

Social learning in practice: A review of lessons, impacts and tools for climate change adaptation

Working Paper No. 38

CGIAR Research Program on Climate Change,
Agriculture and Food Security (CCAFS)

Blane Harvey, Jonathan Ensor, Ben Garside,
John Woodend, Lars Otto Naess and Liz Carlile



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



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Contact:

CCAFS Coordinating Unit - Faculty of Science, Department of Plant and Environmental Sciences, University of Copenhagen, Rolighedsvej 21, DK-1958 Frederiksberg C, Denmark. Tel: +45 35331046; Email: ccaafs@cgiar.org

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Executive Summary

The aim of this report is to provide a detailed review of documented social learning processes for climate change and natural resource management as described in peer-reviewed literature. Particular focus is on identifying (1) lessons and principles, (2) tools and approaches, (3) evaluation of social learning, as well as (4) concrete examples of impacts that social learning has contributed to. This paper has sought to contribute to reflections on the role that social learning might play and the impacts it might have in supporting decision making on climate change, agriculture and food security.

Understanding social learning is important if we wish to respond effectively to increasingly complex and “wicked” problems such as climate change; to break down barriers between producers and users of research, and increase the capacity of organisations to learn. This study, conducted on behalf of the Climate Change Agriculture and Food Security (CCAFS) program of the CGIAR, offers a range of framings and evidence of successful social learning approaches. It reflects on how this evidence relates to the existing change areas already being pursued by the CCAFS programme and on the gaps that are revealed through an analysis of a bounded set of literature.

The report first (Section 2) provides a brief overview of how social learning has emerged and been defined in the field of climate change and natural resource management. The focus here is on some of the key uncertainties remaining about social learning and what specifically it can contribute to in practice. The study draws on a review of 24 peer-reviewed publications on social learning as well as five in-depth case studies carried out by the authors.

Section 3 reviews the findings from existing literature on the four themes noted above, building upon a systematic review and typology of social learning approaches developed by Rodela (2011), focusing on the three framings of social learning research based on the scale at which learning and change occur: individual-centric, network-centric and systems-centric. Some of the key findings from the literature review are:

- *Lessons and principles:* The vast majority of lessons across all three study groups are related to the process of undertaking social learning, rather than the selection of stakeholders or the wider policy or conceptual issues. Capacity- and trust-building processes are being recommended by many as key to successful engagement, as was the necessity of good facilitation for ensuring successful social learning. There is a notable absence of lessons on stakeholders among network-centric approaches, which may be attributed to their focus on pre-defined communities of practice.

- *Tools and approaches:* A key finding here is the fundamental role that face-to-face facilitation, in a range of forms, plays in creating opportunities for social learning. From specially designed conference approaches to more traditional role playing games, direct interaction between differently-situated stakeholders sits at the centre of approaches used to date. Unsurprisingly, approaches used for systems-centric perspectives tend to focus more on human-environment interactions – such as field visits or participatory mapping exercises – while individual and network-centric activities typically have a stronger focus on meaning-making at the individual level or between peers.

- *Evaluation*: There is a relative absence of evaluation tools for social learning in system-oriented approaches, which may be explained either by the embeddedness of social learning in this framing in other processes such as adaptive governance or environmental co-management, or also the recent emergence of this framing of learning in resource management and responses to climate change. The importance of distinguishing where the locus of learning or change is desired also seems clear, closely related to the theories of change that underlie them: in individual-centric perspectives the focus is on psychological assessments, discourse analysis, and participant observation, compared with community-self assessment in network-centric approaches, or participatory mapping in systems-centric approaches.

- *Impacts*: The key finding here is that moving impacts from the level of the individual into more collective or system-wide impacts presents increasing challenges as established values, protocols, and relationships are brought under scrutiny (Lebel et al. 2010). However, these higher-order changes seem to offer concrete impacts on how resources are managed and decisions are taken collectively, which are key areas for CCAFS.

Findings from in-depth interviews are broadly in line with the literature review, emphasising in particular, *first*, the need to truly co-design research rather than re-packaging existing research as a “communication exercise”. A *second* key point is the role of the facilitator as a trusted and independent broker. *Third*, the cases show the need to self-evolve their purpose and supporting processes to become more organic endogenous rather than directed social learning spaces. *Fourth*, sufficient time is key to social learning processes successfully developing new learning and behaviour change. External pressures for “results” may undermine this. *Fifth*, institutionalisation of social learning is perhaps one of the biggest challenges both in ensuring continuity of social learning approaches and in improving the chances of on-ground changes being approved by the likes of policy makers.

Section 4 identifies the following major implications of these findings, namely:

- The need for documentation of social learning processes and outcomes
- An aim to embed social learning within CCAFS as clear documentation of what works, and why
- The need for attention to power relations (for example between senior authorities and farmers) has been frequently noted, and failure to do so risks undermining the entire social learning process
- Slow-onset problems such as climate change pose particular challenges as they may not appear as urgent to stakeholders
- To be successful, social learning needs to be supported by facilitation processes and a clear theory of change
- Facilitation approaches designed to build trust and address power imbalances and diverging aims and interests, are critical to the success of social learning activities.

The report makes the following conclusions and recommendations (Section 5):

1. The body of evidence found in literature on social learning offers opportunities to build upon existing lessons, approaches, and evidences of impact and should be reviewed alongside the refinement of a theory of change for social learning

2. This theory of change should then be aligned with tools, approaches, and forms of evaluation that will enable practitioners to track both the process and the outcomes of their work.
3. The role of facilitation processes in determining the success of social learning interventions cannot be overlooked. This should form one of the key change areas for CCAFS and other institutions or programmes seeking to work at scale.
4. One of the greatest challenges remains institutionalising social learning to ensure its sustainability. This warrants considerable investment and engagement, and documenting these would contribute important lesson-learning to this field.
5. More attention should be given to role of gender and other forms of social differentiation: While unequal power and voice are highlighted as challenges to the social learning process, reflections on the role of gender in social differentiation are limited.

Keywords

Social learning; climate change; decision support; community involvement; participatory approaches

About the authors

Blane Harvey is a Senior Program Officer with the IDRC's Collaborative Adaptation Research in Africa and Asia (CARIAA) program where he leads work on strategic outreach and stakeholder engagement. Prior to joining IDRC Blane was a Research Fellow in the Institute of Development Studies' Climate Change Team. He holds a PhD in Education and International Development from McGill University (Canada). Blane's recent research has studied how climate change knowledge is produced, validated and communicated, and how learning and knowledge sharing can support action on climate change in the global South. He is a contributing author on indigenous knowledge and climate change in Africa for the IPCC's 5th Assessment Report. He can be reached at bharvey@idrc.ca.

Jonathan Ensor is a Lecturer at the Centre for Applied Human Rights at the University of York. He works on environmental change and international development, focussing on community-based adaptation and the role of governance in adaptive capacity, resilience and rights. This research is rooted in exposure to adaptation practice with the NGO Practical Action and looks to understand how development actors can work with and through processes that expand poor people's opportunities for power sharing, experimentation and access to knowledge and information, using participatory methodologies to build information-sharing and knowledge-building relationships. He can be reached at jon.ensor@york.ac.uk.

Ben Garside is a Researcher in the Sustainable Markets Group at the International Institute for Environment & Development (IIED). With over eight years of experience in international development, Ben works on the advancement of business models for the most marginalised in the fields of: energy; food and agriculture; information and communication technologies (ICTs). Ben's recent research includes analytical work on pro-poor energy models as well as building partner capacity on advocacy and knowledge management to get research evidence in to practice. This also requires understanding the appropriate use of ICTs and developing inclusive communication approaches. Ben has an engineering background with extensive experience in ICT consultancy and has a Master's degree in Development Management from the London School of Economics. He can be reached at ben.garside@iied.org.

John Woodend is an independent consultant specialising in agriculture and rural development. He holds a Ph.D. in plant science from the University of British Columbia. He previously worked for the Technical Centre for Agricultural and Rural Cooperation (CTA) in the Netherlands where he was involved in the organisation of seminars on climate change and the introduction of knowledge management/sharing into CTA. He is interested in "climate-smart" agriculture and the resilience of agricultural systems to climate change. He can be reached at john.woodend@hotmail.com

Liz Carlile is Director of Communications at the International Institute for Environment and Development (IIED), a policy research think tank. Liz graduated in Geography at London University – School of Oriental and African Studies (SOAS) and has a postgraduate qualification in Strategic Marketing Communications. Her career has focused on the development community and voluntary sector and latterly with a specific emphasis on research communications and strategic communications development. Liz is also Communications lead on the Department for International Development/Natural Environment Research Council/Economic and Social Research Council funded Ecosystem Services for Poverty Alleviation project (ESPA) and has been research communications reviewer for a number of DFID research programme consortia. She can be reached at liz.carlile@iied.org.

Lars Otto Naess is a Research Fellow in the Knowledge, Technology and Society (KNOTS) Team at IDS. He has over 15 years' experience on climate change and agriculture, including analysis of policy processes, the role of local knowledge and institutions for adaptation, user responses to seasonal forecasts, and tools and methodologies for adaptation planning. Much of his recent work has focused on Africa, in particular Tanzania, Kenya, Malawi and Ethiopia. He managed the DFID/IDRC Climate Change Adaptation in Africa (CCAA) 'Research to Policy for Adaptation' (RPA), and currently coordinates the Climate Change Theme of the DFID-funded Future Agricultures Consortium. Lars Otto holds a PhD in Environmental Sciences from the University of East Anglia, UK where he was an affiliate of the Tyndall Centre for Climate Change Research. He can be reached at l.naess@ids.ac.uk.

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Section 1: Introduction

“What’s the incentive for researchers to do things differently?” asks Patti Kristjanson in proposing a narrative for social learning within the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)¹. Her response highlights the valuable role that social learning – iterative and learning-based processes of collective decision making and problem solving in the face of change – can bring to action on climate change and food security. Effective social learning, she suggests, can help us to address increasingly complex problems that have uncertain solutions, break down barriers between producers and users of research, and increase institutions’ own capacities to learn (ibid). It also challenges researchers and research-oriented institutions to think differently about the principles, tools and processes needed to work differently. These points, widely supported by studies of social learning, underpin this review of recent practice and lessons learned.

