has focused internally on CARIAA consortiums.

Process: Processes are in place at programme level for both top-down and bottom-up identification of the capacity needs of CARIAA consortiums, as well as for address these needs. Many, but not all, capacity needs are relevant to social learning; capacity for RiU is one notable example. There is no evidence that the programme is making an effort to develop the capacity of other stakeholders (for example, policymakers, communities) to engage in social learning.

Learning and Value/Practice: There is very limited evidence on the learning and value/practice outcomes of capacity development efforts at this stage, as most capacity development efforts are only just being implemented.

Process

Mosy 2016 KML survey respondents indicated that there are processes in place to build their consortium's capacity to learn collectively [P10].

One of IDRC's strengths is that it has formal and informal systems to track capacity gaps. These include: regular reporting tools tailored to the CARIAA programme, the ALR, regular monitoring by Program Officers assigned to specific consortiums, and meetings with the PMC (which includes Principal Investigators from each consortium) [P10].

In terms of addressing gaps identified, capacity development activities — some but not all of which are relevant to social learning — are built into events like the ALR, and also offered through workshops and other training events. Program Officers support capacity development in their respective consortiums. Consortiums have also (jointly) conducted training activities for skills that contribute to members' ability to engage in social learning, for example, a blogging webinar [P10].

The ALRs and working groups also provide forums for bottom-up identification of capacity needs. For instance, capacity gaps around RiU were identified through the first ALR in 2015. The 2016 ALR also provided participants with an opportunity to discuss capacity development as one of the four CARIAA learning dimensions, and to develop a list of needs and proposed actions [P12].

Learning and Value/Practice

There is limited evidence on the learning and value/practice outcomes of capacity development efforts at this stage, as it takes time to assess the actual impact of capacity development efforts [L7-9, V7-8].

Challenging institutions

Score: 2.0

P14	P15	P16	P17	L10	L11	L12	V9	V10	V11

Process

Overview: Institutional challenging — internal and external — has not been a focus for CARIAA up to this point. There are some processes and systems in place for internal change, but no evidence on actions aimed at influencing external institutions yet.

Process: At programme level, though there are no formal processes to identify champions of change for social learning, the working groups provide an opportunity for self-identified champions to influence the programme. The ALRs provide another such opportunity, and go some way towards identifying institutional opportunities for, and barriers to, social learning, and the development of a change strategy. No evidence on efforts to map norms and endogenous processes in external institutions.

Learning: Within CARIAA, consortiums members have identified particular institutional barriers to collective learning and collaboration in the programme; some are being addressed. No evidence that the programme is doing the same for external institutional stakeholders.

The Knowledge Management and Communications (KMC) Working Group — one of several working groups that support the functioning of CARIAA — is composed of individuals who either have a formal mandate to engage in KM and communications or who are interested in these topics and have self-selected into the working group. Many of the working group participants have been identified as champions of change by other CARIAA members.

Beyond this CARIAA does not have formal processes to identify champions of change for collective, iterative learning, though this may take place as a result of processes that are in place for other purposes. For example, at the second ALR in 2016, some participants volunteered to lead discussions on specific themes for collaboration, and to take forward proposals that were drafted at the event [P14]. There is no evidence that external individuals and institutions that will champion change (in terms of social learning) have been identified [P15].

The ALRs go some way towards identifying internal institutional opportunities for, and barriers to, social learning, and the development of a change strategy, though this process is not explicitly designated institutional challenging in the name of social learning. There is no evidence on efforts to map norms and endogenous processes of external institutions.

Learning

Within CARIAA, consortium members have identified particular institutional barriers to collective learning and collaboration in the programme. There is no evidence of identifying barriers to, and opportunities for, promoting social learning-oriented approaches in external institutions [L10].

Value/Practice

It is too early to assess value/practice outcomes of efforts to challenge key institutions [V9-V11].

5. Summary: social learning challenges and lessons learned

The CCSL Initiative aims to answer three key questions by piloting its M&E Framework for Social Learning:

4. Did social learning take place?
5. What factors contributed to successful social learning?
6. Did social learning contribute to better and more sustainable development outcomes?

The ultimate goal is to build an evidence base, and understanding, around when social learning contributes to better and more sustainable development outcomes (and under what circumstances it does not) in the context of climate change adaptation and food security.

Social learning is happening internally in CARIAA, but it is too soon to assess the extent to which it is taking place between the programme and other stakeholder groups, such as communities and policymakers. The programme has yet to achieve its potential for fostering social learning, but many processes that support social learning are underway and some systems have been put in place to encourage, track, and use cross-consortium and intra-consortium learning. In this global programme, the main challenges relate to the size and geographic spread of the programme. While collaboration and collective learning appears to take place within consortiums, the relatively traditional structuring of research activities and budgets may limit the extent to which researchers — key stakeholders themselves — seek or take advantage of opportunities to make this happen across consortiums.

The key factors supporting the social learning that has occurred to date include opportunities for bottom-up identification of capacity development needs; integration of capacity development activities (that support CARIAA members' ability to engage in social learning) into the programme at different levels; and spaces and processes that foster and/or support collaboration and collective learning across the programme, like the Annual Learning Reviews and working groups.

In terms of social learning's impact on development outcomes, it is too early to assess given the stage of the programme. CARIAA's stakeholder engagement and RiU strategies will be key tools for ensuring that collective learning takes place. Documentation of, and reflection on, these processes will be key to ensuring that the learning is iterative; a greater emphasis on challenging institutions — internal and external — may be necessary to ensure action follows and development outcomes are improved by this approach.

Limitations

Instead of the peer assist process used for the other four case studies, evidence on the key elements of social learning in CARIAA were collected against the original CCSL framework independently by a CCSL initiative member. Data were collected through a desk review of relevant documentation, as well as through seven semi-structured interviews and several informal conversations; the findings have also been reviewed by IDRC CARIAA staff. Nonetheless, the size of the programme, multiple layers of analysis, limited resources available for data collection, and limited internal engagement relative to the other cases have limited the comprehensiveness of the findings.

Sources

CARIAA (2015) Annual Learning Review. Workshop Proceedings

CARIAA (2015) Annual Learning Review. Description

IISD Capacity Assessment survey results

IISD Capacity Assessment Report

CARIAA website and KM Platform

CARIAA (2016) Annual Learning Review. Event Report

CARIAA (2016) Knowledge Management and Learning survey and report. (in draft)

CARIAA (2016) Annual Learning Review Design and Facilitation Brief. (in draft)

CARIAA (2016) Learning Review (in draft)

7 interviews with key informants

Indicator table

	ID#	Process indicators	ACCRA results
ENGAGEMENT	P1	Women, youth and other disadvantaged groups are identified and targeted	**Programme/consortiums - Yes** Programme, consortiums and member institution levels: • Women: The IISD capacity survey indicates that CARIAA member institutions have policies or programmes that are effective in recruiting and developing women researchers as well as supporting gender-sensitive/aware research. • Young researchers: CARIAA is making an effort to involve and develop the careers of young researchers. The process of identifying and targeting this stakeholder group varies between consortiums (Interviews G, H). In HI-AWARE, for example, young researchers are targeted through universities, public calls, and networks (Interviews G, H). • Disadvantaged groups: Each consortium contains a mix of Northern and Southern institutions; the intention is to help build the capacities of the Southern institutions where needed. *At programme level this indicator may not be so relevant, aside from engaging women researchers; what is more relevant is the extent to which the programme engages all relevant external stakeholders, including policymakers, etc. Some stakeholder mapping has taken place at programme level.* **Project - No evidence on vulnerable groups specifically** Project level: At project level, this process is governed by the consortiums' stakeholder engagement strategies. These are at various levels of completion and implementation across the programme: PRISE has a strategy that has been implemented at about 50 per cent; HI-AWARE's strategy is not yet complete. That said, these two consortiums have already used community consultations to identify study sites and get input on research topics and outputs. PRISE used stakeholder mapping to also identify other groups, including CSOs, national level stakeholders.
	P2	Groups/individuals identified are engaged through appropriately tailored means	**Programme/consortiums - Partially** Programme and member institution levels: • Women: No evidence. Young researchers: Consortiums offer targeted training for this group, like the HI-AWARE Academy training in HI-AWARE. The programme seeks to promote their work by, for example, featuring them in news items on the CARIAA website (Interview E). In at least two consortiums, young researchers are paired with more senior researchers to jointly develop research projects. These mentors, as well as higher-level consortium members, then track their progress; for example, the Consortium Research Management Team (CRMT) in HI-AWARE is

		responsible for approving the hiring of young researchers and monitoring their progress (Interview G). The level of mentorship and structure varies by member institution (Interview H). • Other disadvantaged groups: No evidence on how Southern institutions are made aware of the tender for the programme. CARIAA member institutions receive capacity development support from IDRC CARIAA Program Officers. • Overall: Being a collaborative research initiative, the consortiums are dominated by research institutions (as opposed to practitioners, policymakers, and other types of institutions). The ALR 2015 report cites participants' observation that CARIAA needs to work on better articulating research findings to broader audiences. The IISD capacity survey indicated that a majority of respondents felt the ability to translate and share research findings in order to convey complex concepts to different stakeholders in clear, relevant and actionable terms was important and interesting, but a significantly smaller percentage felt they could do this well. Likewise, the survey indicated that most respondents felt that being able to identify relevant audiences for research findings, including their respective decision-making needs and communications preferences, was important and interesting, but a significantly small proportion indicated they felt they could do this well. • Since then, stakeholder engagement strategies have been revised and improved; RiU strategies have also been developed (Interview B). A staged evaluation by independent evaluators is taking place and the first of three consecutive themes for evaluation co-chosen by the evaluators and CARIAA members was RiU (Interview F). A meeting in December will review the results of the evaluation, allow consortiums to update each other on their progress on RiU strategies and efforts, look for ways to collaborate, and begin to develop a programme-level RiU strategy for the IDRC CARIAA team (Interview F). **Project – no evidence** Project level: No evidence on the ways in which different stakeholder groups are engaged.
P3	2 parts: All target groups/individuals are actively participating in the project e. All target groups /individuals are actively participating in the process *f. Facilitator role identified as trusted and effective by all parties*	a. **Programme/consortiums - Partially** Though several key stakeholder groups were identified as 'missing' during the 2015 ALR (private sector, regional and international stakeholders), the 2016 KML survey indicated that most respondents felt that these groups had only been "somewhat" engaged the following year. Regarding policymakers, another 'missing' group, most 2016 KML survey respondents indicated that their engagement had improved over the past year; about half said "somewhat" while the other half said "significantly". IDRC has encouraged consortiums to revise their RiU strategies and complete stakeholder mapping exercises with the intention of eventually being able to work with them to develop a programme-level RiU strategy. A meeting in December will take stock of progress, review the results of the first stage of the staged evaluation, which is focused on RiU, and begin to develop the programme-level strategy. **Project – No evidence**

		b. **All levels - No evidence**
P4	*Emergence of champions is fostered*	**All levels – No evidence**
L1	[Cognitive] Knowledge of the problem enhanced by interactions	**Programme/consortiums - Yes** Programme level: The programme is actively fostering collaboration and learning between the four consortiums, promoting a better understanding of climate change adaptation in countries where different consortiums overlap (for example, Ghana and India) and on specific themes that are relevant to more than one of them. Consortium members come together in cross-consortium 'country tables' and thematic working groups to share and co-create knowledge. As there is no explicit effort to monitor the impact of these activities, evidence is relegated to concrete outputs of collaborative efforts. As there are currently limited collaborative efforts, especially research-based ones, there are few such outputs at this stage of the programme. Consortium level: The consortiums are designed to bring together institutions with complementary areas of expertise, methodologies and geographic areas of focus that can work together to build a more holistic and nuanced understanding of the climate change hot spot each one focuses on, as well as of relevant issues within those hot spots. Most research outputs of the consortiums are the product of collaborative efforts by two or more institutions. There is no evidence that knowledge of the problems has been enhanced by interacting with policymakers, but stakeholder consultations by the consortiums have informed research design and site selection. **Project – Yes** Project level: Stakeholder consultations by the consortiums have informed research design and site selection.
L2	[Relational] m. Engagement has led to better relations between target groups/individuals *n. Trust created* *o. Engagement has led to awareness and valuing of other stakeholders*	**No evidence.**
L3	[Normative] 2 parts: i. Different knowledge types successfully integrated j. Engagement has led towards a change in collective understanding	a. **Programme/consortiums - Partially** Programme and consortiums level: As stated in L1 above, the consortiums are designed to bring together institutions with complementary areas of expertise, methodologies and geographic areas of focus. That said, as it is a collaborative research initiative, most member institutions are research-focused; there are a few practitioner

	of the problem and solutions	organisations. This bias towards research is recognised by programme staff and efforts are underway to balance it through RiU strategies and stakeholder mapping; even so, policymakers and community members are largely external to the programme, accessed through local partners. **Project – Partially** b. **Programme/consortiums – No evidence** **Project – Yes** Project level: Stakeholder consultations by the consortiums informed research design and site selection.
V1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**Programme/consortiums - Hardly** Within CARIAA: While buy-in may not be consistent across all levels of the consortiums, at the lead level (eg PIs) it is high. That said, consortiums' natural instinct is to represent themselves rather than the whole programme. In some ways it is too early: there is no narrative/purpose yet as the research is just beginning (Interview B). A programme strategy with the potential to bring CARIAA members closer together is likely to emerge after December 2016 (Interview E). *Internal engagement*: Consortiums present themselves as individuals rather than CARIAA: cohesivity is variable. CARIAA has a structure that has certain sets of actors working closely together: the RiU, KMC, and M&E working groups, as well as the coordinators, have a clearer sense of the collective vision. The further out you go (from things that need to be delivered against the central mandate), the less bought-in people are (Interview E). For other stakeholders: CARIAA has raised its profile somewhat but it has not had the level of recognition that other programmes have, because it is not driven by a comms-focused, engagement-centric organisation. There has not been a lot of centralised engagement, which may have an impact on the programme's visibility (Interview A). Plans are underway to develop a programme-level RiU strategy, which should address this need. **Project - No evidence**
V2	[Practice] 3 parts: m. New social networks established n. New initiatives and projects o. Empowerment of most vulnerable beneficiaries (communities) including women and children	**All levels - No evidence** a. No evidence b. Some new partnerships are forming (Interview C1); these are generally small and may involve knowledge sharing but not funding (Interview G). That said, the consortiums themselves engage many local partners (Interview G). c. No evidence; it is too early to look for evidence.

ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Programme/consortiums - Yes** Programme level: • Annual learning reviews (ALRs) are the primary learning and evaluation 'moment' available for the CARIAA programme as a whole. The second ALR in 2016, for example, provided facilitated time and space for the consortiums to learn about each other's research, brainstorm and prioritise themes for collaboration, and begin to develop proposals on these themes. There was also time to share knowledge and learn collectively about theories of change, monitoring and evaluation, and work happening along the different learning dimensions. • Most 2016 KML survey respondents (31 of 45) said they were either "very" or "somewhat" engaged with the CARIAA learning review process (eg the Annual Learning Reviews); there is some concern that although the ALRs are open to all CARIAA members, some groups (eg researchers) often choose not to be involved and are thus harder to reach. More broadly, most 2016 KML survey respondents (19 of 26) indicated that cross-consortiums learning and/or capacity building had taken place over the previous year. • Working groups also provide space for programme-wide reflection, though not all working groups are geared towards this kind of activity. The Climate Science group, for example, has focused on pulling together relevant research outputs for the 1.5°C IPCCC meeting (Interview H). The Knowledge Management and Learning group, however, appears to engage in more reflection-oriented activities. Consortiums level: • Each consortium has its own learning and evaluation 'moments' and systems, though some report finding time for reflection to be a significant challenge. This challenge is exacerbated by the physical distance and time difference between consortium members (Interview H). HI-AWARE, for example, convenes its members twice a year for 'HI-AWARE Week' to consolidate the research that has taken place, learn from it, and adjust work plans accordingly. HI-AWARE also has a mid-term evaluation, currently underway (Interview G). PRISE meets once yearly to reflect on implementation of PRISE strategies (stakeholder engagement, capacity building, M&E, etc.) and adjust work plans going forward. • A majority of 2016 KML survey respondents (23 out of 29) said their consortium had processes in place for fostering, capturing and using collective learning. Member institution level: • IISD capacity survey respondents indicate that the organisations of a strong majority (82 per cent) provide formal and informal opportunities for staff to reflect and learn from each other. **Project - No evidence**

P6	*Learning and evaluation processes are supported and facilitated*	**Programme/consortiums - Yes** Programme level: IDRC supports and facilitates learning and evaluation processes through multiple channels. These include: the ALRs (which involve professional facilitators); the development and maintenance of the Knowledge Management (KM) Platform; the Opportunities and Synergies Fund (OSF), which is currently funding a proposal for a cross-consortiums RiU Learning Framework, as well as a programme-wide project on stories of change (to track impact); and the Program Officers, one per consortium, who receive training to provide support. Consortiums level: The consortiums do not have formal frameworks explicitly for learning, with the exception of the Outcome Mapping process used by PRISE. They do, however, have processes for learning, including consortium-level annual learning reviews (such as the HI-AWARE Weeks, and the yearly PRISE meeting). But primarily, according to a key CARIAA member (Interview D), learning is a natural outcome of many informal processes. **Project level - No evidence**
P7	Systems are in place to foster and implement new ideas	**Programme/consortiums - Yes** Programme/consortiums level: The OSF provides funding for new ideas; consortium members apply for specific ideas they have developed. The ALR also provides space and time for the development of new ideas. In 2016, more than seven proposals on topics/themes for collaboration were developed. Member institution level: Most IISD capacity survey respondents (84 per cent) agree that their organisation allows or encourages staff to integrate new ideas into programming on an ongoing basis. **Project level - No evidence**
P8	Questioning the theory of change (TOC) itself and key assumptions is valued and happening regularly	**Programme/consortiums - Yes** Programme level: The ALR provides an annual forum for revisiting the TOC and assumptions. While the 2015 ALR incorporated reflection on the ToC, inadequate time was allocated to identify and follow up issues; the semi-annual review did not take place. Half of 2016 KML survey respondents (5 of 9) felt that the facilitation of Day 3 of the 2015 ALR was successful in terms of ensuring reflection on the CARIAA TOC, while the other half felt it was "somewhat" successful. The 2016 ALR also incorporated reflection on the ToC, including a stock-take of consortiums' systems (ToCs, M&E frameworks, etc.), assessment of their alignment with the overall programme ToC, and discussion on areas where overlap is lacking, and what is working/not working. A semi-annual review is scheduled which could involve further space for discussion of issues identified. Consortiums level: At least some of the consortiums have systems for reviewing their own TOC. For example, HI-AWARE has an M&E Learning Framework and impact pathways based on its TOC; the impact pathways are revisited regularly. **Project level - No evidence**
P9	Questioning of values, norms and governance underlying	**All levels - No evidence**

	problem is valued and happening regularly	
L4	[Cognitive] 2 parts: i. Results of learning/evaluation are incorporated into the project strategy *j. Creative solutions and innovations are developed*	a. **Progam/consortiums level - Yes** Programme level: Though follow-up on the issues identified at ALR 2015 was slow because key IDRC staff left, it did take place/is underway. For instance, M&E has moved towards stories of impact, the OSF is now in place. The range of issues raised, plus pushback from consortiums on timing, meant that a mid-year stock-take was difficult and it did not take place; instead IDRC tried to address multiple issues in parallel by engaging relevant individuals in each consortium (Interview B). For example, IDRC has encouraged the consortiums to review and revise their RiU strategies, and several now have RiU coordinators and/or focal points in place. Regarding learning about learning, while there is a CARIAA learning framework, there no explicit or clear system to monitor progress against it (to identify gaps, next steps, and look back) outside of the ALRs (Interview B). Stories of impact work is now underway; the impact of this work is TBD. At the highest level, the IDRC CARIAA programme staff submit reports to the Executive Committee; IDRC works with DFID to think about the programme strategy. Consortiums level: Most 2016 KML survey respondents (23 of 29) said their consortium had processes for fostering, capturing and using collective learning. 14 said their consortium changed their practice as a result of collective learning over the past year. And 12 of 14 said their consortium has systems in place to monitor the impact of those changes. 16 of 28 respondents said their consortium had a system to ensure that ALR results lead to changes in the consortium's practices (8 respondents said they "did not know"; 4 said "no"). 25 of 29 respondents indicated their consortium had taken at least some of the challenges identified at the ARL into consideration and/or adjusted practices based on these challenges. For instance, 14 of 29 said improvements in stakeholder engagement over the past year could be attributed to the ALR (6 said they "did not know"; 9 said "no"). In HI-AWARE, learning from HI-AWARE Week is used to revise work plans going forward. PRISE also feeds the results of its annual meeting into its work plans. **Project level - No evidence**
L5	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups*	**All levels - No evidence**

	L6	[Normative] Participants understand the need for alternatives and room to fail	**All levels - No evidence**
	V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**All levels - No evidence** Too early to assess.
	V4	*[Practice] Wider stakeholder groups relate to each other differently*	**All levels - No evidence** Too early to assess.
	V5	*[Value] The need for alternatives and room to fail is evident in other projects/programmes*	**All levels - No evidence** Too early to assess.
	V6	[Practice] Alternatives and room to fail are built in to other projects/programmes	**All levels - No evidence** Too early to assess.
CAPACITY DEVELOPMENT	*P10*	*Capacity development activities are integrated into the project/programme*	**Programme/consortiums - Yes** Programme level: Most 2016 KML survey respondents (19 of 26) indicated that cross-consortiums learning and/or capacity building had taken place over the previous year. One of IDRC's strengths is that it has formal and informal systems in place to track capacity gaps. These include: regular reporting tools that IDRC has tailored to the CARIAA programme, the ALR, regular monitoring by programme officers, and meetings with the PMC (PIs from each consortiums) (Interview A). For instance, discussions at the first ALR and the PMC meeting were means to identify the strengths and weaknesses of the consortiums. Capacity needs around RiU — the focus of ALR 2015 — were identified and the consortiums are now being supported to improve their RiU strategies and learning (Interview B). Capacity development activities — some but not all of which are relevant to social learning — are built into events like the ALR, and also offered through workshops and other training events. Gender training was conducted in 2015, climate science training was conducted in 2016, and economics training is slated for 2017 (Interviews G, H). Furthermore, the IDRC model means that IDRC Program Officers are assigned to specific institutions to help them build the capacity needed; in CARIAA they are assigned to one consortium (4–5 institutions). Finally, IISD was also contracted to assess baseline capacity across the programme. Consortiums level: Most 2016 KML survey respondents (23 of 29) said there are processes to build their consortium's capacity to learn collectively. Program Officers are responsible for identifying capacity gaps and providing capacity development support. For example, the PRISE Program Officer together with the consortium's members identified regional engagement as a weakness; the Program Officer is now using his connections and

		networks to help engage relevant stakeholders at regional level (Interview H). Consortiums have also (jointly) conducted training activities for skills that contribute to members' ability to engage in social learning, eg a blogging webinar. **Project level - No evidence**
P11	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**Programme/project - No evidence** Programme and consortiums level: CARIAA does provide some targeted capacity development activities for CARIAA members. For example, tailored capacity development activities are provided for young researchers, like the HI-AWARE Academy week. Another example would be the skill-building sessions provided to ALR 2016 attendees on infographics and outcome mapping. A third example would be the programme-wide training sessions on gender and climate science that have taken place. That said, there is no evidence on capacity development activities for external stakeholders, such as policymakers. **Project level - No evidence**
P12	Capacity needs are determined collectively in a bottom-up manner	**Programme/consortiums - Yes** Programme and consortium levels: IISD was hired to do a baseline survey of capacity in CARIAA. Gaps in programme-level capacity are identified in part through CARIAA working groups. Gaps in consortium capacity are identified through discussions with each consortium's Program Officer. (Interview C1). The Annual Learning Reviews are another opportunity for CARIAA members to discuss capacity needs and voice them to IDRC. For example, participants of the 2015 ALR noted that a) CARIAA consortiums need more learning on effective cross-consortium collaboration, and b) most researchers are not effective in policy engagement and therefore need help. The 2016 ALR also provided participants with an opportunity to discuss Capacity Development as one of the four CARIAA Learning Dimensions, and to develop a list of needs and proposed actions. Lastly, the content of the 2016 ALR (if not also the 2015 ALR) was decided in consultation with the consortiums. There are some examples of capacity development needs that were determined in a top-down manner. For example, a training session on climate science held in 2016 did not meet the needs of all participants as it was too advanced for some and not advanced enough for others (Interview H). **Project level - No evidence**
P13	*Capacity development needs are systematically integrated into all project components*	**Programme/consortiums – Yes** Programme and consortiums levels: See P10 above. **Project – No evidence**

	L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**All levels - No evidence**
	L8	[Relational] Increased understanding between different participant groups of different needs and perspectives	**All levels - No evidence**
	L9	*[Normative] Increase in collective challenging/ understanding methods of building capacity for particular stakeholders*	**All levels - No evidence**
	V7	[Value] More informed stakeholders	**All levels - No evidence**
	V8	[Practice] 2 parts: i. Capacity development leads to different groups working together better j. Capacity development leads to changes in practice that reflect a better understanding of the problem and solutions	**All levels - No evidence**
CHALLENGING INSTITUTIONS	P14	Key individuals/institutions who will support/champion change are identified	**Programme/consortiums – Partially** Programme level: The Knowledge Management and Communications (KMC) Working Group is composed of individuals who either have a formal mandate to engage in KM and communications or who are interested in these topics and have self-selected into the working group. Many of the WG participants have been identified as champions of change by other CARIAA members. Beyond this CARIAA does not have formal processes in place to identify champions of change for collective, iterative learning, though this may take place as a result of processes that are in place for other purposes. For instance, at the second ALR in 2016, some participants volunteered to lead discussions on specific themes for collaboration, and to take forward proposals that were drafted at the event. There is no evidence that external individuals and institutions that will champion change (in terms of social learning) have been identified. **Project – No evidence**