Social learning processes have a long history in the areas of agriculture and natural resource management and within institutions working these areas, particularly in the global South. Often linked to more widely-referenced processes such as participation and participatory action research, these approaches have successfully helped communities rethink their natural resource management strategies, and address complex challenges with intertwined social, political, and environmental dimensions. Climate change adaptation is one such 'wicked' problem characterised by difficulty in its definition and attribution, uncertainty, and unclear solutions, and social learning is seen as an important avenue for responding. Lonsdale et al. (2010) note that “as social learning for change requires shifts in understanding either as individuals or as groups this type of learning seems to have great potential for exploring the process of adaptation to climate change. No one person has the whole answer, we all have a piece of the truth and there is a pressing need to come up with imaginative solutions.” (66)

Background: Embedding social learning into the CCAFS strategy

This study builds upon a recent but fast-growing body of work being led by CCAFS on climate change and social learning². It follows from an initial 2011 call for review of current approaches to climate change communication and social learning to assist in developing a strategy for future CCAFS engagement in this area. This initial scoping was conducted by IDS and IIED in 2011 (Harvey et al. 2012a) including a follow-up workshop which brought together key stakeholders on the issue in May 2012, and a subsequent CCAFS stock-taking report (Gonsalves forthcoming) and workshop held in November 2012. From this work, a part of CCAFS’ Theme 4 on Integration for Decision Making, has emerged a community of practice on better understanding what social learning can contribute to CCAFS objectives, identifying opportunities and challenges for adopting this approach within CGIAR, and pursuing a number of “Change Areas” related to these aims. The Change Areas, identified at the May 2012 workshop are:

1 See: <http://ccafs.cgiar.org/> and the YouTube video, “Transformative partnerships for a food-secure world” <http://youtu.be/5pKaoD5sGjw>.

2 See: <http://ccsl.wikispaces.com>.

- **Documentation** of social learning processes and their results
- Promoting and embedding **social learning within CCAFS**
- Understanding **endogenous social learning** processes at CCAFS sites
- Understanding how **social differentiation** is addressed in social learning processes
- Understand how different perceptions of **timescales** hinder or encourage social learning

This study contributes to these change areas by providing a more detailed review of documented social learning processes for climate change and natural resource management as described in peer-reviewed literature. Particular focus is on identifying:

1. Lessons and principles highlighted in this literature;
2. Specific tools and approaches that have been used;
3. Approaches to evaluating social learning; and
4. Concrete examples of impact that social learning has contributed to.

Structure of the paper

The remaining sections of this paper look more closely at the ways social learning is understood in theory and practice and reflect on what gaps and opportunities are apparent based on this analysis. Section 2 provides a brief overview of how social learning has emerged and been defined in the field of climate change, food security and natural resource management, the areas of focus in our review. We focus on some of the key uncertainties remaining about social learning and what specifically it can contribute to in practice.

Section 3 then reviews the findings from existing literature on the four themes noted above, building upon a systematic review and typology of social learning approaches developed by Rodela (2011) for sourcing and classifying studies. These are organised according to Rodela's typology of social learning research into individual, networked, and social ecological systems perspectives to identify commonalities and differences across these types and a clearer alignment of evidence between approaches and outcomes. We then shift from our corpus of peer reviewed literature to compare the findings with empirical research from five case studies of on-going or recently-concluded social learning initiatives to confirm or further expand upon the results that have emerged. This cross-referencing process strengthens the study by taking into account the rapid emergence of social learning and its relatively limited documentation from a process perspective. It also allows for a more targeted interrogation of social learning according to our four areas of focus. These case studies are summarised in text boxes throughout the paper, with full versions included in Appendix 2.

The discussion section of the paper (Section 4) considers how findings from this review might inform the five above-mentioned Change Areas CCAFS is pursuing, and whether it suggests other change areas that should be considered. It also considers the relevance of the three social learning perspectives drawn from Rodela's (2011) classification to these change areas, suggesting how particular framings of social learning might yield different impacts or outcomes. Finally, we offer additional questions and issues for the CCAFS social learning strategy that have emerged from this review.

In Section 5, the paper concludes with a set of recommendations for the collective work being led by CCAFS on social learning and ways that it might maximise its development impact.

Box 1: Creative communications campaign fostering social learning

Kabarole Research Centre (KRC, an NGO) started a radio food security awareness raising campaign for farmer groups in Western Uganda. More than 144 radio drama series on the topic of food security were performed and aired on radio as an entertaining means of discussing the topic. Listener demand shaped the shows through on-air phone-ins which



led to the formation of local listeners clubs. The topic of granary stores was a key demand and more active listeners clubs such as that in Mugusu Kyagwamwoha invited KRC to facilitate a social learning process which led to granary stores suited to their community, in particular using local building materials. Wider community learning on the issue was fostered by the listeners club themselves performing radio dramas to their own community, building demonstration granaries, and building institutional support for learning processes on granaries and food security at the community level. The NGO has also learned much in terms of its potential to foster social learning processes by adapting its own approaches to research.

Key factors here for social learning which led to impacts are: (1) generating initial interest through an engaging mechanism and adapting that mechanism to support differing demand and encourage organic development of learning spaces. Noted here is the Uganda food crisis of 2011 was also a rallying factor of purpose (2) the role of the facilitator was important – in building confidence and in legitimisation of the group to the wider community. Over time facilitators changed and as the success of listeners clubs became more widely known, facilitators self-nominated or were invited from other clubs rather than the need for the NGO to assist. (3) Power and institutional barriers were explicitly tackled –the listeners club identified key institutional people to target for buy-in to the process and developed strategies to target them, facilitated by the NGO to help “legitimise” the group.

See Case 1 in Appendix 2 for further details.

Section 2: What is social learning and how do we understand it in practice?

Social learning has emerged from a long standing literature concerned with the theory and practice of learning. The roots of social learning are embedded in the work of scholars concerned with the psychology of (individual) learning (Bandura 1977) and the sociology of (shared) learning (Argyris and Schon 1978, Wenger 1999), as well as in traditions that understand learning as a process of critical reflection that can lead to transformation (Mezirow 1991, Capra 2007) or emancipation (Freire 1970). In terms of practice, social learning has a long history of association with natural resource management and food security (see Box 1 below), where complex and ‘wicked’ problems³ have been seen to require learning and reflexivity in place of conventional scientific management regimes (Brunner and Lynch 2010; Roling 2002), although examples extend from climate change adaptation to energy planning (Garmendia and Stagl 2010; Collins and Ison 2009a). In short, from diverse roots a large social learning literature has developed, often with different focal points and as a consequence with little agreement on definition and practical approaches.

Authors have come to recognise this lack of conceptual clarity as a barrier to the study and practice of social learning (Reed et al. 2010; Armitage et al. 2008; Pahl-Wostl 2009; Tschakert and Dietrich 2010). However, the rapidly growing body of work reporting on social learning attests to its value and potential, and from within this literature it is possible to identify the points of divergence and central features of social learning. The most significant are highlighted below.

The meaning of ‘social’ in social learning is a fundamental concern. **Individuals, groups and wider society** are all referred to in the literature as the focus of learning (Rodela 2011). ‘Communities of practice’ and socio-ecological systems are commonly observed and analysed in social learning studies as individual subjects. While this is potentially a source of confusion, it in fact reflects the concerns of different researchers and practitioners in their applications of social learning (be it, for example, participatory governance or ecosystem management). Challenges with defining social learning are actually less about who is engaged in a particular social learning process, and more about what happens to the learning. An important distinction can be found throughout the literature (focused variously on individuals, groups or societies) between those concerned only with *how learning occurs between individuals*, and those concerned with *how learning percolates out beyond those involved in learning activities*. We characterise these as ‘**inward looking**’ and ‘**outward looking**’ conceptualisations of social learning. Cundill describes the difference as being between inward looking ‘learning by individuals in social settings’ and outward looking ‘learning at the level of the group or society.’ (2010: n.p.) However, it remains important to recognise the role of individuals in broad (outward looking) processes of change. We agree with Reed et al. (2010) that if a process is to be defined as social learning, learning must ‘go beyond the individual’ and become embedded in wider groups or society (encompassing institutions, organizations, or communities of practice). While it is individuals that are involved in

³ According to Turnpenny et al (2009) wicked problems are characterized by their: (a) uncertainty; (b) inconsistency of needs, preferences and values; (c) an unclear sense of all consequences and/or cumulative impact of collective action; (d) fluid, heterogeneous, pluralist participation in problem definition and solving.

learning, to be social learning there must be an ‘outward looking’ process that embeds the lessons beyond small groups. This also reflects the definition developed by CCAFS in which social learning takes learning and behaviour change beyond the individual to networks and systems (CCAFS 2013). Systems, in this context, extend to inter-related actors associated by formal or informal institutions, and/or their relationship via a common socio-ecological system.

Several implications flow from this understanding. The first is that **interaction** is at the heart of social learning (Ison et al. 2007): social change brought about by regulations implemented by authoritarian regimes, for example, is not a case of social learning, whereas one in which ‘the message also spread from person to person through social networks’ (Reed et al. 2010: n.p.) would be. For many authors, this interaction must also lead to **collective action** to test insights and construct knowledge through experience (Maarleveld and Dabgbégnon 1999; Ducrot 2009; Ison et al. 2007). This also implies **participation**: for Ison et al., it is the collective act of working together to construct new understandings of problems and develop solutions that distinguishes social learning from traditional policy instruments that are built on ‘fixed forms of knowledge’ (2007). Participation alone, however, is not enough to constitute social learning. While participatory processes ‘may stimulate social learning’, participation is a narrower concept that defines a role in decision making and does not necessarily lead to social learning (Bull et al. 2008; Reed et al. 2010). Rather, the point is that social learning develops **shared ways of knowing** or “a shift from ‘multiple cognition’ to ‘collective cognition’” as individuals shift their perception of a situation and, through their interactions, develop shared ‘perspectives, insights and values’ (Roling *et al* 2002: 5; see also Collins and Ison 2009b; Harvey et al. 2012b). Frequently, this will engage actors from multiple (spatial or jurisdictional) scales, bringing different perspectives and effecting broader transformative change via networks of actors at those scales, but also necessitating the negotiation of significant **power** differentials (Armitage et al. 2011; Van Bommel et al. 2009; Collins and Ison 2009b).

Central, then, is that **changes in understanding** take place among those involved in social learning (Reed et al. 2010), and this change in understanding is often intended to be significant, engaging **double- or triple-loop learning**. The aim of many social learning interventions is to challenge values by questioning how problems are conceptualised (so called double-loop learning, leading to changes in policies or management goals) or to prompt structural changes at the level of the governance systems (triple-loop learning, challenging organisational purpose, for example). The intention is to move beyond technical fixes in response to perceived problems (Diduck 2010), yet single-loop learning (yielding only alterations to existing routines or actions or error correction) may also be the outcome of social learning (Armitage et al. 2008; Lebel et al. 2010; Pahl-Wostl 2009). While a shift in understanding is necessary, and social learning seeks this outcome through ‘reflexive processes’ that actively question established norms (Cundill 2010), double- or triple-loop learning are not necessarily the outcome. Similarly, we do not restrict social learning to changes in understanding about socio-ecological systems, in contrast with some definitions that have emerged from within the natural resource management school (Olsson et al. 2004; Keen et al. 2005; Maarleveld and Dabgbégnon 1999).