P15	A change strategy is developed, including mapping of existing norms and endogenous processes	**All levels - Partially** Programme level: The ALRs go some way towards identifying institutional opportunities and barriers, and the development of a change strategy, though this process is not explicitly designated institutional challenging in the name of social learning. In some ways the design of the programme itself is a change strategy — using consortiums to encourage South-North cooperation, knowledge sharing and co-production, and capacity development. The CARIAA Learning Framework helps to ensure that collective, iterative learning is taking place and tracked. There is no evidence on efforts to map norms and endogenous processes of external institutions. Project level: At least some of the projects are designed with fostering social learning in mind, whether or not there is an explicit change strategy for the institutions involved. HI-AWARE, for instance, focuses on knowledge co-production with communities. ASSAR is also explicitly interested in fostering social learning. Evidence of results is limited at this stage.
P16	*Existing norms and endogenous processes are mapped*	**All levels – No evidence** Programme level: The Knowledge Management and Learning contract with Euforic Services, which has produced a report on collaboration and a review of learning, as well as a design and facilitation brief for Annual Learning Reviews, has made some progress towards mapping norms and processes around learning within CARIAA. There is no evidence, however, that the programme is doing this for external institutions that they want to influence (at this stage). The programme-wide RiU strategy, which will be developed in the near future, is one way forward. Project level: Again, stakeholder mapping and RiU strategies most likely do some of this.
P17	Key institutions are challenged to make changes that facilitate social learning	**All levels – No evidence**
L10	[Cognitive] Project participants understand the particular opportunities and barriers	**Programme/consortiums - Partially** Programme level: 15 of 31 2016 KML survey respondents indicated that there are, or were over the past year, internal institutional barriers to collective learning in CARIAA (8 said they "did not know"). Respondents also identified barriers or challenges to collaboration between consortiums within CARIAA. **Project – No evidence**
L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)*	**All levels – No evidence**

L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**All levels – No evidence**
V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**All levels – No evidence**
V10	[Value] Challenges lead to changes in institutional openness towards SL-orientated approaches (evidenced in eg attitudes, conflicts)	**All levels – No evidence**
V11	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**All levels – No evidence**

Policy Action for Climate Change Adaptation (PACCA)

Climate Change Social Learning (CCSL) case study for Uganda and Tanzania

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1. Key findings

- PACCA is an ongoing project in early stages, with national Learning Alliances (LAs) having met only a few times and with some district LAs still being formed.
- **Engagement:** Wide consultation and targeted engagement carried out in the process of forming LAs ensured that stakeholders were identified through an inclusive process and led to a diversity of stakeholders actively participating in the project. There is evidence that the LAs have enhanced their members' ability to work together to find a solution to the challenge of ineffective policy implementation.
- **Iterative Learning:** A number of mechanisms are in place to ensure learning, reflection and iteration within PACCA as a project as well as in the LAs. Monitoring and evaluation plays a key role in ensuring processes are documented and learning takes place at all stages of project implementation. The lessons drawn are compiled by the PACCA team and shared with meeting participants, as well as used to inform subsequent engagement and capacity building activities.
- **Capacity development:** Capacity development is a core component of the project. Capacity building initiatives target all stakeholders in the LAs, and are based on capacity needs assessments.
- **Challenging institutions:** Policymakers have been successfully challenged by LA members on more than one occasion, resulting in changes to policymaking processes. However, these changes are singular instances with no discernible long-term effects.
- Although social learning is happening within and outside the LAs, social learning is not a concept that is understood by many, including PACCA team members. This poses challenges in implementing and monitoring the progress and outcomes of social learning.

2. Project description

Climate change remains a threat to people's livelihoods in Uganda and Tanzania due to heavy reliance on climate-dependent resources coupled with reoccurring natural disasters and high levels of poverty. According to the IPCC fifth assessment report, this vulnerability is expected to increase as temperatures continue to rise, natural resources are depleted and the occurrences of drought and floods become more frequent. Lack of reliable evidence on which to base policy decisions, and a shortage of economic resources and technology (among others), further limit the adaptive and mitigation capacity to climate change in these countries.

Added to these gaps, conventional research has long failed to impact development strategies, partly due to the fact that polic makers and development practitioners often have had inadequate access to research-based evidence, which could inform policy formulation processes and enable appropriate implementation. To address these gaps, the PACCA project was born. The CCAFS Flagship 4 East Africa PACCA project is a four-year project launched in 2014 (running till 2017). The project aims to use interdisciplinary science-based recommendations to influence policy implementation that encourages adoption of climate smart agricultural practices across multiple scales and actors. The various policy actors will interact through research–policy dialogue spaces called Learning Alliances (LAs).

The project has two major inter-related components:

- Knowledge creation through research and stakeholder interactions that result in the capacity building of national policy actors, and
- Engaging policy decision-makers to make use of evidence-based knowledge in the formulation, review and implementation of policy strategies.

This is being realised through multi-stakeholder platforms (LAs). The LA creates an opportunity for sharing research evidence through avenues identified by practitioners as appropriate, enhances the capacity of national partners (for example, institutions facilitating the LA meetings) and engages policymakers to adopt strategies that enable effective policy implementation. So the LA is envisaged as serving as the focal point for the implementation of policy engagement actions. All LAs have developed (or are in the process of developing) a policy engagement strategy to be implemented over the project's life.

The PACCA project is led by the International Institute of Tropical Agriculture (IITA) and is implemented in collaboration with several CGIAR centres including CIAT, ILRI, Bioversity and ICRAF. It works closely with local, regional, and national partners of each country. The CGIAR centres are responsible for carrying out PACCA research activities, including trade-off analysis, policy and gender analysis, scenario analysis and applied information economics.

3. Mapping the project process

The process of forming the LAs was characterised by stakeholder consultations, reflection and learning sessions. In most cases, the project management team implemented an activity in one country, reflected on it, drew lessons from it and moved to another country to implement a similar activity.

- At the start of the project, the team searched for potential partnerships through web searches for databases of climate change experts, networking, and snowballing, among other methods. A list of potential partners was generated and used as the basis for sending out invitations to the project inception meeting.
- More face-to-face consultations with actors, especially in non-government organisations (NGOs), were also conducted. These exercises sought to understand the various roles that these stakeholders would play in the LA, their expectations, additional stakeholders that they would recommend take part, and general suggestions on how to better implement the LA. It is interesting to note that some organisations, like Climate Change Concern, heard about PACCA through other forums and sought more information about it.
- To further enhance PACCA's mobilisation and facilitation strengths, the programme co-opted partners to help organise LA activities. For example, the Participatory Ecological Land Use Management (PELUM), a network of civil society organisations, and the Environment Management Unit Team of the Ministry of Agriculture, Food and Cooperatives (EMU-MAFSC), organised LA inception meetings in Uganda and Tanzania respectively.
- Stakeholders critically reflected on, and discussed, the challenges of climate change- and food security-related policies cited in the project inception meetings in both Uganda and Tanzania. The challenges and gaps identified were then consolidated into themes. These themes form the areas for collective learning and action for climate change policy interventions. Initially in Uganda, four thematic areas were identified: (i) availability and use of credible evidence in climate change policy intervention; (ii) coordinating and harmonising climate change policies across sectors; (iii) influencing inclusive climate change policy development and implementation; and (iv) awareness creation and advocacy for climate change policy intervention. These were merged into two themes: (i) policy awareness and (ii) policy engagement. In Tanzania, four thematic areas were initially agreed: (i) financial resources, (ii) capacity building issues, (iii) institutional arrangement and policy issues, and (iv) information and knowledge management. These have been merged to three, namely: (i) the financial mobilisation group; (ii) institutional and policy issues group (iii) the knowledge generation group and (iv) the information sharing and capacity building group.

- The Tanzania LA is overseen by a smaller team known as the 'LA secretariat'. This group is comprised of representatives from the Vice President's Office (VPO), EMU-MAFSC, the Prime Minister's regional administrative office in Dodoma (TASEMI), the University of Dar es Salaam, IITA and the four thematic group leaders.
- In an effort to address the coordination disconnect between the national level and the sub-national level that hampers effective implementation of climate change activities in the two countries, district LAs have been formed. So far, district LAs have been launched in districts of Lushoto and Kilolo in Tanzania and in the three districts of Luwero, Rakai and Nwoya in Uganda. The discussions in the district LAs feed into the national LAs; knowledge transfer between the two happens via government officials from the district LAs who attend the national LAs, and representatives from both government and CSOs at national LAs who also attend district LAs.
- Subsequent meetings of the LAs involve the operationalisation of the action plans developed by the members. Members also look for opportunities to influence the national policies.

Challenges identified during the mapping process

- Breaking ground and gaining trust from the national partners takes time and requires political and technical support. Changes to the structures of public institutions also leave an unclear mandate for technical staff, stalling key processes. For example, the transitioning of the Climate Change Unit to a department in Uganda slowed the LA formation process down. CCD is responsible for coordinating all climate change activities in Uganda and therefore getting their support and commitment was very important for PACCA.
- Consultative processes are also time consuming. Although PACCA generated profiles of potential LA members, including their interests, the LA inception meetings only happened in late 2014, nearly a year after the project started.
- Not all policy actors have the same level of understanding on climate change issues, needing capacity building.
- Dealing with stakeholder expectations during engagements is a challenge. A lesson drawn from this is that dealing with expectations from the start of the project is important in gathering genuine appreciation, support and commitment for planned activities. It is important to note that organisations can join or leave the LA at their convenience but it is of interest to PACCA for the LA to maintain and expand its membership.

4. Snapshot against the CCSL indicators

	Engagement				Iterative Learning					Capacity Development				Challenging Institutions			
Process	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
Learning Outcomes	L1	L2	L3		L4	L5	L6			L7	L8	L9		L10	L11	L12	
Value/Practice Outcomes	V1	V2			V3	V4	V5	V6		V7	V8			V9	V10	V11	
AVERAGE				2.3					2.1				2.7				1.0

5. Social learning results

Engagement

Score: 2.3

P1	P2	P3	P4	L1	L2	L3	V1	V2

Wide consultation and targeted engagement carried out in forming the LA ensured that stakeholders were identified through an inclusive process and led to a diversity of stakeholders actively participating in the project. Though men dominate the LAs, PACCA is developing a strategy to address the gender imbalance, a result of the work culture. The formation of thematic groups and development of action plans for each group in national-level LAs, as well as the development of zonal investment plans in the district-level LAs, demonstrate that the LAs have enhanced their members' ability to work together to find a solution to the challenge of ineffective policy implementation.

As indicated earlier, the process of forming LAs involved wide consultations, and the LA is comprised of a diversity of stakeholders (P1, P2). In both countries, the LA incudes representatives from government ministries (VPO, MAFC, TAMISEMI, Ministry of Finance (MoF), Ministry of Water and Environment (MWE), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)), departments (EMU-MAFC, CCD), and agencies (National Environment Management Authority (NEMA), National Environment Management Council (NEMC); NGOs (USAID EEA, PELUM, EMLI, UNDP VPO, REPOA)[3]; research and academic institutions (MUCCRI, National Agricultural Research Organization (NARO), project scientists, DRD); media (Vision Group, Monitor Publications); and local governments (Rakai, Luwero, Mbale, Nwoya, Kilolo and Lushoto) (P3).

Gender is a key component of PACCA. A recent synthesis of the attendance registers for national LAs (after their first and second meetings) revealed that men dominate the LAs in both countries. Strategies are being devised on how to increase the representation of women and youth in the LAs. The challenge faced here is that due to logistical issues, it is difficult to have two or more representatives attend the same meeting, and most organisations send men.

During LA engagement meetings, experienced moderators are brought in to facilitate[4] (P3). In their feedback forms, LA members have often appreciated the expertise of the moderators in facilitating discussion, interactions and sharing of ideas. Several organisations have taken a lead in LA engagement activities that are of interest to them (P3, P4, V1). For example, the Vice President's Office (VPO) in Tanzania took a lead in organising the scenario-guided policy review of the draft National Environment Policy (NEP) using the CCAFS East African socioeconomic scenarios. This review meeting was attended by practitioners (including NGOs), members of LA thematic group two, government ministries and other key stakeholders. In Uganda, the Agri-Profocus – SNV organisation took up the responsibility of co-financing the non-state actors' consultative workshop to review, undertake scenario projection and provide consolidated non-state actor input to the Agricultural Sector Strategic Plan (ASSP).

Targeted engagements with stakeholders have also been organised by the LAs (P2, P3). A breakfast meeting was arranged for policymakers from MAAIF, CCD and NARO in Uganda to share research

[3] These include farmers' associations.
[4] In Tanzania it is usually the same facilitator each time; in Uganda different facilitators have been used.

evidence on coffee suitability maps in the face of climate change in the country. In preparation for a high level engagement on gender with policymakers this year, the LA organised a preparatory workshop on gender to: 1) share research evidence on gender and climate change adaptation; 2) highlight gender gaps that affect climate change adaptation at all levels; 3) develop key harmonised gender messages for engaging policymakers and communication tools that will be used, for example, policy briefs; and 4) share roles on preparing messages for dissemination.