The social learning literature is diverse and the emphases, processes and tools shift in response to the research context and the focus on the investigators. Common across approaches is knowledge co-creation to develop shared ways of knowing, usually entailing (sometimes challenging) transformations involving a shift in power relations to bring excluded or marginalised voices into management or decision making processes. Changes in understanding need to lead to shifts in practice if social learning is to have meaning, while periods of experimentation and reflection often underpin the emergence of new knowledge, and link social learning to climate change adaptation (Collins and Ison 2009b; Ensor 2011). Yet social learning is no panacea: intensification of conflict, a failure to reach agreement and the dominance of powerful interests have all been reported, while some authors have highlighted that it is neither guaranteed that a common interest exists nor that learning is the appropriate mechanism for social change in all circumstances (Muro and Jeffrey 2008). In this context of diversity and limits, there remains a need for a clearer understanding of what social learning can contribute –in terms of “hard” development outcomes, (e.g. in terms of enhanced food security and reduced poverty), how processes are best designed and delivered, and what lessons can be drawn from existing practice. These are the issues discussed in the analysis below.

Section 3: Review of lessons from existing literature and case studies

As discussed earlier in this paper, there is a fast-growing body of scholarly literature on social learning describing its use in practices related to climate change, food security and natural resource management. Despite this, numerous studies have noted a widespread lack of clarity on how social learning is defined or framed (Cundill and Rodela 2012; Armitage et al. 2008; Reed et al 2010), and this contributes to numerous other areas of confusion including:

- Confusion between the *means* of facilitating social learning and its *ends* (Rodela 2011; Reed et al 2010),
- Uncertainty around whether learning should be centred on the individual or the collective (Reed et al, 2010),
- Limited evidence on its role in participatory planning and decision making (Muro and Jeffrey 2008; Cundill and Rodela 2012),
- Limited evidence of the factors that contribute to or impede change (Muro and Jeffrey 2008),
- Uncertainty over how best to evaluate social learning processes (Rodela 2011),
- Uncertainty on the role of social learning over other approaches to achieving 'hard' development outcomes (Wals et.al 2009).

For organisations are aiming to integrate social learning into their institutional practice, these areas of uncertainty raise challenges in terms of justifying an investment of time and resources into approaches that may demand changes in practice for many of the program’s researchers (Harvey et al 2012b). They also raise questions about how to plan action using social learning to achieve particular desired outcomes, and the means by which they might assess the success of their efforts. To address some of these concerns this section reviews a

range of articles focused on cases of social learning to extract evidence which informs four areas of focus: lessons learned and principles for using a social learning approach, examples of specific tools and approaches used, approaches to evaluating social learning, and specific examples of its impact on food security and climate change.

Methodological approach and classification of literature

The articles reviewed were selected from Rodela's (2011) systematic review of social learning in natural resource management, which included a total of 97 peer-reviewed publications. This corpus was selected to maintain consistency in what was identified as 'social learning,' as there is a wide range of material available on learning processes that may or may not identify itself as social learning. We further narrowed this list to match as closely with our focus on community-scale action addressing climate change and food security in the global South as possible. To do so we first selected:

- A. Articles addressing all three areas of focus (a focus on the community scale, on global South, and on climate change and food security); then secondly
- B. Articles that have a focus on community scale and on the global South (but may look at food security and natural resource management more broadly).

A total of 24 papers were retained and are listed with full bibliographical information in Appendix 1. The papers were classified using the three perspectives on social learning research (individual, networked and social ecological system) identified by Rodela (2011). These different perspectives span the range of views on where learning takes place, and what it can prompt as outcomes. The first is an *individual-centric* perspective, where learning is seen as transformative, resulting from individuals' participation in learning activities, and resulting in changes in individual behavior (see Mezirow 1991 for similar accounts of transformative learning). The second perspective is *network-centric*, where learning is experiential and leads to changes in established practice and ways of relating among members of a common network or community. This perspective is in line with work by Wenger (1999) and others on learning in networked practice. The third of Rodela's perspectives is *systems-centric* and sees learning as a process emerging from social-ecological systems and resulting in more systemic transformations that improve the sustainability of these systems. These are closely related to the work of Carl Folke, Fikret Berkes and others on adaptive co-management of social-ecological systems (e.g. Folke et al. 2005). Beyond these three perspectives presented by Rodela, we further organized the evidence collected using a separate framing for each of the areas of focus, drawn from within the social learning literature, as the sections below will outline.

Finally, we note three points concerning our methodological approach. The first is that the classification of articles into three social learning perspectives was conducted by Rodela (2011). We have retained these classifications in all cases, though some cases may arguably fit in more than one category. The second is that in many of the cases the papers being reviewed were not explicitly focused on the areas we discuss below. Thus, there is an uneven degree of treatment of the points highlighted below in the literature. Finally, depending on the characteristics of particular social learning perspectives, some sections in the tables below are more fully populated than others. While this may represent a gap in the literature reviewed, it may also point to areas that particular social learning orientations address more or

less directly. Where possible, we have considered the reasons for these absences in the tables that follow.

The tables that follow, therefore, summarise evidence emerging from this body of literature and provide a numerical reference (linked to the numbering system in Appendix 1) to the article(s) which contain particular evidence.

3.1 Lessons and principles

With the growing body of literature on social learning processes a wide range of principles and lessons learned are now being shared. These are often scattered within reports of particular processes and at times are not the primary focus of the publications in which they are found. In Table 1 this first area of focus seeks to address this point by compiling generalizable lessons learned and principles that might inform future practice. Beyond our categorisation according to Rodela's three perspectives on social learning, we have organised these lessons and principles in line with Collins and Ison's "design heuristic for social learning," which they describe as "a minimum set of activities necessary for a social learning system for climate change adaptation to function" (Collins and Ison 2009b: 366). These activities consist of: building stakeholding (i.e. convening the appropriate range of stakeholders and ensuring they are able to take part); providing facilitation; developing conducive institutions and policies; and taking into account epistemological or knowledge considerations.

Table 1: Lessons and Principles

		Individual	Network	System
Stakeholders	Who should be involved?	Involving senior authorities not appropriate in some contexts- too much power (4) Diverse participation (5)		Engage as many people as possible to negate loss of members (22) Local resource users are key decision makers (22)
	Characteristics	Deficiencies in key skills an obstacle to full participation (1, 2, 4) Awareness of different goals (3)		High level of social coherence to overcome periodic crises (4) Deficiencies in key skills an obstacle to full participation (17) Take skills of members into account (19) Scientists operate as facilitators of normative social processes that lead to implementation... need to change researcher incentives (23)
Facilitation and Process	Processes	Use of a facilitator (12) Building of trust (4) Democratic structure (5) Shared problem identification (3) Open communication (5) Unrestrained thinking (5) Constructive conflict (5)	Use of a facilitator (7, 11, 12, 16) Use of simulation (12, 14) Do not try to resolve or eliminate conflict, but rather learn about complex issues in an inherently conflictual environment (9) Intentional design (11) Knowledge networks to create a learning environment and co-produce knowledge (12) Combination of modelling and participation (16)	Use of a facilitator (17, 19) Building of trust (18) Recognising power; strengthening capacity of the weakest (22) Experimenting with pilot studies (19) Allowing stakeholders from different scales to voice concerns and contribute (19) Cross scale arrangements to diversify experiences and stimulate innovation (19) Facilitators need to recognise aggregated effects of interdependent decisions and actions (18) Facilitated policy dialogues and learning events to build a network of actors (22) Multiple channels in highly politicised contexts (18)
	Lessons	ICT tools can assist with mutual understanding (1) Mutually beneficial interactions crucial for building/ seeing value in the	Experiential learning/ hands on approaches lead to greater learning (8) Participation alone is not enough to effect changes (7) Public deliberation needs more than	Bridging organizations can stimulate collaboration, build trust, provide information, and encourage the development of a common vision (22) Address existing barriers between

		<p>process (1)</p> <p>Clarity and transparency of process at start and throughout (3)</p> <p>Participatory processes may co-opt the less powerful (5)</p> <p>Face to face processes between peasants and experts is contingent on: cognitive, emotional, and social competencies as well as social capital (4)</p> <p>Ongoing SL process key to correct misinformation or negative early perceptions (5)</p>	<p>public information; it requires forums that encourage SL (9)</p> <p>Begins and ends with action, i.e. purposeful activity (9, 11)</p> <p>Defining the problem and generating alternatives makes SL meaningful as constituents resolve their own and others' values, orientations and priorities (9)</p> <p>ICT tools can assist with mutual understanding (14)</p> <p>Information design, storage and retrieval, and communication of relevant information to all stakeholders is fundamental (14)</p> <p>Effective learning processes need to incorporate: reflection; integration; systems thinking; participation; and negotiation (13)</p>	<p>understandings of a problem (24)</p> <p>External agents can strengthen social capital (22)</p> <p>Mutually beneficial interactions crucial for seeing value in the process (18)</p> <p>Flexible, long term funding, able to deal with surprise and adapt to new research areas (23)</p> <p>Identify education needs that constrain dialogue (16)</p> <p>Must be inclusive, respectful and leading to informed deliberation (17)</p> <p>Accessibility of meetings (18)</p> <p>No guarantee of consensus; deliberation and negotiation often needed (17)</p> <p>Most difficulties are related to bringing developers and affected stakeholders together to learn from each other (17)</p>
Institutions and Policies		<p>Individual learning is frustrating without avenues for higher order change (5, 6)</p>	<p>Individual learning is frustrating without avenues for higher order change (15)</p> <p>Network development (12)</p>	<p>Precondition: legislation creating social space (19)</p> <p>Precondition: Ability to monitor and respond (19)</p> <p>Precondition: funds for responding (19)</p> <p>Precondition: Knowledge management and networks for diverse information (19)</p>
Knowledge considerations		<p>Convergence of narratives (6)</p> <p>Differing worldviews (6)</p> <p>Respect for local knowledge (6)</p> <p>Multiple sources of knowledge (7)</p> <p>Awareness of different perspectives (5)</p>	<p>Respect for local knowledge (9)</p> <p>Integrated understanding of the social and environmental dimensions of change is crucial (13)</p>	<p>Differing worldviews (16)</p> <p>Confusion in the role of science and technology (16)</p> <p>Respect for local knowledge (19)</p> <p>Sense making (19)</p> <p>Different knowledge systems (23)</p>

Key trends:

Perhaps unsurprisingly, the vast majority of lessons across all three study groups are related to the process of undertaking social learning, rather than the selection of stakeholders or the wider policy or conceptual issues. That said, there is close agreement among the three groups (individuals and systems in particular) that accounting for multiple worldviews and knowledge sources is a key consideration. This reflects the centrality of developing ‘shared ways of knowing’ to social learning processes. Building on this, establishing processes for addressing differences across the participating groups (in terms of power, aims, perspectives, knowledge systems, etc.) becomes a pre-requisite, with capacity- and trust-building processes being recommended by many as a key to successful engagement. The potential for change to follow from learning processes was widely seen as important, through funding and avenues for structural change, if learning benefits are to be realised rather than frustrated. Finally and perhaps most saliently, was the widely noted necessity of good facilitation for ensuring successful social learning. This feature warrants further reflection as a core of good practice, as we will return to later in the paper.

In terms of differentiation between lessons and principles from the three different social learning perspectives, the notable absence of lessons on stakeholders among network-centric approaches is likely attributable to their focus on pre-defined communities of practice. Beyond this, network and system-centric approaches appear to bring a stronger focus on facilitating longer-term change at the level of processes, policies and collective action, though this question of “higher order change” is raised in two of the individual-centric studies. It also seems that experimenting to generate learning is common to both network and system wide learning – these wider-scale engagements lend themselves to collective action more readily than individual-orientated approaches.

Box 2: Developing self-perpetuating social learning for drip irrigation in Morocco

Farmers learning together on drip-irrigation in Morocco



Moroccan farmers are becoming more involved in managing supply chains, notably through local and regional cooperatives, particularly for milk. However, despite the state's attempts to transfer responsibilities to associations of water users, it retains control of large-scale irrigation schemes. In addition, a decline in surface water

available for such schemes has prompted farmers to use groundwater from individual tube wells. Meanwhile, government programmes to relieve water scarcity with drip-irrigation technology have not had good uptake from farming communities.

The Moroccan branch of the agricultural research centre for development, CIRAD, wanted to help small scale farmers to better understand drip-irrigation and plan their own group projects. The aim was to use land in ways that better suited the farmers and to encourage farmers to take more ownership of the process.

CIRAD wanted to use social learning through this process and put in M&E to capture it. The results include projects that farmers had co-created to meet collective system level water management and that were also tailored to individual farmers. These projects continued to flourish outside of the CIRAD intervention as different farmer groups continued to interact and learn from each other. CIRAD concluded that it was more important to enable farmers to engage with an issue as a group – and design irrigation projects together - than to transfer technology to them.

See Case 2 in Appendix 2 for further details.

3.2 Tools and approaches

The second area of focus is on the specific tools, techniques and approaches that can facilitate the social learning process. These can range from facilitation and workshop approaches to the use of specific information and communication technologies (ICTs) to support interaction. The framing we have used to group this survey of tools and approaches draws on observations from Mahanty et al. (2007) organising them by function, namely facilitating interaction, capturing lessons, knowledge management, and simulation. In some cases tools are applicable across more than one of these functions.

Table 2: Tools and Approaches

	Individual	Network	System
Facilitating Interaction	<p>“Search Conferences” (5)</p> <p>Role playing games (1, 3)</p> <p>Joint interactive use of a single influence model (3)</p>	<p>Collaborative learning exercise (9)</p> <p>Participatory techniques combined with social learning approaches (7)</p> <p>Facilitating public participation (7)</p> <p>Develop partnerships and engage in action research (10)</p> <p>Field visits, virtual role playing, and project and policy simulation exercises (12)</p>	<p>Participatory techniques for mentoring farmers’ representatives (22)</p> <p>Coordination platforms, especially at regional level (18?)</p>
Capturing Lessons		Framing/reframing exercise (14)	Field visits (22)
Knowledge Management	<p>Actors Platforms (3)</p> <p>Workshops for joint knowledge production (4)</p> <p>Card sorting techniques (3)</p> <p>Hexagon modeling (3)</p>	<p>Development of a knowledge network (12)</p> <p>ICT-tools can be used to store, retrieve, analyse, display and disseminate information but must be simple and able to make relevant information more accessible to a wide range of stakeholders. (14)</p> <p>Development and use of collective perceptive maps (14)</p>	Combining farmer-produced resource maps of catchment areas (16)
Simulation	<p>Agent based social simulation (3)</p> <p>Companion Modeling approach (1)</p>	Future scenarios workshops (8)	

Key trends:

What seems evident across all of these approaches and perspectives is the fundamental role that face-to-face facilitation, in a range of forms, plays in creating opportunities for social learning. From specially designed conference approaches to more traditional role playing games, direct interaction between differently-situated stakeholders sits at the centre of approaches used to date. In some cases these have been supported by computer-based modelling and simulation tools, or the use of ICTs for knowledge management, but the role of direct engagement has not been circumvented by these tools (see Box 1). This is likely to have a bearing on the investment requirements for social learning activities to take place.

In differentiating between these tools and approaches, it is unsurprising that the approaches used for systems-centric perspectives focus much more directly on human-environment interactions (e.g. through field visits or participatory mapping exercises) while individual and network-centric activities have a stronger focus on meaning-making at the individual level or between peers. These are important distinctions when considered alongside the expected impacts of social learning interventions (see 3.4 below).

Box 3: A “knowledge push” network that has fostered collective knowledge creation and new alliances



Evidence and Lessons from Latin America (ELLA) was established as a programme in 2009 by the UK Department for International Development (DFID) as a way to synthesise research and policy lessons from Latin America and discuss them with a global audience – as part of a responsible exit strategy from bilateral aid to the region. The DFID conception of ELLA was “extracting” lessons from LA for the rest of the world and the regional centres developed knowledge topics which were pushed out to a network that was set-up to discuss the issues.

Practical Action led this work and identified that any “knowledge push” should be matched by demand. Working with KITE in Ghana on a 2 year inception phase - consisting of online surveys, structured interviews and desk-research - topics of interest to Africa and South Asia were identified that Latin America could offer learning on. The climate change agenda was a key demand topic.

Latin American partners consisted of regional centres of expertise across three broad areas of economic (growth) learning, governance, and environmental issues. However, inside the topic areas that have been introduced, participants themselves have come together to co-construct learning through an online platform and local meetings of participants with video-conference links to Latin American interest groups, and through learning tours.

BOX 3 CONTINUED

This is an example of a constructed network which was reasonably well resourced to gather and synthesise knowledge to “push” to networks of interested groups around particular topics. There is a sense here that this is more of an individual rather than network approach to learning through “knowledge transfer” – in particular when considering knowledge to implementation. However the networks are evolving. Within the constructs of the network, there are examples of group level learning occurring which stem beyond the materials pushed in to the network and there is emerging evidence that new alliances have been formed focused on South-South learning and implementation projects. What remains to be seen is whether the ELLA constructed networks or any spin off learning alliances will continue significantly after the formal end of the project – and of the funding that supports it.

See Case 3 in Appendix 2 for further details.

3.3 Evaluation

“Despite [...] calls for greater empirical rigour, efforts at empirical evaluation of social learning have been hindered by the rapidly growing literature on this topic, which is replete with contrasting assertions about the outcomes and processes that support social learning.” (Cundill and Rodela 2012: 7) This recent assertion by Cundill and Rodela, supported by a range of other analyses of social learning (e.g. Rodela 2011; Muro and Jeffrey 2008), strikes at the heart of a great deal of the uncertainty about a systematic adoption of social learning at a larger scale. Institutions such as CGIAR are committed to regularly monitoring the rate of success and scale of impact of their interventions, and without a clear sense of how to do so effectively it may be difficult to justify a considerable investment. Our scan of the literature reveals that there are a number of tools that have been used to evaluate components of social learning, and we have organised these in line with Cundill and Rodela’s statement above considering the evaluation of social learning *processes* and *outcomes*.

Table 3: Evaluation

	Individual	Network	System
Process evaluation	<p>Participant observation (3, 5)</p> <p>Analysis of the transformation of participants' narratives (4)</p>	<p>Community self-assessment (9)</p> <p>Informal observation and post-workshop discussion (9)</p> <p>Use of process indicators (13)</p>	<p>Participatory Mapping (23)</p>
Outcome evaluation	<p>Pre-Post questionnaires (1)</p> <p>Follow up interviews (3, 5)</p> <p>Psychologists' evaluation of the actors' experiences(3)</p>	<p>Knowledge gained by farmers and their plan to apply it (11)</p> <p>Post-workshop survey to assess attitudes (9)</p> <p>M&E by the community of their actions (10)</p> <p>Mixed method/triangulation approach used to collect data (11)</p> <p>Amount of change in behaviour, attitude, skills, knowledge or condition (situation) of programme participants (12)</p> <p>Environmental stress reduction indicators and environmental status indicators that measure actual success in environmental outcomes (13)</p>	

Key trends:

What is most immediately notable is the relative absence of evaluation tools for social learning in system-oriented approaches. While Lebel et al. (2010) discuss the role that social learning can play in establishing monitoring and evaluation criteria for evaluating progress on adaptiveness, they note that “the extent of critical empirical analysis on effectiveness of different learning processes is still relatively modest. Further case study work, especially that which documents and assesses changes over time is needed.” (2010: 349) We postulate two possible reasons for this absence. The first is that, as social learning processes in this framing are generally embedded in other processes such as adaptive governance or environmental co-management, they may often not be evaluated as stand-alone activities. Thus, as in the case of Lebel et al. above, the evaluation conducted is the overall adaptiveness in a social-ecological system, with limited reflection on the contribution that social learning has made to the end state. The second possible reason may be the relatively recent emergence of this specific framing of learning in resource management and responses to climate change. This may be similar to the recent literature on the evaluation of climate change adaptation, which relates the late emergence of robust evaluation approaches to the relative infancy of the field (Spearman and McGray 2011). Building on this last point, a second observation is that the majority tend to rely on generic monitoring and evaluation instruments drawn from other fields or disciplines, including psychology, natural resource management, and more generic research instruments such as surveys and interviews.

In differentiating between the use of evaluation approaches across the three social learning perspectives, the importance of distinguishing where the locus of learning or change is desired becomes clear. The use of psychological assessments, discourse analysis, and participant observation for individual-centric perspectives, compared with community-self assessment in network-centric approaches, or participatory mapping in systems-centric approaches relate closely to the theories of change that underlie them. As such, for institutions wishing to undertake social learning processes it becomes important to clarify which vision of change is presumed or sought from social learning and establishing evaluation approaches that are aligned with these.