LA members have undertaken tasks that demonstrate an enhancement in their ability to jointly work together to find a solution to the challenge of ineffective policy implementation. Following the identification of areas for collective learning, LA members formed thematic groups and developed action plans for each area (L1, L3). The action plans detail the policy issues being addressed, activities that will be undertaken to address the policy issues, target audiences to be reached to bring about the necessary changes and the expected outputs, the lead implementing agency, and the timeframe for action.

At sub-national/district level, LA members developed zonal plans for implementing CSA in their districts (L1). The idea behind the concept of zonal planning is that climate change adaptation is context-specific and so necessitates the development of locally appropriate climate smart practices. This activity started with the zoning of each district into different livelihood zones. The stakeholders came up with a number of criteria for zoning their districts, including vegetation cover, topography, and farming systems.[5] Consequently, enterprises that the districts could promote in the face of climate change were also identified and prioritised. From this planning, priorities are extracted by the district technical planning committee and integrated in the district development plans. The learning alliance also extracts priorities that constitute their engagement plan.

Iterative learning

Score: 2.1

P5	P6	P7	P8	P9	L4	L5	L6	V3	V4	V5	V6

A number of mechanisms are in place to ensure learning, reflection and iteration within PACCA as a project as well as within the LAs. Monitoring and evaluation plays a key role in ensuring processes are documented and learning takes place at all stages of project implementation. Reflection by LA members on the functioning and outcomes of the LA is also encouraged. The lessons drawn are compiled by the PACCA team and shared with meeting participants, as well as used to inform subsequent engagement and capacity building activities. Effects on wider stakeholder groups have not yet been observed as the LAs are still in the early stages of development and action.

A number of mechanisms are in place to ensure learning, reflection and iteration within PACCA as a project as well as within the LAs. Monitoring and evaluation plays a key role to ensure processes are documented and learning takes place at all stages of project implementation. Simple monitoring tools are used by both members of the LA and the project staff. These include: knowledge, attitude and skills surveys, attendance registration, reflection and review meetings, network analysis, meeting monitoring tools and activity evaluations. The lessons drawn often inform the subsequent engagement activities.

Before LA engagement activities begin, members are asked to write down what they expect to gain from the activity. After the activities they are asked to reflect on whether their objectives were met, and to make

[5] Stakeholders do not generally include community members, though the district level government is expected to consult community members according to the district LA action plans.

recommendations on improving the next round (P5). A reflection session was also conducted where members evaluated several aspects of the LA in terms of what is going well or not, including: the purpose of the LA; frequency of interface within the thematic groups; execution of planned activities; maximizing policy windows; facilitation and organisation of the LA; internal and external communication; capacity building and efforts to ensure sustainability of the LA (P5).

The PACCA project team synthesises and compiles the findings (P6). These findings are not only shared with the participants in the subsequent meetings but also used to inform decisions on future engagement activities. For example, in one of the activity evaluations in Uganda, LA members indicated that they wanted to build their capacity on policy processes. Additionally, the KAS study carried out with the LA members revealed the presence of capacity gaps on policy processes, among others. In response, a capacity building workshop was organised for LA members to raise awareness in agriculture-climate related policies and on engaging target stakeholders. From the workshop, members acquired knowledge, and developed skills in writing policy briefs, conducting media communication and developing communication strategies for the science-policy interface. Consequently, six draft policy briefs were developed and submitted to the LA secretariat. (P7, L4).

Capacity building

Score: 2.7

Capacity development is a core component of the project. Capacity building initiatives target not only policy/decision makers, but also other stakeholders in the LAs, and are based on capacity needs assessments. It is too early to assess the impact of capacity building activities on stakeholders, but surveys distributed after LA meetings indicate improved knowledge on key topics.

All activities in PACCA aim to help policymakers make informed decisions on climate change adaptation by using available research evidence on climate change, policy and gender (P10, P13): capacity development is a core component of the project. These capacity building initiatives not only target policymakers but also multiple stakeholders in the LA (including government officials, NGOs, CSOs, scientists, media, academia, cultural institutions) (P11). The project views LA members as 'champions of change' in the policy engagement actions designed and implemented by LA members.

Capacity building sessions are based on the assessed needs of the LA members (P12). Although PACCA undertakes deliberate capacity building initiatives for its members in response to the capacity needs assessments (P13), it is also common practice for research evidence to be presented during LA meetings. Here, the facilitator plays an instrumental role to initiate interactions, discussions and group activities among LA members. Additionally the facilitators always emphasise the need to respect one another's ideas.

The research evidence is generated from the PACCA research implemented by the IITA and its CGIAR partners (Bioversity, CIAT, ILRI and ICRAF). The activities fall into two major clusters: 1) creating knowledge around trade-offs and synergies between climate change adaptation options, with relevance to decision making by policy actors; and 2) policy actor networks, policy analysis, and gender analysis. They include trade-off analysis, policy and gender analysis, scenario guided policy development and applied information economics. This research focuses on questions such as: who are the actors, how are they connected, who decides what, what are the policies, what are the gaps, overlaps, and possible conflicts,

who is implementing these policies and how do mandates and resources affect implementation effectiveness.

Results from the baseline study on the knowledge, attitude and skills of the LA members indicates that there are varying knowledge levels on climate change (impacts and adaptation options) and policy processes; skills (climate change adaptation, policy implementation and advocacy skills) and attitudes on the role of research and the LA in improving policy implementation in each country (L7).

LA members also often share their research and experiences during engagement meetings. In this way, other members of the alliance can tap and benefit from their expertise and experience. The LAs offer space for the members to share ideas and experiences, thereby fostering learning from one another and enhancing capacity.

Challenging institutions

Score: 1.0

P14	**P15**	**P16**	**P17**	**L10**	**L11**	**L12**	**V9**	**V10**	**V11**

Policymakers have been successfully challenged by LA members on more than one occasion, resulting in changes to policymaking processes. However, these changes are singular instances with no discernible long-term effects. Policymakers' attendance at LA meetings may help to build momentum for longer-term effects.

'Policy windows' in the national development planning process serve as an entry point for the LA engagement activities (L10)**.** These windows present opportunities for changes in the way policies have previously been formulated and implemented. In the review of the NEP in Tanzania, the LA approached officials from the VPO to conduct a scenario-guided policy review. The VPO responded positively and took a lead in the process that saw consultation on the NEP review take three rounds instead of the usual two to allow for incorporation of the scenario-guided recommendations in the policy.

Similarly in Uganda, the LA seized the opportunity presented by the review of the Agricultural Sector Strategic Plan (ASSP) to put forth a position paper for the ASSP that has been accepted by MAAIF. Non-state actors were also given an opportunity to review the draft through scenario-guided planning. This also illustrates the recognition of and respect for the mandates and roles of the different institutions (P16).

The members have also seized opportunities when key policymakers are invited to LA meetings to question the status quo of certain things within government institutions (P9, P17). The commissioner of the Climate Change Department (CCD) was once asked what his office was doing to address the observed overlap of the mandates of his department and the National Environment Management Authority.

6. Summary: social learning challenges and lessons learned

PACCA is an ongoing project with the national LAs having met only a couple of times (on average, four times since inception). It may take a while to realise the outcomes of some initiatives, such as social learning.

Engagement in the LAs has seen multiple stakeholders with diverse expertise and experiences come together to generate solutions for policy implementation inefficiencies in climate change adaptation. In developing action plans for the national LAs, stakeholders used their experience and the available research evidence to generate actions to improve the status quo of implementing policy. The facilitators have been essential in initiating interactions, discussions and group activities among LA members. To further facilitate communication and free exchange of ideas, the LA members in each country formed a WhatsApp group. In sum, all this enhances stakeholders' abilities to learn from each other.

This also demonstrates one of the common forms in which collective learning and capacity development happens in the LA: where stakeholders use their experience and expertise to make use of the available research evidence. Lessons from the reflection exercises inform subsequent activities and decisions. It should be noted that most of the iterative learning is currently facilitated by the PACCA staff, but the LA is expected to take up an active role now that most members have a better understanding of how the alliance operates. Participants have indicated in some of their evaluation forms that they share the knowledge acquired from the LA with colleagues, local politicians and community members.

Although social learning is happening within and outside the LAs, social learning is not a concept that is understood by many, including PACCA team members. This poses challenges in implementing and monitoring the progress and outcomes of social learning. Initiatives such as the CCSL initiative remain very relevant and will have to continuously assist the projects with the social learning concept.

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PACCA (2015) Uganda Learning Alliance Action Planning Report PACCA Workshop report. March 31st 2015, Hotel Africana

Indicator table

	#	Process indicators	PACCA results
	P1	Women, youth and other disadvantaged groups are identified and targeted	**Yes.** At this stage of LA formation, PACCA's interest was more on the diversity of organisations represented than the gender perspective. However, now that the LAs are operational, a gender lens is being considered in terms of individuals represented in the LA. It is important to note that NGOs and CSOs that work with youth, women and other often marginalised groups are part of the LA.
	P2	Groups/individuals identified are engaged through appropriately tailored means	**Yes.** Targeted engagements are planned with the ways of working of different stakeholders in mind. For example, a breakfast meeting was used to deliver research findings on the effects of climate change on coffee in Uganda to policymakers from the NARO, CCD and MAAIF, while workshops are often organised for stakeholders from NGOs and CSOs.
ENGAGEMENT	P3	2 parts: All target groups/individuals are actively participating in the project g. All target groups /individuals are actively participating in the process *h. Facilitator role identified as trusted and effective by all parties*	a. **Yes.** Although the LA has diverse stakeholders (including from government ministries, departments and agencies, NGOs and CSOs, media, academia, research, cultural institutions, and consultancies) there have been cases where LA members have suggested other stakeholders. For example, in Rakai, people wanted the environmental police who are responsible for law enforcement to be part of the LA. There is also a challenge on how to interest the private sector to join the LA. The private sector in most cases wants to see tangible benefits, not the soft benefits that the LA promotes. The CCD, whose mandate is to coordinate climate change issues in Uganda, has taken an active role in the LA. The CCD commissioner attends most of the LA engagements and in early December 2015, the department led a dissemination campaign on climate change targeting LA members in Nwoya districts. The Ministry of Agriculture, Animal, Industry and Fisheries' (MAAIF) climate change task force in Uganda is taking a lead role in developing climate change mainstreaming guidelines in the agriculture sector while the Vice President's Office in Tanzania is leading processes involved in the scenario-guided policy review of the National Environmental Policy against the CCAFS East African socioeconomic scenario recommendations. b. **Yes.** Feedback from the evaluation assessments indicates that LA members are happy with how meetings are facilitated. LA meetings are facilitated in such a way that cultivates trust and

		respect for one another's ideas. Participants feel free and openly share their experiences in plenary, group discussions, tasks and on a one-to-one basis during tea breaks.
P4	*Emergence of champions is fostered*	**Yes.** Champions are emerging from the LA. Organisations are committing resources to facilitate activities. Organisations offered meeting space in the preparatory meetings and co-funded the workshops that engaged the stakeholders from the National Planning Authority and MAAIF to review the Agricultural Sector Strategic Plan (ASSP) using the CCAFS East African socioeconomic scenarios.
L1	[Cognitive] Knowledge of the problem enhanced by interactions	**Yes.** The use of research evidence presented during the meeting to generate action plans is an example. Stakeholders in the district LAs were also able to zone their districts into agro-ecological zones. Subsequently enterprises were prioritized for the different zones. Specific CSAs will then be developed for the identified enterprises. Activity evaluations also reveal that the stakeholders acquired new knowledge from the LA meetings.
L2	[Relational] p. Engagement has led to better relations between target groups/individuals *q. Trust created* *r. Engagement has led to awareness and valuing of other stakeholders*	a. **Hardly.** PACCA collected data for a social network analysis during the launch of the district LAs. It is yet to analyse these data for monitoring this indicator. See P3, the LA members have been able to link with the responsible government ministries, departments and agencies to do activities that promote CSA adoption. As indicated in P1, deliberate efforts have been undertaken to increase the representation of women and youth in the LA. b. **No evidence** c. **No evidence**
L3	[Normative] 2 parts: k. Different knowledge types successfully integrated l. Engagement has led towards a change in collective understanding of the problem and solutions	a. **Partially**. Several initiatives have been undertaken and evaluation reports attribute the attainment of knowledge to the LA engagement activities. b. **Yes**. See L1 on the development of action plans by the different LA thematic groups.
V1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**Partially**. See P4 on how organisations are beginning to commit resources to help achieve LA goals.