Box 4: Bringing together stakeholders with different timeline priorities to improve adaptation



*Participatory scenario planning and social learning - meteorological departments learn what information is needed by different users, and users learn together on adaptation appropriate for their context**

*Source: CARE International, available at http://www.careclimatechange.org/files/adaptation/ALP_PSP_Brief.pdf

CARE International launched the five-year Adaptation Learning Programme (ALP) for Africa in 2010, implemented in Ghana, Niger, Mozambique and Kenya, in partnership with local civil society and government institutions. The programme seeks to identify successful approaches to Community-Based Adaptation (CBA) for vulnerable communities through working directly with 40 communities as well as learning with other organisations practising CBA, and support incorporation of these approaches into development policies and programmes in the four countries and their regions in Africa.

ALP ran a number of participatory scenario planning (PSP) meetings between meteorologists and local actors with the purpose of building mutual understanding of data needed by local users and in planning responses to weather scenarios collectively. Key here is an element of linking timelines - the immediacy of weather scenarios for the upcoming season and farmer priorities/responses on one hand, whilst at the same time building longer term understanding and capacity to plan/respond to climate change. Part of the process considered important was facilitation with a “light-touch” allowing the overall guided process to create sufficient space for reflection and a sense of ownership.

This approach encourages participatory planning and recognises the importance of different knowledge systems by encouraging local communities and government to take ownership of the process. What has become evident is that new knowledge has been created through social learning, and there are encouraging signs that social learning processes are evolving, reflecting on their own purpose and effectiveness, to become more systemic. For example in Kenya a task force has been created by communities and local government to continue to evolve PSP processes beyond the ALP programme and take implementation of agreed activities forward. Other organisations such as CCAFS have also adapted scenarios processes with respect to socio-economic uncertainties and interaction with climate change at regional scales.

See Case 4 in Appendix 2 for further details.

3.4 Impacts

The final area of focus considers the ultimate impacts that social learning can be shown to have contributed toward. The OECD-DAC takes a broad definition of “impact” in humanitarian interventions, including direct, indirect, intended and unintended changes – both positive and negative (OECD, n.d.). Here we have focused as closely as possible on specific impacts noted in case descriptions from the literature review, looking at more direct changes as a result of social learning exercises.

Again, the question of impacts is widely stated to be insufficiently understood, with sometimes-conflicting evidence on what changes and outcomes can be expected from these processes. For example, there appears to be wide consensus that social learning can have a significant impact on how participants understand their and others’ positions around a common issue, yet Muro and Jeffrey (2008) note that this may be a case of less powerful actors adopting the positions of more powerful actors during a particular exchange. Furthermore, Lebel et al. (2010) recount how, in the case of Vietnam, evidence of single, double and triple loop learning failed to yield changes in dominant water governance structures. With regard to the specific aims of CCAFS on developing tools which assist in decision making, Cundill and Rodela suggest that “empirical testing of the extent to which social learning improves decision making, under what conditions, and for whom, must be a central theme in future research into the role of social learning in natural resource management.” (2012: 11)

These points aside, there are a range of influences and outcomes attributed to social learning in the literature reviewed. We have organised these using a categorisation drawn from Lebel et al. (2010) on “what is learned” through social learning processes. They identify three categories of learning: cognitive learning (factual knowledge), normative (changes in norms, values and belief systems), and relational learning (building of trust, appreciation of others’ worldviews, etc.), which can lead to outcomes that include changes to practice, values, institutions, or systems.

Table 4: Impacts

	Individual	Network	System
Cognitive	<p>Increased social competencies for local actors (4)</p> <p>Increased knowledge (5)</p> <p>Peasants re-evaluated their own cognitive, social, emotional and ethical resources (4)</p> <p>Participants' attitudes toward communal resource (canals) shifted (1)</p>	<p>Broadened understanding of the situation by participants (9)</p> <p>SL fosters innovation and adaptation (8)</p> <p>SL challenges the understanding of farmers as merely recipients of knowledge and technology, demonstrating instead their capacity to learn and collaborate actively in their own learning (11)</p>	<p>Farmers rebuilding professional identities on the basis of a new relationship to the resources they use (24)</p> <p>Local farmers helped identify patches of high conservation value far quicker and with more certainty than researchers ... requires that scientists respect and integrate with these other knowledge traditions (24)</p>
Normative	<p>Institutionalising SL practices in other organisations (4)</p> <p>Municipality allocated new budgeting to maintenance of shared resource (1)</p>	<p>Improved management plans (9)</p> <p>SL transforms both social and human capital so that the NRM process is adjusted and improved (8)</p> <p>More sophisticated NRM plan; a more aggressive beachgrass eradication programme; and more emphasis on local community development (9)</p>	<p>Redesign of fencing to cross boundaries of ownership (17)</p> <p>Incorporation of external ideas into local institutions while avoiding irreversible change (21)</p>
Relational	<p>Generation of more trustful relationships (4)</p> <p>Critically revise current forms and contents of interaction (4)</p> <p>New possibilities for working together emerge (1, 5)</p> <p>Reduced conflict between groups and enabled participants to focus on solutions that respected a plurality of interests and worldviews (6)</p>	<p>Improved collective planning processes (9)</p>	<p>Cancellation of new dam building based on inputs from indigenous communities (20)</p> <p>The main opposition group became increasingly involved in discussion and implementation (24)</p> <p>Group members from different organisations learnt to work together (20)</p>

Key Trends:

The evidence drawn from the 24 cases reviewed supports the view that moving impacts from the level of the individual (awareness raising, shifts in individual values, etc.) to more collective or system-wide impacts presents increasing challenges as established values, protocols, and relationships are brought under scrutiny (Lebel et al. 2010). However, these higher-order changes seem to offer concrete impacts on how resources are managed and decisions are taken collectively, which are key areas for CCAFS.

Building of a shared vision is a common goal in system wide social learning, in which actors come together to understand and build on their different perspectives in different forms of co-management processes. As such, the impacts encompass a combination of cognitive, normative and relational learning. For example, Plummer (2006) proposes a three stage model of co-management in which diverse actors move from independence, to association (in which actors begin to dialogue and a shared vision for co-management of the resource is reached) and finally integration (in which ‘shared actions are undertaken, outcomes are reflected upon, and learning occurs enabling the group to learn to work together and incorporate learning into future actions). Through this process factual knowledge is exchanged and developed, management norms are shifted and relationships develop between the different actors.

Box 5: From a top-down research approach to ecosystem wide social learning and governance in managing nitrate levels

Agronomist researchers in Italy with a traditional approach to research wanted to raise awareness of nitrate levels in eco-systems. A “nitrate emergency” was declared in the 1990’s where levels of nitrates in drinking water were above safe levels. The response was compulsory reduction of the use of fertilisers and other chemicals at individual farm plot level, resulting in reduced yields for farmers. Evidence from agronomists demonstrated that this approach was not effective as the problem was more complex than individual farm level practices – and included production processes across the water basin used so as to meet end-user expectations on type and appearance of produce.

The result was a year-long process with iterative phases of learning that brought together different farm groups, government, and end-consumers. The nitrate issue was reframed through social learning processes spanning numerous iterations from a “problem” in terms of how much nitrate used on crops, to part of a wider systemic issue involving collective agreement on crop types, planting approaches, and in managing end-user expectations. Subsequently social learning has become more integrated with the planning and governance process, and the impact has been policy and practice change.

Key factors that fostered social learning included co-design of research rather than repackaging as a communications exercise. This happened over time by building physical and social spaces that fostered learning. The facilitator built trust and acted as a common party between different groups. One big challenge that has undermined the process to some extent is the need for local governance bodies to comply with European requirements on farming which do not allow for some of the solutions the stakeholders have collectively developed. These EU requirements come with their own pressures to spend and report and are undermining stakeholder confidence in the ability of a more horizontal governance process working.

See Case 5 in Appendix 2 for further details.

3.5 Comparison of case studies with evidence from literature review

The in-depth interviews conducted as a part of the five empirical case studies broadly identified similar lessons and principles to the literature review. The literature review also notes that tools and approaches used to foster social learning processes often rely strongly on face-to-face interaction. One interesting way of conceptualising and tracking face-to-face meetings over time is noted in Case 5 (see Box 5 and Appendix 2) with iterations of an “observe, reflect, plan, act” cycle where tools such as role playing games are introduced to stimulate learning, planning, and action. In this particular case these tools evolve over time as members of the learning group gain confidence and knowledge to develop their own reflection approaches.

Cases 1 and 3 also demonstrate that face-to-face engagement can be augmented with electronic forms of interaction such as radio, mobile phones, and internet chat rooms. Of course these reach much wider audiences, and help with scaling (for details see Boxes 1 and 3, and Appendix 2). There is some evidence of looser learning networks forming as a result of these electronic formats, particularly where the feedback loops are created – such as the live call-in phone line in Case 1 which guided programme content. However, these have worked better when backed up with face-to-face meets – in the form of local listening groups in Case 1 and learning study tours in Case 3.

Reflecting on particular lessons and principles in the case studies, there are a number that come across strongly. Firstly the need to truly co-design research, rather than re-package existing external research as a “communications exercise”, so as to foster interest and learning that more likely leads to active behaviour change. A shared understanding is required to do this with many of the interviewees talking of the need to build physical and social spaces which help create the “shared ways of knowing” and understanding mentioned in the literature. Often creating these spaces begins with identifying a common sense of purpose – sometimes but not always around a sense of urgency, such as the food shortages in Case 1 or the excessive nitrate levels in the drinking water in Case 5.

The role of the facilitator as a trusted and independent broker has also come across strongly, often needed not only to bring a group together to develop a sense of common purpose and build trust, but also to help build external relations to facilitate groups of people working together evolving and changing. This facilitator role can in itself evolve as networks of people work together and develop their own ways of working. This is seen strongly in Case 2 where farmers learning together on drip-irrigation developed their own engagement and facilitation approaches over time.

Approaches to creating learning spaces usually involve an active intervention to begin with, so as to bring people together. But to sustain over the long term, both in terms of scaling and a sense of ownership/interest, these cases show the need to self-evolve their purpose and supporting processes to become more organic endogenous rather than directed social learning spaces. We see evidence across all of the cases that this evolving learning is occurring, perhaps with Case 3 - which is set-up more as a “knowledge push” social learning network - standing out. Taking more of Rodela’s “individual” approach to push learning, Case 3 individuals collectively discuss prescribed learning materials “pushed” in to a project-created network. It remains to be seen whether this network will continue beyond the life of the project but there are some early signs of more organic opportunistic learning forming between particular individuals.

Sufficient time is also key to social learning processes successfully developing new learning and behaviour change, and there are often external pressures for “results” which undermine this. The concept of relative “time-lines” of importance from different stakeholder perspectives comes out in a number of the cases. The need for the “purpose issue” to be tangible to each stakeholder within the time frame that matters to them – such as the cropping season or election cycle – is important. Case 4 demonstrates this particularly well with immediate next season forecast planning which engages farmers, government, and researchers. Case 5 illustrates where time-line pressures across different institutional boundaries conflict, with EU vertical institutional pressures undermining to some extent local

social-learning processes which have developed a more horizontal form of institutional management.

Institutionalisation of social learning is perhaps one of the biggest challenges both in ensuring continuity of social learning approaches and in improving the chances of on-ground changes being approved by the likes of policy makers. Case 1 shows how at a local level these issues have been tackled head-on by soliciting buy-in from local government and the local king. Case 3 illustrates a pre-meditated effort to bring influential people in at the beginning as part of the learning network to “champion” institutionalisation of social learning processes and increase the likelihood of impacts through policy change.

Section 4: Discussion

From this review, we can identify core components for an emergent “toolkit” for social learning, with lessons, tools, approaches to evaluation, and examples of impact that can be selected based on the types of engagement and outcomes that CCAFS seeks to pursue. In this section, we reflect on what these findings suggest for the Change Areas identified at the March 2011 CCAFS Social Learning workshop, and on trends revealed through the review that are not captured by the Change Areas identified. These Change Areas are outlined in greater detail in the CCAFS Report on institutional change areas (Carlile 2013).

First, our review of the literature confirms the need for **documentation of social learning processes and outcomes** (c.f. Plummer 2006). The lack of a consistent and systematic documentation is frequently cited, while the majority of current case-based documentation is based on ex-post analysis rather than active documentation of processes as they unfold (Rodela, Cundill and Wals 2012). This represents both a gap and an opportunity for contributions from CCAFS, which seeks to implement social learning processes in a range of contexts. With this said, there have been a number of framings of social learning processes proposed in the literature (some of which are noted in this paper), which can serve as a framework for documenting cases as they are developed. Note, however, the difference between using a model of social learning to assess a process that may or may not have the attributes of social learning (i.e. as a framework for analysis), and the documentation of a process that is designed with the intent of producing social learning. While it may be tempting to use understandings of social learning as an analytical tool, it is through the latter approach that CCAFS will be better able to challenge itself and learn about social learning practice. Ultimately, however, it is also important that whichever process is pursued, the documentation of process and outcomes also considers the degree to which social learning has contributed to the overall programming and development outcomes.

Building on the point above, the desire to **embed social learning within CCAFS** requires, among other things, a clear documentation of what works and why for others to build upon. It also requires approaches that reach beyond the level of individuals and aim to influence network or institutional learning. As mentioned above, this is not a small task, and the scope of the challenge was further emphasised through our case studies. One issue that has come out strongly from the cases and follow-up discussions with key informants is the difficulty in institutionalising social learning in organisations - particularly among decision makers

(Raymond Ison, pers. comm.). Rigid structures and the impact of staff turnover often mean that emergent forms of collective or horizontal governance, where social learning processes have been fostered, are overtaken by more senior vertical structures and external pressures. Given the fact that horizontal social learning structures take a long time to create and often form around a sense of purpose or desire to get something done, this can create a sense of apathy or inability to effect change from the learning networks. This was discussed in Section 3.1 above. As such, the challenge for CGIAR partners who champion social learning approaches may be finding that even in cases where it is well integrated at field level, it may not necessarily become part of the institution's own model of practice. In turn, it may not yield a change in relations between scientists and end-users in understanding beyond field level users and practitioners, nor in the norms and values that shape and incentivise CGIAR thinking. The challenge is therefore, in moving beyond just farmer field schools, for instance, into a form of learning that creates change throughout the institution. In moving forward, CCAFS and the CGIAR centres more broadly, may need to reflect on how what they see as the scope for embedding social learning in their practice as this can range from an incremental change in the way in the ways that work is undertaken at field level to a more transformational change in the way the program or centres govern themselves (c.f. Wals et al 2009; Ison, Blackmore & Iaquinto 2013)

The interest in understanding **endogenous social learning** processes at CCAFS sites is based on an acknowledgement that these kinds of learning processes are already taking place in many communities around the world (see Box 2). However, in the majority of the literature reviewed, the focus was instead on social learning interventions organised with outside organisations. This is particularly true for the individual-centric and network-centric social learning, while systems-centric learning appears to have a stronger recognition of the role endogenous processes play in shaping adaptation and environmental management. Thus, there may be opportunities for drawing on the literature from social-ecological systems to, first, inform planning on integrating endogenous processes into social learning strategies, and second, to see what these processes offer to other social learning perspectives, should CCAFS choose to pursue them.

Some dimensions of **social differentiation** in social learning processes were addressed in the literature reviewed, while others were remarkably absent. As noted in Section 3.1, the need for attention to power relations (for example between senior authorities and farmers) has been frequently noted, and failure to do so risks undermining the entire social learning process. Thus, numerous cases underscored the role that capacity building has to play at the outset of social learning process to ensure there is more equitable participation. However, it must be noted that simply working with "less powerful" or marginalised actors to engage them in learning processes will not fully address issues of power. Ultimately, unless those who sit in positions of power and authority are called upon to re-consider the primacy of their own ways of knowing and acting, learning will remain partial. Related to this, there are conflicting views as to whether "successful" social learning necessarily leads to consensus between differently situated actors, and whether this search for consensus may actually undermine less powerful actors (Muro and Jeffrey 2008). What was not evident in the literature we reviewed was close attention to the role that gender plays in shaping social learning processes. This has been the focus of other CCAFS work on social learning (Shaw forthcoming), which represents an important contribution.

Understand how different perceptions of **timescales** hinder or encourage social learning is a question raised by Lebel *et al* (2010) as well as CCAFS. Slow-onset problems such as climate change pose particular challenges as they may not appear as urgent to stakeholders. The case from CARE Kenya (see Box 4) provides one example of how learning processes are being used to tackle this issue, but it is relatively unexplored in the other literature we reviewed. This may be due to the review's predominant focus on food security and natural resource management, many examples of which were more closely related to current management challenges.

Beyond the Change Areas initially identified by CCAFS, two areas that warrant additional reflection and possible inclusion in future strategies are the role of **facilitation processes** in supporting social learning and the need to establish a clear **theory of change** that addresses the link between individual, collective (network), or systemic approaches to social learning.

What also emerges clearly from this review is that facilitation approaches designed to build trust and address power imbalances and diverging aims and interests, are critical to the success of planned social learning activities. While we have highlighted a range of tools and techniques that have been used, the vast majority of these still depend on adept facilitators able to work across a range of different actors. This raises important questions for CCAFS: Who will these facilitators be? How will their role be integrated into the research process? To what extent is there a clear understanding of what makes for good facilitation in these settings? Can other technologies be used in conjunction with face-to-face facilitation to expand the reach or impact of the initiatives? It seems that an investment into developing a common strategy to addressing some of these rather challenging questions could yield significant gains for CCAFS in terms of having impactful social learning engagement. Notably in this regard, the literature highlights how the research process itself is altered by social learning, with researchers becoming stakeholders and facilitators (Ison et al. 2007), shifting from 'researcher to practitioner, toward collective and collaborative decision making and, ultimately, social learning' (Shackleton et al. 2009).

Finally, this study has underscored the value of a clear **theory of change** that identifies the level at which social learning change is sought – as noted in the discussions of outward and inward-looking conceptualisations, and Rodela's three perspectives on social learning – will have a significant bearing on the tools, approaches to evaluation, and outcomes that can be expected. The decision on the emphasis and locus of efforts to promote social learning (be it at the level of the programming that CCAFS undertakes with communities, within the CCAFS partners themselves or both) should be informed by a shared vision of the role the CCAFS team sees itself playing in effecting broader change. Ison et al. (2013) note that the language through which social learning is framed (as performance, governance, action, etc.) both reveals and conceals the assumptions and epistemic positions of those wishing to apply the concept. This, they argue, calls upon practitioners to clearly articulate the ways in which they choose to use the term. In articulating a collective theory of change around social learning, these assumptions can be brought to the fore.

Section 5: Conclusions and recommendations

This paper has sought to contribute to the growing body of reflection on the role that social learning might play in supporting decision-making on climate change and agriculture. It offers a range of framings and evidence of successful social learning approaches which might inform CCAFS' strategy, and reflects on how these relate to the existing change areas already being pursued by the programme. Based on this scoping we submit the following recommendations and areas for further reflection by CCAFS. We posit that these recommendations hold equal relevance to other institutions and networks seeking to integrate social learning into their practice:

- While there remains uncertainty and lack of clarity over definitions and framings of social learning, the considerable body of evidence found in the literature on the topic offers opportunities to build upon existing lessons, approaches, and evidences of impact and should be reviewed alongside the refinement of a theory of change for social learning and its link to development outcomes.
- This theory of change (for example, of social learning as a collective and outward-looking process aimed at broader change) should then be aligned with tools, approaches, and forms of evaluation that will enable practitioners to track both the process and the outcomes of their work. Documenting this process across different contexts from an early stage would offer an important contribution to the current social learning literature.
- The role of facilitation processes in determining the success of social learning interventions cannot be overlooked. We need a better understanding of what constitutes effective capacity for facilitating social learning, where these capacities lie within global development organisations and how they can be expanded. This should form one of the key change areas for CCAFS and other institutions or programmes seeking to work at scale.
- The challenge of institutionalising social learning remains one of the great hurdles for ensuring its sustainability. This process warrants considerable investment and engagement. Documenting the efforts to institutionalise these practices within large and heterogeneous organisations like the CGIAR partners would also contribute to important lesson-learning for this field.
- While unequal power and voice are highlighted as challenges to the social learning process, specific reflections on the role of gender in social differentiation are limited. Focused analysis of the gender-differentiated outcomes of social learning processes, and of how existing power-relations shape social learning outcomes are keys to assessing the potential and limitations of these approaches.

Appendix 1: Paper citation system for tables

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Appendix 2: Case study interviews

A number of interviews were performed to provide a more in-depth set of social learning examples. Five of these interviews are detailed below, chosen for their interest and variety. The interviewees were sourced from the case study material and through author contacts.

CASE 1 - Creative communications campaign fostering social learning loops

Case context

Kabarole Research Centre (KRC, an NGO) started a radio food security awareness raising campaign for farmer groups in the Rwenzori region of Western Uganda. More than 144 radio drama series on the topic of food security were performed and aired on radio as an entertaining means of discussing the topic. As a result, a number of listeners self-organised through calling in to the radio show and identifying themselves as from a particular area. This resulted in 15 local “listeners clubs”, combining interaction with the radio program with local discussion, learning, and action. Demand from the listeners clubs for more information on granaries (known as *Enguli* in the local dialect) led to further radio programs, and the creation of illustrative posters where members of listeners clubs themselves took part in the radio dramas and also provided content for the posters. This is an example of creative communication sparking interest which led to further learning through group interaction and reflection by end-users on how learning could occur at a wider community level. Demand driven feedback to KRC resulted in more specialised topic discussion (the granaries) and led to KRC itself changing its knowledge sharing practice. Concrete pilots emerged from local adaption of knowledge and a wider uptake was noted in communities with strong listeners clubs.