	V2	[Practice] 3 parts: p. New social networks established q. New initiatives and projects r. Empowerment of most vulnerable beneficiaries (communities) including women and children	a. **No evidence.** Baseline data for a SNA is yet to be analysed. b. **Partially**. The development of action plans by the different LA thematic groups demonstrates that the LA has appreciated the challenges and gaps limiting effective policy implementation and so taken a step to address the identified issues. A draft communication strategy for the LA is in place. The strategy highlights how LA members will communicate among themselves and to the outside world. c. **No evidence**
ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Yes.** Activity evaluations form an integral part of the LA meetings. Sessions dedicated to reflection and learning from past experiences are regular in the LA and for the project team.
	P6	*Learning and evaluation processes are supported and facilitated*	**Yes.** The project team facilitates the reflection and learning sessions. Feedback from the evaluation is compiled, analysed and shared with LA members.
	P7	Systems are in place to foster and implement new ideas	**Yes.** We do adaptive management within PACCA. As such, learning from past experiences and adopting new strategies/ideas if they can improve efficiency is what we love to do. We are cultivating a culture of learning and 'not being afraid to fail' within the LA. LA members develop their action plans and PACCA will help implement them.
	P8	Questioning the TOC itself and key assumptions is valued and happening regularly	**No.**
	P9	Questioning of values, norms and governance underlying problem is valued and happening regularly	**Partially.** This occurs frequently, eg the issue of political interference in implementing policies has come up in plenary discussions in most meetings. People believe that one of the reasons why policies are not effectively implemented is because the technocrats and politicians send contradicting messages; eg planting eucalyptus in wetlands is not advised by the technocrats but the politicians still give licences to the rich in some districts like Rakai. Whenever policymakers are invited to LA events, the LA members take the opportunity to ask why things are not happening in the way they expect. LA members also take advantage of any opportunities in the national development planning process to serve as an entry point for the learning alliance engagement activities.
	L4	[Cognitive] 2 parts: k. Results of learning/evaluation are incorporated into the project strategy	a. and b. **Yes**. See P5 and P7.

		l. Creative solutions and innovations are developed	
	L5	[Relational] *Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups*	**Hardly.** Data have not been collected specifically for this. However, for all the mixed groups in the LA to work together and come up with joint plans and action on how to improve policy implementation in each country demonstrates L5. Also, in several LA forums, members have recommended the involvement of other stakeholders eg in the district platforms, members advocated that law enforcement officers such as the environment police be integrated into the LA. Recommendations to have cultural and religious leaders, women and youth groups have been very frequent in LA forums.
	L6	[Normative] Participants understand the need for alternatives and room to fail	**Partially.** This is emphasised a lot in the LA (room to fail). Action plans are regarded as living documents.
	V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**No evidence.** The reflection meeting assessed the perceptions on the performance of the LA among others.
	V4	*[Practice] Wider stakeholder groups relate to each other differently*	**No evidence.**
	V5	*[Value] The need for alternatives and room to fail is evident in other projects/programmes*	**No evidence.**
	V6	[Practice] Alternatives and room to fail are built in to other projects/programmes	**No evidence.**
CAPACITY DEVELOPMENT	*P10*	*Capacity development activities are integrated into the project/programme*	**Yes.** All engagement activities have a capacity building component embedded in them.
	P11	Capacity development activities target all participants in appropriate ways (eg governments, farmers, scientists)	**Yes.** The capacity building initiatives not only target policymakers but also other stakeholders in the LA (government officials, NGOs, CSOs, scientists, media, academia, cultural institutions, etc).
	P12	Capacity needs are determined collectively in a bottom-up manner	**Yes.** Formal and informal capacity needs assessments are conducted to determine the needs of LA members. Capacity building initiatives are created based on members' needs. In late November, 2015, a capacity building training on 'creating policy awareness and communication strategies' was held.
	P13	*Capacity development needs are systematically integrated into all project components*	**Yes.** See P10.

	L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**Partially**. A knowledge, attitude and skills (KAS) study was carried out with LA members at national and district levels. Preliminary analysis of the results indicates that there are varying knowledge levels on climate change (impacts and adaptation options) and policy processes.
	L8	[Relational] Increased understanding between different participant groups of different needs and perspectives	**Partially.** Both the stakeholders from government and nongovernment understand each other's ways of working.
	L9	*[Normative] Increase in collective challenging/understanding methods of building capacity for particular stakeholders*	***No evidence.***
	V7	[Value] More informed stakeholders	**Yes.** There is evidence of changes in knowledge acquired as a result of participating in the learning alliances. This has been reported in some of the LA activity evaluation reports.
	V8	[Practice] 2 parts: k. Capacity development leads to different groups working together better l. Capacity development leads to changes in practice that reflect a better understanding of the problem and solutions	**No evidence.**
CHALLENGING INSTITUTIONS	P14	Key individuals/institutions who will support/champion change are identified	**Partially.** See P4.
	P15	A change strategy is developed, including mapping of existing norms and endogenous processes	**No evidence.**
	P16	*Existing norms and endogenous processes are mapped*	**No.** But the mandates of the different institutions are recognised and respected.
	P17	Key institutions are challenged to make changes that facilitate social learning	**Hardly.** The CCD, whose mandate is to coordinate climate change activities within the country, has always been tasked to give updates on the achievements made by the department as well as other emerging issues eg feedback from COP21.

L10	[Cognitive] Project participants understand the particular opportunities and barriers	**Partially.** Stakeholders make use of any opportunities presented to them, eg seizing policy windows. Action plans have been developed to address some of the barriers to implementing policy.
L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving (social learning)*	**No evidence.**
L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**No evidence.**
V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**No evidence.**
V10	[Value] Challenges lead to changes in institutional openness towards SL-orientated approaches (evidenced in eg attitudes, conflicts)	**No evidence.**
V11	[Practice] Challenges lead to changes in institutional support for SL-oriented approaches (evidenced in eg policy/roles, and resources made available for implementation)	**No evidence.**

Potato Park-International Potato Center-ANDES Agreement

Climate Change Social Learning (CCSL) case study on the repatriation of native potatoes

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1. Key findings

- **Overview.** This case study explores the social learning processes of a ten-year agreement for native potato repatriation and collaborative research between CIP and indigenous communities of the Potato Park in the Peruvian Andes, and assesses their impact on food security, climate adaptation and sustainable development.
- **Engagement.** A targeted, tailored engagement approach secured active engagement of community members — including women and youth — in designing the agreement, and thereafter in implementing and designing activities. Access to new knowledge by each stakeholder group, and comparison and validation of knowledge, led to improved understanding of problems and solutions, helped to build trust, and led to greater awareness and valuing of the knowledge and practices of other groups.
- **Iterative learning.** Several examples of collective, iterative learning can be found in the activities leading up to the development of the agreement and in the research activities conducted under the agreement. The agreement itself is structured flexibly to allow incorporation of new findings, ideas, and understanding that emerge.
- **Capacity development.** Initial capacity building provided to communities to help them negotiate the agreement were crucial. During the project, capacity building was a two-way process between scientists and farmers; farmers then provided capacity building to farmers in other communities not directly involved.
- **Challenging institutions.** The agreement has led to effective challenging of institutions and norms: scientists now recognise the value of traditional knowledge and collaborative research with communities, and community members beyond those directly involved with the project have adopted conservation plans. Remaining limitations include no institutional funding for the agreement and limited spread of the effects of institutional challenging to other CIP offices.
- **Conclusion.** Social learning processes have contributed to a number of important conservation and development outcomes. Key factors in the success of the agreement include the ability of a CIP scientist to speak the local communities' language, which was crucial for integrating traditional knowledge; investment in capacity building; and facilitation by the NGO ANDES, which ensured active farmer participation and an equitable partnership.

2. Project map

3. Project description

This case study explores the social learning processes of a ten-year agreement for native potato repatriation and collaborative research between CIP and indigenous communities in the Peruvian Andes, and assesses their impact on food security, climate adaptation and sustainable development.

The Agreement for the Repatriation, Restoration and Monitoring of Agrobiodiversity of Native Potato and Associated Community Knowledge Systems between CIP, ANDES and the Association of Potato Park Communities (in Pisac, Cusco, Peru), was first signed in December 2004. Through this historic five-year agreement, the CIP gene bank has returned 410 germ-free native potato cultivars to the six Potato Park (PP) communities for food security and in-situ conservation of genetic resources. These varieties were collected by CIP scientists from communities in the area in the 1960s, but had since been lost from the communities through genetic erosion. This is the first such repatriation from a gene bank to communities, recognising the importance of in-situ-ex-situ links for food security and climate adaptation.

A second five-year agreement was signed in 2010, which involved collaborative research activities to monitor and test the repatriated potato varieties and this is where most of the social learning took place. The Repatriation Agreement has enabled social learning through knowledge sharing and direct research collaboration between scientists and indigenous farmers, two groups which do not normally interact as co-researchers. Asociacion ANDES, an NGO that works closely with the Potato Park

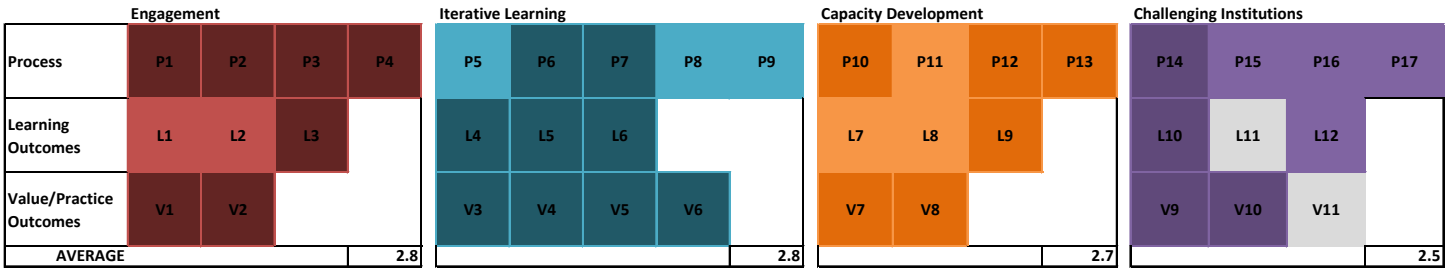
communities, is also party to the agreement and has played an important role in capacity building and facilitation to enable the indigenous farmers to engage in collaborative research with CIP scientists.

The agreement has enabled CIP to contribute directly to development outcomes, by enhancing food security, climate change adaptation, economic opportunities, scientific understanding and social cohesion of poor indigenous farmers in the high Andes. It has restored genetic diversity, establishing an evolving gene bank for adaptation, with about 650 different potato varieties (or about 1344 varieties according to traditional morphological classification). The agreement is historically significant because for the past 200 years or more, the flow of genetic material has largely been from communities to gene banks, and, once transferred, communities have had very little access to the traditional varieties they have domesticated, improved and conserved over centuries. In some cases, genetic resources have been used for research and development or transferred to third parties, sometimes resulting in the acquisition of private intellectual rights over traditional varieties or new varieties bred using them. Thus, for the Potato Park communities, a key objective was to enable a reciprocal (ie two-way) exchange, and enhance the recognition of their rights over native potatoes collected from their communities. CIP has also gained about 200 native potato varieties for its collection and is advancing its own scientific agenda through collaborative research with the Potato Park communities.

The agreement is one of the few examples where the usually separate formal and informal seed systems are collaborating directly for mutual benefit, with active community participation in research processes, from design to analysis. This equitable research partnership between indigenous farmers and scientists has linked science and traditional knowledge, and global and local knowledge, for a better understanding of climate change and food security problems and solutions. Active participation of farmers has also ensured a high level of commitment to reaching the project goals, a key factor in ensuring the project's success. Social learning has been an inherent and necessary part of this process.

This social learning assessment provided an opportunity for the Potato Park and CIP to discuss and evaluate the outcomes of the Repatriation Agreement, and to inform a possible new five-year agreement. The assessment focused on the social learning impacts of the agreement, bringing together key actors from CIP, the Potato Park and ANDES, to identify key moments of knowledge exchange and co-creation of knowledge, evaluate the impacts of such actions on practice and institutions, and assess whether using different types of knowledge benefits the achievement of development outcomes (rather than using academic research alone).

4. Snapshot against CCSL indicators



5. Social learning results

The indicator table below provides the detailed results of the assessment against each indicator, and the key findings are summarised in this section.

The pre-agreement activities involved all parties in developing the idea, content and format of the agreement. The agreement includes objectives on conservation, protection of community resources and knowledge, collaborative research, and rural development. In the development of the first phase of the agreement, capacity building and social learning were intended to be key components in dynamic

conservation[6] and collaborative research, and it was in implementing these aspects of the agreement during the second phase that most of the social learning processes took place.

CIP and the PP are jointly responsible for dynamic conservation, combining activities in situ and ex situ. Both organisations recognised the contributions of scientific and traditional knowledge (TK) to potato diversity characterization, conservation, climate change research, and to the related learning processes. Fieldwork was conducted in Quechua, as an important carrier of TK.

Engagement

Score: 2.8

P1	P2	P3	P4	L1	L2	L3	V1	V2

A targeted, tailored engagement approach secured active engagement of communities in designing the agreement, and thereafter in implementing and designing activities. Farmers involved included women and youth. Access to new knowledge by each party, and comparison and validation of knowledge, has led to improved understanding of problems and solutions. The agreement has helped to build trust between CIP scientists and indigenous farmers and led to greater awareness and valuing of the knowledge and practices of farmers by CIP scientists and vice versa. It also led to stronger cohesion, knowledge sharing and collaboration among the PP communities.

The agreement secured active engagement of five Potato Park communities in implementing and designing activities, with technical support and training from ANDES and CIP. In total 49 indigenous farmers were directly involved, including women and youth.