Specific tools and approaches used

Radio drama series and interactive talks through a phone line to the radio show. Radio listeners clubs emerged and were encouraged, the more active of which were facilitated by KRC. Active listeners clubs were given radio time to show-case and present ideas for discussion with their own community. Wider community forums were also held with buy-in from local institutions - with a major community launch of the campaign presided over by the King of Tooro Kingdom, community leaders, and members of parliament from the region.

Concrete examples of impact that social learning has contributed to

MugusuKyagwamwoha listeners club was particularly active and invited the NGO behind the radio drama to provide further information. Social learning took place at several levels. Group level learning over several meetings built knowledge and focused, in particular, on the topic of granaries – which were then discussed on the radio. Subsequent meetings focused on how locally available materials could be used to build granaries at the household level and suitable foods that could be stored in them. Demonstration granaries were built as a proof of concept using local knowledge emerging from the listeners club. Secondly to bring this knowledge to the wider community, a communication exercise was performed by bringing in community members. The listeners club also hosted a radio program themselves effectively presenting

ideas to the wider community to build knowledge not only on household level granaries but to start a wider debate on community level granaries to include the socio-cultural and governance aspects of how this could function. This process has been useful learning for KRC, government and the cultural institutions both in terms of approach and technical detail that emerged from the locally generated knowledge. The Kabarole Local Government have included UGX 2 million (USD \$1,000) in their plan to assist with promoting the work of granaries.

Approaches to evaluation

No formal evaluation but strong anecdotal correlation between listeners clubs who adopted and adapted ideas (bringing new knowledge through discussion and learning by doing) and wider community uptake and acceptance of results. Radio listeners were in themselves constantly giving feedback through the phone line and with KRC direct contact with listeners clubs.

Lessons and principles that emerged

Facilitator role important – this was important both to build group confidence and discussion on the topic and to assist as a legitimiser. The facilitator (KRC) also built trust relations with the listeners group, not pushing a particular agenda (and was invited in by the group itself). Additionally the “valuing” of local knowledge during this process encouraged facilitators other than KRC to emerge within different listeners’ clubs, thus facilitating scaling of the granaries concept.

Power and institutional barriers explicitly tackled – the facilitator assisted with giving confidence to liaise with the kingdom and the local government, but the listeners club itself identified institutional barriers to progress (who needed inviting and how to approach them) - supported by the facilitator where he could be an effective go-between.

Interest and purpose important – the radio dramas and interactive discussion format created interest and an effective platform for creating localised networks. “Entertainment” was a key part for this initial engagement and motivated the farmers to engage more directly than programmes such as the National Agricultural Advisory Service had achieved (a government programme to promote production at household level). It should also be noted that shortages of food were widely topical and hence food security a topic of strong interest and urgency (for example it had been noted that children attending school had dropped out because of hunger caused by absence of food at the household level). This lends to common purpose and to some extent a crisis narrative as drivers to bring people together for learning. The common purpose was scoped down to more tangible and practical interest topics by the radio listeners through the phone line feedback.

Other take-home messages or resulting questions

It would be interesting to better understand the dynamics inside the listeners clubs that had the most impact – for example were there particular champions on particular issues, how were they identified or did they self-nominate? What were the social differentials between members of the club and were these differences important in terms of how the group functioned?

Additionally, it would be interesting to follow how the MugusuKyagwamwoha listeners club's plans to mobilise "food for the village" with granaries at community level progresses, what social learning occurs, and how trust and management processes are built to store and distribute scarce food resource at a communal level.

CASE 2 - Developing self-perpetuating social learning: moving from constructive intervention to more autonomous group learning for drip irrigation in Morocco

Case context

Moroccan farmers are becoming more involved in managing supply chains, notably through local and regional cooperatives, particularly for milk. However, despite the state's attempts to transfer responsibilities to associations of water users, it retains control of large-scale irrigation schemes. In addition, a decline in surface water available for such schemes has prompted farmers to use groundwater from individual tubewells. Meanwhile, government programmes to relieve water scarcity with drip-irrigation technology have not had good uptake from farming communities.

The Moroccan branch of the agricultural research centre for development, CIRAD, wanted to help small scale farmers to better understand drip-irrigation and plan their own group projects. The aim was to use land in ways that better suited the farmers and to encourage farmers to take more ownership of the process.

CIRAD wanted to use social learning through this process and put in M&E to capture it. The results include projects that farmers had co-created to meet collective system level water management and that were also tailored to individual farmers. These projects continued to flourish outside of the CIRAD intervention as different farm groups continued to interact and learn from each other. CIRAD concluded that it was more important to enable farmers to engage with an issue as a group – and design irrigation projects together - than to transfer technology to them.

Specific tools and approaches used

CIRAD used technical and practical workshops to raise awareness, and followed these with role playing games, individual farm projects and co-design workshops. The participants were 15 leaders of cooperatives or small associations who were engaged in collective action in their own settings. Some were close to retirement but most were relatively young (35-40). Farmers said factors affecting their willingness to engage in the process included:

- Drip irrigation being pushed by government (some subsidies) but doubts about what it could “do for them”,
- No immediate threat of water shortage but shortages likely within 1-2 years,
- Evidence of bigger farmers benefiting (better prices, different crops) – possibility of “missing an opportunity”.

During the awareness-raising phase the farmers learned from each other and CIRAD learned from farmers – for example on the perceived technical barriers to adopt drip irrigation. This showed what was important to farmers and helped to shape subsequent workshop processes.

During the simulation phase, role playing was important in abstracting – putting farmers in “scenarios” of other farmers’ shoes. The role playing game was first seen as “co-designing farm projects” that used drip irrigation. But it turned out to also be extremely useful in building common understanding of system complexity relative to the farm area it was played out in.

Concrete examples of impact that social learning has contributed to

Impacts included:

- Understanding of how to deal with drip irrigation and collective projects - group learning occurred particularly during the simulation phase which led to co-design of projects. To note drip-irrigation does not only involve changing irrigation practices but also crops grown and hence markets sold in – so the commitment required to change over is significant. Learning that emerged from the process was that to be sustainable in the long term collective drip-irrigation projects across farmer groups have to adapt to individual farm projects (not vice-versa) i.e. collective equipment is required and crops need to “match” across the collective but farmers have very different ideas of what they want to crop. This makes the design a lot more difficult than “imposed” crop-type system by an external engineer but an imposed system is less likely to be successful in the long term and harder to adapt to individual farm requirements once implemented.
- Reflection and iteration on co-design process leading to implementation – the Milk farmers (most dynamic group) carried on with their own co-design process – researchers not required as facilitators – and implemented different “co-produced” projects outside of the initial process indicating new approaches and social learning processes happening as an evolution of the work CIRAD started.
- Cross group facilitation and advice – One irrigation project run by three brothers that reached implementation as a result of co-design drew in “councillor” function in form of one of the milk cooperative leaders (a respected farmer and intermediary negotiating with bigger business for 3 brothers). The milk farmer used this as learning to implement within his own cooperative.
- Knowledge networks are still in place and have evolved to suit different groups’ purpose despite the end of the CIRAD project/involvement.

Approaches to evaluation

An external researcher was used to develop an evaluation framework. The researcher met with farmers before and after entire process. Semi-structured interviews and questionnaires were used to understand aspects of learning. Additionally, group discussions were used at the end of each workshop to evaluate the process and provide an opportunity to modify the next step.

Lessons and principles that emerged

- Institutional and cultural factors were important to uptake – these factors emerged during the process where a number of farmers lost interest during the co-design phase and did not go on to implement. Reasons varied, for example attitudes to the state as “a provider” emerged as a strong differential between the older and younger farmers when considering whether to adopt communal irrigation projects that required farmers rather than the state to take risk. Other farm groups had a negative impression of co-operatives from previous experience, perceiving them as mechanism of the state to co-opt individual farmer freedoms.

- Identifying “champions” to be part of the social learning group was important – farmers were selected as dynamic people who had already been involved in group processes and led their own farmer networks – with the idea of a multiplier effect in these groups.
- Initial awareness raising phase was important - in building trust of independence in the agenda, in the facilitator, and in bringing people on to a similar knowledge platform through multi-way exchange in the group.
- Farm leaders as research partners: capacity transfer - this not only built ownership and trust but on a practical level the farmers had a good knowledge of how to design processes that would work for their groups. Researchers in CIRAD deliberately avoiding “offering solutions” in a traditional technology transfer sense and instead engaging with farmers in an evolving process that they drove themselves.
- Building initial trust in the convening/facilitating organisation was key – the awareness phase combined with subsequent deliberate avoiding of “offering solutions” and instead engaging with farmers in an evolving process that they drove themselves further assisted with trust building over time.

Other take-home messages or resulting questions

This process over a year had some great spill over to more organic learning across farm groups known to those who were part of the initial process. It would be interesting to see how this could be scaled further.

The state participated to discuss and explain subsidy procedures however was not an intrinsic part of the process – rather they were interested in the outcomes of the process, i.e. if this co-construction approach would help them increase drip-irrigation uptake. Is there a role for the state to be more intrinsically involved? Are there blocking factors that would limit uptake and scaling without this?

CASE 3 - A “knowledge push” network that has fostered group level knowledge creation and new South-South learning alliances

Case context

Evidence and Lessons from Latin America (ELLA) was established as a programme in 2009 by the UK Department for International Development (DFID) as a way to synthesise research and policy lessons from Latin America and discuss them with a global audience – as part of a responsible exit strategy from bilateral aid to the region. The DFID conception of ELLA was “extracting” lessons from LA for the rest of world and the regional centres developed knowledge topics which were pushed out to a network that was set-up to discuss the issues.

Practical Action led this work and identified that any “knowledge push” should be matched by demand. Working with KITE in Ghana on a 2 year inception phase - consisting of online surveys, structured interviews, and desk-research - topics of interest to Africa and South Asia were identified that Latin America could offer learning on. The climate change agenda was a key demand topic.

Latin American partners consisted of regional centres of expertise across the three broad areas of economic (growth) learning, governance, and environmental issues. However inside the topic areas that have been introduced, participants themselves have come together to co-construct learning through an online platform and local meetings of participants with video-conference links to Latin American interest groups, and through learning tours.