CIP's micro-level approach to potato breeding and cultivation was complemented by the holistic approach taken in the PP, where the spiritual, natural, social and economic aspects of food systems are considered important — with mutual learning taking place between the two organisations during the process. Similarly, CIP's scientific characterisation of potatoes was complemented by TK of names, mythology, rituals, uses, agricultural practices, soil and climate conditions. The Potato Park farmers provided complementary knowledge, for example on where potatoes used to grow, and which type of soil favours different varieties. Access to new knowledge by each party, and comparison and validation of knowledge, has led to improved understanding of problems and solutions.

ANDES played an important role in ensuring active community participation, including in designing the agreement, by using indigenous research methodologies, and communications systems and formats compatible with indigenous knowledge. Oral and visual approaches to research — such as storytelling, songs, poems and legends that reflect customary laws and do not separate the artistic from the functional — were used to identify concepts and values associated with equity, which were then used as the basis of the development of the agreement. ANDES also supported previous and parallel farmer-led action-research processes, which strengthened farmers' capacity to engage in co-research with CIP scientists. CIP actively engaged the farmers in designing some activities, such as transects. The agreement has helped to build trust between CIP scientists and indigenous farmers and led to greater awareness and valuing of the knowledge and practices of farmers by CIP scientists and vice versa. It

[6] Dynamic conservation refers to the complementarity between approaches *in situ* and *ex situ*. *In-situ* conservation allows genetic diversity to be maintained in farmers' fields and landscapes within evolutionary processes for crop adaptation, while *ex situ* conservation strategies, such as community seed banks, allow for longer-term storage to maintain the availability of quality seeds.

also led to stronger cohesion, knowledge sharing and collaboration among the PP communities through a new inter-community group of potato experts to manage the potato collection; and with other communities in Lares, Vilcanota, Lamay and Paruro, through sharing of potatoes.

Iterative learning

Score: 2.8

P5	P6	P7	P8	P9	L4	L5	L6	V3	V4	V5	V6

Several examples of collective, iterative learning can be found in the research activities conducted under the agreement between CIP and the Potato Park, and in the activities between ANDES and the Potato Park leading up to the development of the agreement. The agreement itself is also structured flexibly to allow incorporation of new findings, ideas, and understanding: the organisations involved commit to projects annually but the design of these projects is dynamic.

Specific examples of iterative learning in the agreement between CIP and the PP include:

- Dynamic conservation activities, involving:
    - collaborative learning on climate conditions and trends, movement of pests and diseases in relation to crops and altitudinal ranges, pest control using traditional and modern methods, use of new technologies and TK for evaluating ideal conditions for crops, and
    - integration of new techniques for positive selection, pollination, seed production, and seed storage in traditional agricultural systems.
- Increased crop diversity resulting from the agreement has provided more options in the face of increased pest infestation, and other changing climate conditions. In the past 30 years, the lower planting line at which potatoes can grow has moved up by 200 metres due to increased pests, correlated with rising temperatures. Elimination of lower plots has been based on co-research demonstrating poor production at lower altitudes. The trial plot results are jointly analysed after the harvest is weighed, with both farmers and scientists providing the reasons they believe explain the results. Thus, both traditional and scientific knowledge inform the understanding of both parties, and this enriched understanding is used to define the next steps. This is a clear example of iterative learning.
- Flexible planning and review: Yearly new challenges arise which were either not thought about or were a result of exchanges from the previous year. PP communities, ANDES and CIP commit to projects annually, but the projects are never so fixed in design that they cannot accommodate new ideas or interests. Adding plots of wild relatives of potatoes in 2016 along the transect is a good example of this dynamic and flexible approach to understanding, as well as redefining, the questions posed. Through the agreement, CIP scientists have learned to better appreciate the value of using an idea as a spark to build a project rather than developing an idea into a project and presenting this to the communities; and to take a broader landscape approach and not be blinded by conventional needs for data collection methods. They have learned from looking at and analysing the results through a different lens, which has also been beneficial to other projects.
- The agreement also led to collective learning between ANDES and the Potato Park communities, for example through the co-development of a community biocultural protocol for benefit sharing based on customary and formal laws, to guide the distribution of repatriated potatoes. This process

included identifying and documenting core customary norms and values that guide sharing of resources and knowledge within and between communities, and traditional mechanisms for redistribution. Collective learning among the different communities of the Potato Park was fostered by identifying and analysing customary norms and values, building consensus and developing the agreement collaboratively, and by allocating responsibilities to the Association of Communities of the Potato Park, as the inter-community institution responsible for implementing the agreement.

Capacity development

Score: 2.7

P10	P11	P12	P13	L7	L8	L9	V7	V8

ANDES provided initial capacity building to Potato Park communities to help them negotiate the agreement and understand concepts relevant to working with CIP. During the project, capacity building was a two-way process between CIP scientists and Potato Park farmers. Farmers then provided capacity building to farmers in other communities.

Capacity building has been a two-way process. CIP has provided scientific training to the farmers (on potato conservation, characterisation, pollination, integrated pest management, natural fertilisers, botanical seed production and seed storage). Through the collaborative research process, farmers have taught CIP scientists about the Andean holistic worldview and the importance of macro-level factors, concepts of reciprocity, and cultural aspects of potato cultivation. ANDES provided capacity building to the PP communities for negotiating the agreement and on associated conservation, rights and economic development aspects. ANDES also worked with PP members to develop new products based on reintroducing repatriated varieties. The Potato Park farmers trained another 187 farmers in twelve communities with whom they shared the repatriated seeds.

Challenging institutions

Score: 2.5

P14	P15	P16	P17	L10	L11	L12	V9	V10	V11

The agreement has led to effective challenging of institutions and norms: CIP scientists in Lima now recognise the value of traditional knowledge and collaborative research with communities, and some Potato Park families beyond those directly involved with the project have adopted conservation plans. Remaining limitations include no institutional funding for the agreement, which is an obstacle to promoting institutional change within CIP, and limited spread of the effects of institutional challenging to other CIP offices.

The agreement has started to challenge institutions and norms, by raising awareness among wider stakeholder groups, beyond the direct participants. Although only two people in CIP have been directly involved — the director of the gene bank and curator of cultivated potato — they are involved in awareness-raising on the importance of traditional knowledge and in-situ conservation. Within CIP, most scientists now recognise the value of traditional knowledge and collaborative research with communities, particularly those in Lima. Institutionally, the agreement has raised awareness of the benefits that can be derived from working with communities. CIP sponsored PP farmers to visit CIP in Lima to exchange seeds, so there is now institutional recognition of the agreement, and the potato repatriation programme at CIP has been extended to other Andean communities in Peru. But there is no institutional funding for the agreement, which is an obstacle to promoting institutional change within CIP; and recognition of the value of TK may be more limited in other CIP offices (for example, in Africa). Within the Potato Park, a number of families — not only those directly involved — have adopted conservation plans and strategies because of the agreement, totalling 351 families in five communities. The agreement has also helped to shift the values and practices of other institutions not directly involved, by opening spaces for ANDES and the PP communities to work with government agencies in Peru, international processes (such as the FAO Treaty) and scientists from other institutions and universities.

6. Summary: social learning challenges and lessons learned

The repatriation agreement and associated collaborative research and social learning processes have led to a number of important conservation and development outcomes:

- **Biodiversity and in-situ conservation**. The reintroduction of 410 repatriated varieties has increased potato diversity in the Potato Park from around 240 to 650 varieties, creating one of the highest levels of potato diversity anywhere in the world, which has been conserved by the communities.
- **Best practices**. Co-management of native potatoes has generated best practices for in-situ conservation, sustainable use, increasing productivity and diversity, in-situ-ex-situ links and dynamic conservation.
- **Increased yields**. CIP reports a 21 per cent increase in yield due to repatriated varieties and production based on clean seeds, while farmers estimate as much as a 50 per cent increase.
- **Food security and climate adaptation**. The agreement has established a large evolving gene pool for climate adaptation, and enabled farmers to increase on-farm crop diversity to reduce the risk of crop failure. It also facilitated seed production for depositing the Potato Park's seed collection in the Svalbard Global Seed vault, for food security of the communities and the world as a whole. This concrete outcome has also enabled recognition of the PP communities in the global stage of conservation of genetic resources.
- **Traditional knowledge and cultural practices**. The return of traditional potato varieties that the communities had lost has led to a revival of the traditional knowledge, beliefs and practices associated with the repatriated potatoes, through the memory of the elders. It has also promoted traditional agriculture by diversifying the native varieties available. The use of local researchers as leaders and Quechua language in the activities has helped to maintain traditional knowledge and language.
- **Economic development**. 61 repatriated potato varieties are being used to develop 11 new 'biocultural' products: chocopapa (chocolate with potato flour), starch, papa sour, prepared food and drinks, and natural products (including potato shampoo). The agreement has also contributed to enhanced revenues from tourism, the Potato Park's largest and growing revenue stream. These economic impacts are reflected in a recent survey of four Potato Park

communities, which found a steady increase in income between 2003 and 2012, when income exceeded expenditure for the first time[7].

- **Rights and benefit sharing.** Ensuring genetic resources and knowledge remain under the custody of the communities and do not become subject to IPRs in any form is an objective of the agreement. The agreement has increased the Potato Park communities' understanding of their rights to genetic resources and traditional knowledge and related policies; their capacity to protect their rights through community register databases of TK developed by ANDES; and led to an inter-community agreement for benefit sharing.

Lessons learned

Key factors in the agreement's success include: the ability of a CIP scientist to speak Quechua, which was crucial for integrating traditional knowledge; investment in capacity building by both CIP and ANDES; and the facilitation role of ANDES, which ensured active farmer participation and an equitable partnership.

While the agreement has increased understanding between scientists and farmers of their different needs and perspectives, there are still some challenges in facilitating co-learning processes, sharing of information, and joint decision making. Regular communication through monthly meetings, and working together, supports information sharing and increased understanding, although CIP's time in the field is quite limited. A more systematic process for documenting, storing and sharing information and results of collaborative research is needed. The PP farmers feel that more efforts are needed to ensure traditional knowledge is clearly documented and accessible, as well as scientific knowledge. The farmers also feel that access to information, especially on the purpose and results of collaborative research managed by CIP, could be improved, and that this would strengthen social learning and enable research results to be more broadly tested and implemented.

Next steps

The agreement's benefits and challenges as identified in this social learning review are being considered in ongoing negotiations on the signing of a third agreement. Although the agreement is quite broad and includes areas on learning, policy and research, most of the focus so far has been on repatriation and diversity conservation. For a third phase, the parties are considering maintaining the same basic terms of the agreement, but also developing a work plan that focuses more on longer-term collaborative research. The work plan would also address issues such as improved facilitation of the learning processes and more complete and systematic sharing of information resulting from the collaboration.

The repatriated potato varieties continue to be maintained in the Potato Park collection, and shared among communities in and beyond the park. Farmers will also use their new knowledge of botanical seed production to produce clean seeds for commercial purposes (through a community seed enterprise).

The learning that took place through implementing the agreement has been shared more widely through farmer-to-farmer exchanges and educational visits to the Park, as well as in national and international policy workshops. It could also serve to support farmers interested in accessing genetic resources from other gene banks, for example for corn or rice, and as a model for replication by CIP and other CGIAR institutes to enhance food security and climate adaptation by indigenous farmers and national agricultural systems.

[7] Asociacion ANDES (2016) Resilient farming systems in a time of uncertainty: Biocultural innovations in the Potato Park, Peru.

Indicator table

	#	Process indicators	CIP-ANDES-Potato Park results
ENGAGEMENT	P1	The target groups/individuals are identified through an inclusive process, and women, youth and other disadvantaged groups are identified and targeted	**Yes.** The participants in the repatriation agreement activities were identified through an inclusive participatory process by community assemblies, and the activities involved indigenous peoples, women and youth. In total, 49 indigenous community members participated directly in repatriation activities: 10 potato experts from the 'Papa Arariwa' group, 8 local research coordinators ('Tecnicos Locales'), 15 community leaders/authorities from 5 Quechua communities in the Potato Park, and 16 members of the gastronomy and other potato related micro-enterprises. The communities chose the local research coordinators and potato experts. These groups include men and women, elders and youth, but these actors are not evenly distributed among the diverse groups. For example, Papa Arariwa and local technicians are predominantly men, while gastronomy participants are mainly women.
	P2	Groups/individuals identified are engaged through appropriately tailored means	**Yes.** CIP scientists and farmers engaged in agricultural practices under the agreement according to the community's social norms; for each activity implemented, approval was given by the Association of Potato Park Communities and by individual communities. ANDES explained research and legal issues to the communities using local concepts and methods. Use of indigenous methodologies, visual and oral tools and methods, translation, and regular use of Quechua language, by both ANDES and CIP, made activities appropriate for different language and literacy skills.
	P3	All target groups are actively participating in the project Indicator used: All target groups actively participated in the definition of the problem, design and implementation of the research, analysis and decision making	**Yes.** Potato Park communities participated actively in defining the problem and developing the agreement. Before the agreement was signed, ANDES held discussions on the importance of potato diversity with several communities, and organised workshops on related intellectual property and access and benefit-sharing issues. ANDES also held discussions with the communities on the guiding principles for the agreement, and to review the draft agreement. The communities participated actively in implementing repatriation activities, with technical support and training from ANDES and CIP; and in designing some activities (such as transects), but felt that their participation was not very active in the design of other research activities. Communities participated in the collection of local cultivars, determination and conservation of genetic diversity, determination of production and yield of seed banks; construction of basic facilities for conservation; and implementation of field trials. CIP: active participation in desiging research, analysis, and decision making. ANDES: active participation in defining problems and developing the agreement.

P4	Emergence of champions is fostered (for engagement to be self-sustaining) Indicator used: Investment in capacity building for effective participation of community members in the implementation of the agreement at all levels	**Yes.** CIP personnel active in capacity building processes in agricultural practices. ANDES provided funding and personnel for capacity building activities throughout process (on rights, conservation, economic development).
L1	[Cognitive] a. Knowledge of the problem enhanced by interactions b. Increased level of understanding of themes of rights/laws	i) **Yes.** Farmers and scientists gained a better understanding of how soil pests are affecting potatoes at different altitudes through interaction. **ii) Partial**. Farmers have increased understanding of their rights over genetic resources and traditional knowledge, and are aware of a number of relevant regional, national and international policies through capacity development activities by ANDES. Participants shared learning at community assemblies, raising awareness in their communities. Learning modules on issues related to repatriation were developed for Farmer Field Schools. Understanding is increased among active participants, but less so among other community members, despite the awareness-raising activities at the community level.
L2	[Relational] s. Engagement has led to better relations between target groups/individuals t. Trust created u. Engagement has led to awareness and valuing of other stakeholders	d. **Yes.** The agreement led to stronger coordination and relationships among the Potato Park communities. Communities that previously had conflictive relations had already joined together to collectively manage the Potato Park by establishing an Association of Potato Park Communities, and within that entity, came to collective agreement on managing and distributing the repatriated potato varieties. The repatriation agreement led to a new inter-community group of potato experts linking the communities and bringing them closer together. Papa Arariwa was formed to manage collection, with membership from all communities of the Potato Park, although more from communities at higher altitudes, where potatoes are more important and there is more diversity of potatoes. The agreement also strengthened relations between park communities and other communities, through the wider sharing of repatriated potatoes. Communities in Lares, Vilcanota, Lamay and Paruro have received seeds and technologies from the Potato Park. e. **Partial.** The agreement has helped build trust between the farmers and CIP scientists, and strengthened trust between farmers from different communities. The perception of farmers from the Potato Park is that there has been limited information sharing on the part of CIP, especially on the purpose and results of some of the collaborative research activities CIP managed. Data downloaded by CIP from the weather station in the Potato Park over several years and the results of the transect research have not been shared with the Potato Park or ANDES, despite repeated requests.

		f. **Yes.** Participation in the agreement activities has led to greater awareness and valuing of CIP scientists by PP farmers, and vice versa. CIP scientists better understand the value of TK and the importance of native language as a carrier of TK.
L3	a. Different knowledge types successfully integrated b. Engagement has led towards a change in collective understanding of the problem and solutions	**a. Yes.** Both CIP and the PP communities recognised the contributions of scientific and traditional knowledge for potato characterisation, conservation and climate research. CIP's scientific characterisation of potatoes was complemented by TK of names, mythology, rituals, uses, agricultural practices, soil and climate conditions. Repatriated material was grouped according to TK on uses (for example, cooking methods, taste, texture) and information on uses was documented for CIP databases. Traditional and scientific knowledge wer used together to explain the test plot results, and to design a community genebank. CIP's micro-level understanding and approach to cultivation and breeding was complemented by the farmers' holistic macro-level understanding, to incorporate both science and a holistic worldview that considers the interaction of the sky, earth, water, family, and spiritual world – all of which impact how an object, concept or conclusion is perceived. Fieldwork was conducted in Quechua as an important carrier of TK. Use of communication systems and formats compatible with indigenous knowledge helped TK-holders engage in research. **b. Yes.** Access to new knowledge by each party, and comparison and validation of knowledge, has improved collective understanding of problems and solutions relating to agriculture and climate change, for example, through joint analysis of potato transect plot results. Potato Park farmers explained the Quechua names of native potatoes, the reasons for them, and the myths, histories and local uses of each variety. They showed their spirituality related to potatoes, the mountain gods and Mother Earth; and explained where the native potatoes used to grow at the lower, mid and high altitudes and why; and which type of soil favors different varieties. Co-management of native potatoes generated best practices for conservation, sustainable use, increasing productivity and diversity, in-situ-ex-situ links and dynamic conservation.
V 1	[Value] Engagement leads to increased commitment on the part of target groups/individuals in reaching the goal of the project	**Yes**. The repatriation of potatoes from CIP increased the commitment of the communities to work together within the Potato Park and with other indigenous communities to conserve the existing diversity of potatoes in their communities together with the repatriated varieties. On the part of CIP, without the engagement with the communities, the project would likely not have continued at the level it has. Part of the goal has been to build capacity within the communities to evaluate and use potato sources and types of diversity not presently used in the Park. The evaluation of this diversity is ongoing and the goal of repatriating native potato varieties has been successfully met. Facilitating the production of seed so that the communities' genetic resources could be securely stored at the Svalbard Global Seed Vault has also been successful.

	V2	[Practice] 3 parts: a. New social networks established b. New initiatives and projects c. Empowerment of most vulnerable beneficiaries (communities) including women and children	a. **Yes.** A new network of potato experts in different PP communities was established (Papa Arariwa). The conservation of potato diversity, including repatriated varieties, has also strengthened the PP's relationship with other communities, farmers' federations, and municipal and regional governments. b. **Yes**. Plans are underway to sign a collaborative agreement with INIA (the National Institute for Agricultural Innovation in Peru) with a focus on participatory plant breeding for drought- and frost-tolerant varieties, training, expert support and transfer of high value materials. The first transfer of five commercially valued potato varieties from INIA took place in 2016. c. **Yes.** Indigenous farmers have been empowered through new scientific knowledge and new understanding of their rights; and through improved capacity to conduct collaborative research directly with scientists. Indigenous women have been empowered through new economic opportunities resulting from the repatriated potatoes.
ITERATIVE LEARNING	P5	Cyclical, inclusive learning and evaluation 'moments' are available for the group	**Partial.** Most iterative learning took place in conservation and collaborative research activities: co-management of local potato collection; dynamic conservation; integrated crop and pest management; potato diversity characterisation; design and implementation of seed facilities; research on climate change; development of biocultural products; and rights, customary laws and policy. For example, for transect plots, the results were evaluated jointly and decisions about next steps were made together by farmers and CIP. Lower plots were eliminated after collective evaluation. The first year of transects led to the design for the second year based on collective discussion, and the third year design has been modified based on collective discussion of the second year results. The farmers, however, felt that there was limited access to information, especially on the purpose and results of collaborative research managed by CIP. Another example of cyclical learning is ANDES and PdP's co-development of biocultural protocols for access and benefit sharing based on customary law and national and international norms, to guide the sharing of repatriated potatoes and of revenues from economic collectives among the PP communities. Regular workshops for exchanging information have occurred, for example a one-day workshop on potato anatomy and physiology and another on El Niño. These workshops provided an opportunity for an exchange of ideas and knowledge sharing.
	P6	Learning and evaluation processes are supported and facilitated	**Yes.** A number of experiments and collaborative research activities have been undertaken and have generated useful information: 1) characterisation of potatoes; 2) research on calcium in soil; 3) transects (growing potatoes at different altitudes); 4) integrated pest management techniques; 5) seed production and storage techniques. ANDES facilitated interaction between the Potato Park communities and CIP, for example to negotiate the agreement and do research activities.
	P7	Systems are in place to foster and implement new ideas	**Yes**. Adjustments were made jointly in activities after reflection: removal of the lowest plots from the rotation system, after evaluating pests and productivity at lower altitudes; and changes to seed production and storage techniques. Yearly new challenges arise which were either not

		thought about or were a result of exchanges from the previous year. PP communities, ANDES and CIP commit to projects annually; however, the projects are never so fixed in design that they cannot accommodate new ideas or interests. Adding plots of wild potato relatives in 2016 along the transect is a good example of this dynamic and flexible approach to understanding, as well as redefining the questions posed.
P8	Questioning the TOC itself and key assumptions is valued and happening regularly	**Partial.** Questions posed are redefined based on new understanding (see P7 above). In considering the renewal of the agreement between CIP, the Potato Park and ANDES, partners reflected upon new areas for research, capacity building and collaboration, which could be explored within the existing framework. For example, a specific programme on climate change will be implemented in the period of the new agreement.
P9	Questioning of values, norms and governance underlying the problem is valued and happening regularly	**Partial.** ANDES and the PP regularly question dominant values, norms and governance in conservation paradigms, such as sectoral approaches. This questioning has led to the development of a holistic landscape approach to conservation that integrates Andean concepts such as Ayllu, and buen vivir (wellbeing) in the Biocultural Heritage Territory model. Sometimes members of CIP, ANDES, and the PP seem to prioritise scientific knowledge and a micro-level approach to conservation.
L4	[Cognitive]: a. Results of learning/evaluation are incorporated into the project strategy b. Creative solutions and innovations developed	c. **Yes**. Changes were incorporated into agricultural practices, planning and strategies for resilience after reflection, including activities directly related to the agreement (for example, into the design of transects). See P7 above. d. **Yes**. A number of potato management practices and innovations were tested and adopted by farmers: increased number of native potato varieties cultivated**;** fields at lower altitudes not used for potato cultivation; production of botanical seeds for conservation; clean seeds produced for distribution to own communities and others.
L5	[Relational] Evidence as learning/evaluation takes place that people understand the reason to change relations and behaviours between people and groups	**Yes**. Communities of the Potato Park agreed to work more closely on conserving potato diversity by repatriating varieties from CIP. Reasons for this include realising the value of the existing diversity for present and future generations, and understanding the potential of working together to affect change in policy and practice. The learning from the repatriation process has helped ANDES, CIP and the Potato Park develop a shared vision and objectives related to dynamic conservation, and the Potato Park is used as showcase of how in-situ and ex-situ approaches can effectively complement each other, ensuring greater predictability, accountability and transparency in partnerships.
L6	[Normative] Participants understand the need for alternatives and room to fail	**Yes**. CIP and PP farmers gained a better understanding of problems and solutions, and of the value of collaborative research and dynamic conservation practices; and there was better uptake of research results when done collaboratively. One of the difficulties with the repatriation agreement is that it has no funding. Each one of the partners understands that the agreement requires considerable resources, and that each must make efforts to respond to the needs

			internally: the Potato Park provides in kind support; CIP provides for transfer of materials and technical support with existing programs and staff; and ANDES has secured alternative funding sources by including the repatriation activities within other project proposals.
	V3	[Value] Wider stakeholder groups understand the reasons to change their relations and behaviours	**Yes**. Most CIP scientists in Lima recognise the value of traditional knowledge. The agreement enhanced awareness of the value of TK and collaborative research with indigenous farmers among CIP scientist through visits by Quechua communities to CIP in Lima, and CIP press releases on the agreement shared with its offices in Africa. The two CIP scientists directly associated with this agreement have gained additional practical recognition of this value.
	V4	[Practice] Wider stakeholder groups relate to each other differently	**Yes**. A number of families in the Potato Park have adopted conservation plans and strategies because of the agreement (not only those directly involved), totalling 351 families in five communities.
	V5	[Value] The need for alternatives and room to fail is evident in other projects/programmes	**Yes**. 49 farmers in five communities (directly involved in the research) now recognise the importance of science and collaborative research with scientists. CIP has benefitted with improved understanding of traditional practices and traditional way of observing important factors that differentiate analysis of results. This increased understanding helps CIP scientists think of better ways to analyse and observe research results within other projects with indigenous communities.
	V6	[Practice] Alternatives and room to fail are built into other projects/programmes	**Yes.** Based on learning within the repatriation agreement, new techniques have been integrated into the agricultural system and other ANDES and Potato Park projects: techniques for pest control and increasing productivity; botanical seed production; systematic analysis of production (numbering varieties in the field, documenting results). The CIP scientists have learned to better appreciate the value of using an idea as a spark to build a project rather than to first develop an idea into a project and present this to the communities. The period of project development, design and scope have greatly benefitted from this in looking at a broader landscape approach and to not be blinded by conventional needs for data collection methods. To say room is built in to appreciate and learn from failures is not quite the approach but to learn from looking and analysing results from a different lens has benefited other projects.
ACAPACITY DEVELOPMENT	*P10*	Capacity development activities are integrated into the project/programme	**Yes**. Capacity-development activities for farmers were an important part of the project. CIP provided training on a number of topics: dynamic conservation; pollination; integrated pest management; natural fertilisers (calcium, humus, compost); germ-free potato seed production, and seed management and storage to support participation of the farmers in all aspects of the research. ANDES provided capacity building for negotiating the agreement, and on conservation, rights and economic development of repatriated material (enhancing economic use of potatoes was important to incentivise community participation in the agreement activities). ANDES provided capacity building on the technical, legal and policy content of the agreement for local leaders, authorities, government and Papa Arariwa, to ensure clear understanding of the

		implications of the project and collaborative research. In total, 49 Potato Park farmers were trained by ANDES and CIP (35 men, 14 women); 2 CIP scientists were trained by PP farmers; and the PP farmers trained another 187 farmers in 12 communities with whom they shared the repatriated seeds.
P11	Capacity development activities target all participants in appropriate ways (eg. governments, farmers, scientists)	**Partial.** Capacity development activities mainly targeted Potato Park farmers (see P10 above) and were facilitated by ANDES and CIP using appropriate approaches tailored to the needs of indigenous farmers. Through the collaborative research process, PP farmers taught CIP scientists about: the Andean holistic worldview and concept of wellbeing (Sumaq Kausay); working in the Andean principle of ayni (reciprocity); cultural aspects of potato cultivation (traditional practices, mythology, rituals, uses); and traditional biological and environmental indicators (including of climatic events). In return, CIP scientists taught PP farmers a deeper understanding of how and why, from a physiological and anatomical view, potato plants adapt, grow and respond to varying environments. ANDES' agronomists also participated in capacity development, especially in relation to transferring seed technologies from CIP to the Potato Park. Government officials were also targeted for capacity development through awareness-raising workshops on repatriation and seed policies within the context of national legislation.
P12	Capacity needs are determined collectively in a bottom-up manner	**Yes**. Collaborative workshops, with participation of the Potato Park, ANDES and CIP, are organised yearly to collectively identify capacity development needs, and an action plan is developed.
P13	Capacity development needs are systematically integrated into all project components	**Yes**. Capacity development activities related to the agreement have addressed agriculture and seed policy issues, dynamic conservation, in-situ and ex-situ conservation strategies, integrated pest management, and climate change. In this context ANDES and PP built a better appreciation for understanding the concept of 'ownership' of the traditional varieties, practices and knowledge.
L7	[Cognitive] Similar level of understanding of the problem by all stakeholders	**Partial**. The farmers and CIP scientists have different types of knowledge and understanding relating to the problem, but through the collaborative research process, a more shared understanding of the problem has been achieved. This is an area that continues to grow and evolve as a give and take between the parties.
L8	[Relational] Increased understanding between different participant groups of different needs and perspectives, and how to better work together	**Partial.** While there is increased understanding between scientists and farmers of their different needs and perspectives, there are still some challenges in facilitating co-learning processes, sharing information, and joint decision making. Regular communication through monthly meetings, and working together supports increased understanding, although CIP's time in the field is quite limited. Frequent meetings and communication facilitate sharing of information, but a more systematic process for documenting, storing and sharing information and results of collaborative research is needed.

	L9	*[Normative]* Increase in collective understanding of the best methods for building capacity for particular stakeholders	**Yes.** This is evolving and based on continued learning. The partnership has created opportunities for the Potato Park, CIP and ANDES to combine skills, expertise, and resources more effectively and develop the capacity to create evidence by cross fertilising traditional knowledge and science.
	V7	[Value] More informed stakeholders	**Yes.** Potato Park farmers are more informed about dynamic conservation, scientific aspects of potato cultivation and techniques relating to seeds, and about their rights and economic development of potatoes. 61 repatriated potato varieties are being used to develop 11 new 'biocultural' products: chocopapa (chocolate potatoes), starch, papa sour, prepared food and drinks, natural products (e.g. potato shampoo). CIP scientists are more informed about Andean culture and traditional knowledge (see P11).
	V8	[Practice] m. Capacity development leads to different groups working together better n. Capacity development leads to changes in practice that reflect a better understanding of the problem and solutions	c. **Yes.** Capacity development on scientific aspects by CIP has enabled farmers and scientists to work together better; as has capacity development of scientists by farmers to build understanding and respect for indigenous worldview, culture and traditional knowledge. ANDES has also strengthened the capacity of farmers to engage directly in equitable collaborative research partnerships with scientists through capacity building for farmer-led research and empowering research methodologies, both during the agreement period and before. d. **Yes**. 400 families received repatriated varieties, and 252 families continue to cultivate them for increased food security and climate resilience. CIP reports a 21 per cent increase in yield due to repatriated varieties, while farmers estimate as much as 50 per cent increase.
CHALLENGING INSTITUTIONS	P14	Key individuals/institutions who will support/champion change are identified	**Yes.** A number of key individuals were involved in implementing the agreement: 23 community leaders from the PP; directors, agronomists, educators, administrators from ANDES; and the head of gene bank, and curator of cultivated potato from CIP. Key individuals in the PP are involved in capacity development in their communities and policy processes outside their communities, attempting to promote change in social and environmental policies and practices. Although only a couple from CIP are involved in the implementation of this agreement, the director and curator of the gene bank at CIP are involved in raising awareness of the importance of TK and practices, and in-situ conservation as it relates to their aim of conserving agrobiodiversity. The agreement has led to increased cooperation and partnerships between the PP, ANDES and Regional Government Cusco, Municipality of Pisaq, Federation of Potato Growers, national ministries, and IIED on related issues. A Memorandum of Understanding has been established between the Potato Park, Lares and Vilcanota communities and others for distribution of repatriated potato varieties. The agreement has influenced Peruvian government agencies as officials to recognise the value of indigenous knowledge and management systems. INIA now supports the work of ANDES and

		the Potato Park to establish similar community-managed agrobiodiversity conservation areas respecting local livelihoods and cultural activities.
P15	A change strategy is developed, including mapping of existing norms and endogenous processes	**Partial.** A change strategy has been developed by ANDES centred on gaining the support of key government agencies and other communities (see P14 above), but a strategy for promoting institutional change within CIP has not yet been developed. The collaboration has, however, enhanced CIP's awareness of the values of repatriating potatoes back to the Andean communities and in the ten years that CIP has been working with ANDES and PP, the number of communities that have requested and participated in CIP's repatriation program continues to grow. This is at least in partial response to the agreement and the success with repatriation in the PP.
P16	*Existing norms and endogenous processes are mapped*	Refer to P15 above.
P17	Key institutions are challenged to make changes that facilitate social learning Indicator used: Increased level of institutional support at CIP for repatriation and collaborative research with farmers	**Partially**. Increased support for repatriation and research with farmers from CIP genebank; and increased support from CIP grants and contracts for developing repatriation agreements. CIP sponsored PP members to come to CIP to exchange potatoes, so there is institutional recognition of this agreement. As mentioned in P15, the repatriation programme at CIP continues to grow as the benefits and knowledge of repatriation grows within the communities and NGOs who are working directly with the communities. Institutionally, the agreement has raised awareness on a corporate level of the benefits that can be derived from working with communities. CIP directors and gene bank staff are eager to sign a new repatriation agreement with the PP, demonstrating support for the process within CIP. But there has been no institutional funding for implementing this agreement.
L10	[Cognitive] Identification of obstacles and opportunities for institutional change	**Yes**. Farmers can identify both obstacles and opportunities for institutional change and propose solutions to involved diverse stakeholders. Obstacles for institutional change within CIP include limited funding for PP conservation efforts, and lack of relation between CIP and community authorities. Opportunities for institutional change in the PdP include support from ANDES, CIP, IIED, Gore and the international reputation of the PP; and in CIP include potential collaboration with CCAFS, PIM and RTB.
L11	*[Relational] Key institutional and project actors share a common understanding of the problem and approach to solving it (social learning)*	

L12	[Normative] Institutions understand that a shift in values or practice is needed to foster social learning	**Partial**. The agreement has started to generate awareness of the importance of social learning among the two CIP scientists directly involved. It has helped to increase awareness more widely in CIP of the value of traditional knowledge and collaborative research with farmers (but not of social learning specifically): • CIP reports a high level of recognition of traditional knowledge among its staff, particularly in Lima. • Farmers coming to CIP in traditional dress has had visual impact, and raised awareness of the importance of TK. • A half-day workshop to develop technical skills for pollination and management of in-vitro plants was held for PP members at CIP. This opportunity arose because of the agreement, and there is interest in doing more of this in the field with youth. The direct outcome of this workshop was the involvement and recognition of the PP communities in the global stage of conservation of genetic resources through the deposit of the PP's seed collection in the Svalbard Global Seed vault. This is a very tangible outcome of the agreement. • Dissemination of the agreement by CIP-Lima through CIP press releases has enhanced recognition of the value of working with TK and indigenous communities amongst CIP offices in other countries, such as in Africa. The Potato Park–CIP agreement has also helped to shift the values and practices of other institutions not directly involved, opening spaces for ANDES and PP to work with governments and international processes (for example, the FAO Treaty) providing additional learning opportunities for Potato Park communities through cooperation with scientists from other institutions and universities on common goals, such as conservation and sustainable use of agricultural diversity.
V9	[Value/Practice] Reduced number and severity of barriers; increased number and potential impact of opportunities	**Yes.** As previously mentioned, the agreement has played a part in the increased repatriation of native potato varieties more broadly back to the Andean communities in Peru.
V10	Challenges lead to changes in institutional openness towards SL-orientated approaches (evidenced in eg attitudes, conflicts)	**Yes.** Challenges created by the evolution and implementation of international policy treaties on access and benefit sharing, traditional knowledge and seeds, including the CBD and the FAO International Treaty, lead to the search for collaborative responses; CIP responded within this framework and signed the Repatriation Agreement with the Potato Park and ANDES. The agreement has led to increased institutional openness and creation of trust between CIP and communities.

CONSERVATION OF TK AND PRACTCES	P18	Use of traditional frameworks for research	**Yes.** Quechua TK and spiritual practices were integrated into many of the dynamic conservation strategies applied by partners of the agreement. TK was used as the basis for action to restore and protect the mountain environment, to communicate the status of the territory, and monitor biodiversity and the quality of crops, soil, and availability of water. ANDES and the PP used traditional knowledge indicators such as observation of plants, weather and animal behavior, to provide early warning of potential climate impacts such as droughts, extreme events and outbreaks of pest and diseases. They developed community maps and traditional agricultural calendars, in ways that are compatible with Quechua knowledge, to capture and communicate indigenous knowledge useful for developing local solutions to social and environmental problems. Community mapping is also used to identify the cultural, spiritual as well as the economic values of their landscapes, and to identify potential problems in their production system, particularly those related to climate change. The application of TK and practices also served to preserve this body of knowledge and pass it on to younger generations.
	L13	[Normative] Revitalisation /strengthening of cultural practices, rituals, ceremonies	**Yes**. Following the return of native potatoes through the agreement, the Potato Park succeeded in having the National Day of the Potato declared by the government of Peru, working with various actors, including ANDES, CIP and national government bodies. This day is now used as an opportunity to organise diverse activities to celebrate native potatoes, and associated rituals and uses, as well as other cultural practices including agriculture, food, art, music, poetry and dance.
	V12	[Cognitive] Changes in the number of Quechua speakers	**No evidence.** However, participants believe that maintenance of language is supported by using Quechua for field work and research, including in the agreement activities.
	V13	[Practice] Changes in the status and trends in number of people who practice traditional agriculture	**Yes.** The agreement has brought back traditional potato varieties which the communities had lost, and this has led to a revival of the traditional knowledge, beliefs and practices associated with the repatriated native potatoes, through the memory of the elders. It has also promoted traditional agriculture by enriching and diversifying the native varieties available. At the same time, ANDES promotes the practice of traditional agriculture, which is a proxy indicator for the preservation of traditional knowledge and practices, and is particularly closely linked to customary sustainable use of biodiversity. The use of Local Researches (Tecnicos Comunales) by ANDES as leaders in the processes of learning, interacting, transmission of knowledge and practices, for all the Potato Park activities including those related to the agreement, ensures their constant renewal and re-enactment through cultural and social practices within, among and between indigenous people (inter-generationally and trans-generationally). The maintenance of the Potato Park as an agrobiodiversity conservation unit with a communal land-use and tenure system based on traditional knowledge and customary sustainable use also promotes the maintenance of traditional agriculture.

L14	[Normative] Legal frameworks and policies better recognise customary laws, institutions and practices and protect traditional knowledge	**Partial.** As part of the collaborative research related to the agreement, ANDES has developed community databases (Biocultural Registers) for recording TK and provided training on their use to protect indigenous knowledge and practices. Communities can use databases and registries as defensive protection against 'biopiracy' (the unauthorised use or misappropriation of traditional knowledge without benefit sharing). These databases and registries may also find use by communities in land title claims and defense against extractive industries. The agreement, along with the Potato Park's increasing economic revenues, led to the development of an inter-community agreement for benefit sharing, which uses customary laws and practices and provides incentives for conserving biodiversity and continuing indigenous practices. For example, it includes provision for investing the benefits in training and skills development for transmission of indigenous knowledge and practices and other kinds of capacity building. The transfer of Potato Park seeds to Svalbard Seed Vault was based on community rights to participate in the FAO Treaty on PGRFA multilateral system, to control the use of their own seed varieties, and to transfer and share seeds with others. This helps to promote recognition of customary laws and understanding of the rights of communities and the nation at the level of international policy.