This is an example of a constructed network which was reasonably well resourced to gather and synthesise knowledge to “push” to networks of interested groups around particular topics. There is a sense here that this is more of an individual rather than network approach to learning through “knowledge transfer” – in particular when considering knowledge to implementation. However, the networks are evolving. Within the constructs of the network, there are examples of group level learning occurring, which stem beyond the materials pushed in to the network and there is emerging evidence that new alliances have been formed focused on South-South learning and implementation projects. What remains to be seen is whether the ELLA constructed networks or any spin off learning alliances will continue significantly after the formal end of the project – and of the funding that supports it.

Specific tools and approaches used

- Using “knowledge products” from the 3 centres and other materials as inputs to an online course structured over 4 to 5 months with new issues presented on a weekly basis from a Latin American perspective to provoke online discussion, including webinar.
- Community of practice where the emphasis was to be on-board from the beginning in a closed circle on a particular issue. 800 applications were received for the community of practice of which 450 were accepted. Active participants around 15% of this with a further 30 to 40% “listening”.
- Supplemented the online community of practice with national level meets with video-conference to Latin America. The climate change learning alliance had national learning groups in Kenya, Ghana, and Zimbabwe. A study tour was also performed where 12 people were selected for a 10 day trip to Brazil.

Concrete examples of impact that social learning has contributed to

Evaluation so far has been ad-hoc, below are some anecdotal examples of impact:

- The extractive industries learning tour (physical tour) compared and contrasted experience between Kenya, Mozambique, and Ghana at various stages of extractives penetration. Topics discussed included looking at implementation reality versus policy to better understand power relations between miners, government, business and civil society. Group level learning occurred when comparing and contrasting different country contexts.
- The extractive industries learning tour also led to development of new South-South alliances to continue learning through project level implementations.
- In Uganda a journalist writing on mining sector used ELLA network-based learning in his journalism in Uganda. The journalist claimed that some of those arguments had been included in new law in Uganda.
- Discussions at the ELLA network level have also led to further reflection at national policy process level – where ELLA alliance members have been close to those national processes. For example in Kenya the national learning alliance is linked to on-going policy formulation on the national climate change action plan and is learning from Latin American experience of climate change adaptation in semi-arid areas is feeding in to the policy debate.
- Knowledge creation on what lessons/learning LA could demonstrate – led by the research centres the effort of coming together to synthesise material and share learning led to creation of new knowledge from the perspective of these Latin American organisations.

Approaches to evaluation

No systematic evaluation of the learning alliance at this stage.

Lessons and principles that emerged

- Online alliance useful to bring broad group of people together and “closed” nature of group and definition of topic areas for different alliances helped to create a sense of purpose. ELLA set the materials agenda in each session, selected who was part of the alliance, and who went on the learning tours. This helped set specific purpose, however selection of topics was based on research and discussion and retained an element of flexibility. Learning tour participants were chosen by (1) those who actively participated (2) those who self-identified (3) influence levels of those people to effect change in their home countries. e.g. government advisors/ministers. This helped foster dynamism and increased potential for learning to be implemented.
- From virtual to physical increases impacts - some evidence that physical meet was more effective in fostering social learning which led to behaviour change – although bias here given that those selected for physical meets were more active contributors and more influential in their own circles. The online forum allows for wider catchment but creates “loose ties” versus the stronger ties created by the study tours and national meetings.

- Starting a network requires particular skills and resource - the format used by ELLA meant that practical skill sets are required for (1) producing materials (tightly written input pieces for discussion), (2) identifying partners and alliance members (3) moderating/facilitating the learning alliances/networks and developing the study tours as a result of demand.

Other take-home messages or resulting questions

Continuity of learning is a potential issue – whether or not the ELLA programme has met its own goals, one question is how to create on-going value from these networks that have been “constructed” around a concept and funded to meet a purpose. This process has attempted to create a community of practice but underlying this there is still a sense of individual learning through knowledge sharing – although be it that some group level knowledge has been created through social learning. Will this learning alliance continue as is without the funding driver and the current facilitator role? This seems unlikely. Will emerging new organic alliances such as that fostered through the extractives tour continue, or the discussions of the Kenyan working group perhaps in different forms?

CASE 4 - Bringing together stakeholders with different timeline priorities to improve climate change adaptation impacts

Case context

CARE International launched the five-year Adaptation Learning Programme (ALP) for Africa in 2010, implemented in Ghana, Niger, Mozambique and Kenya, in partnership with local civil society and government institutions. The programme seeks to identify successful approaches to Community-Based Adaptation (CBA) for vulnerable communities through working directly with 40 communities as well as learning with other organisations practising CBA, and support incorporation of these approaches into development policies and programmes in the four countries and their regions in Africa.

ALP ran a number of participatory scenario planning (PSP) meetings between meteorologists and local actors with the purpose of building mutual understanding of data needed by local users and in planning responses to weather scenarios collectively. Key here is an element of linking timelines - the immediacy of weather scenarios for the upcoming season and farmer priorities/responses on one hand, whilst at the same time building longer term understanding and capacity to plan/respond to climate change. Part of the process considered important was facilitation with a “light-touch” allowing the overall guided process to create sufficient space for reflection and a sense of ownership.

This approach encourages participatory planning and recognises the importance of different knowledge systems by encouraging local communities and government to take ownership of the process. What has become evident is that new knowledge has been created through social learning, and there are encouraging signs that social learning processes are evolving, reflecting on their own purpose and effectiveness, to become more systemic. For example in Kenya a task force has been created by communities and local government to continue to evolve PSP processes beyond the ALP programme and take implementation of agreed activities forward. Other organisations such as CCAFS have also adapted scenarios processes with respect to socio-economic uncertainties and interaction with climate change at regional levels.

Specific tools and approaches used

The PSP approach starts with a learning dialogue between the meteorologists, local government people, NGOs, community leaders and community knowledge experts. ALP/CARE staff facilitated a workshop, running over a few days, exploring the implications of the forecasts and the probabilities of how the weather will be over the next season. They look at forecasts from scientific and local/traditional sources and integrate the two. Participants interpret the forecasts into three probabilistic hazard scenarios. Participants then discuss actions taking advantage of identified opportunities.

Concrete examples of impact that social learning has contributed to

Development of a more collaborative relationship - lots of evidence here about changes in relationships, around working more collaboratively between people who do not usually work together. In Kenya the PSP group has put together their own working group or task force that

takes the lead in managing the process – there have been three PSPs now which have evolved in form and function demonstrating learning in the PSP process itself.

Evidence of behaviour change and on-ground impacts – or actions that are different that might denote behaviour change. For example, the discussions of the probability of water shortage led to a group learning on coping strategies including using different kinds of maize seeds. As a result of this the Ministry of Agriculture made different kinds of seeds available and a number of farmers had a higher yield in their maize crop. What is less clear at this stage is whether this will lead to longer term behaviour change in a more flexible approach to farming (and hence building adaptive capacity) or whether this was one-off action as a result of a perceived “emergency” for that season.

Approaches to evaluation

There has been no systematic evaluation of social learning itself but CARE have been careful to document the process and produced a briefing paper which highlights some of the factors they have found important for the PSP process to be produce positive results.⁴

Lessons and principles that emerged

Key learning points here are:

Linking timelines and a sense of purpose – the scenario planning workshop is held immediately after the seasonal forecasts are published and in time for action before the next season. This strong sense of purpose also meant that everyone participating understood what kind of experience and knowledge they needed from each other. Building on this immediacy is also group learning on some of the issues around climate change adaptation, including planning for uncertainty.

Adapting to cultural sensitivity key to engage people – an example given was the fact that a number of the participants were Muslim and for them only God can predict the weather. The group, particularly the MET people adapted language to talk of probability of weather and not prediction. This worked well for the participants and became the lens through which the issue was explored. The idea around probability rather than prediction also enhanced the way in which people could think about futures and plan in different ways – a good mechanism to understand how to make decisions in the face of uncertainty.

Process needs to provide room for reflection – the group discussions covered many more issues than just those on the “agenda”; there was plenty of room for reflection. The light-touch facilitation style by CARE which provided direction but not “answers” also fostered a sense of ownership. Barriers to who was an “expert” were also broken down with reflection and valuing of different knowledge, interestingly with no body claiming to be an expert on climate change adaptation.

Change driven by champions - The PSP process has clearly indicated the need and role of a number of different “champions” in the process. These may be identified champions (as in

⁴ CARE. “Decision-making for climate resilient livelihoods and risk reduction: A Participatory Scenario Planning approach”. http://www.careclimatechange.org/files/adaptation/ALP_PSP_Brief.pdf.

the Kenyan Task Force lead manager who is a local government elected official), through to a very pro-active and strong personality in the “women’s leader”.

Other take-home messages or resulting questions

Kenya’s political structure is about to change completely and people simply do not know how this will pan out in terms of working together after the next elections. There is a danger here that changes in civil servants and more power vertical governance structures could undermine this fledgling learning process. Will the learning processes be able to adapt to these changes or suffer as a result of them?

Observations noted that it was very easy for women’s voices to be quashed and difficult to get women to understand that they may have different knowledge to share from that of their male counterparts. Discussions about who should be present at meetings and the presence of authority suggests that to avoid a potentially disempowering situation a lot of less documented work was done beforehand to build relationships and clarifying purpose. Hence perhaps a pre-condition to good social learning processes is the time taken around the actual “learning spaces” or “learning activities” for extra understanding and relationship building on the agendas for the different stakeholders.

Champions here have been identified as key. One question is to what extent you need one or more champions who fulfil different roles and whether this should be designed in advance or whether it is left to the dynamic of the emerging learning group.

CASE 5 - Shifting from a top-down research approach to ecosystem wide social learning and governance in managing nitrate levels

Case context

Agronomist researchers in Italy with a traditional approach to research wanted to raise awareness of nitrate levels in eco-systems. A “nitrate emergency” was declared in the 1990’s where levels of nitrates in drinking water were above safe levels. The response was compulsory reduction of use of fertilisers and other chemicals at individual farm plot level, resulting in reduced yields for farmers. Evidence from the agronomists demonstrated that this approach was not effective as the problem was more complex than individual farm level practices – and included expectations of end-users on type and appearance of produce.

Contact with the SLIM programme (Social Learning for the Integrated Management and sustainable use of water at catchment scale) inspired the researchers to try an approach as part of a wider set of case studies, providing a useful conceptualisation for them to model ways to critically reflect on the use of dialogical tools to promote learning and understanding. The result was a year-long process with iterative phases of learning that brought together different farm groups, government, and end-consumers. The nitrate issue was reframed through social learning processes spanning numerous iterations from a “problem” in terms of how much nitrate used on crops, to part of a wider systemic issue involving collective agreement on crop types, planting approaches, and in managing end-user expectations.

Subsequently social learning has become more integrated with the planning and governance process, and the impact has been policy and practice change - limited to some extent by external rules from the European Commission.

Specific tools and approaches used

Tools were used to facilitate a cyclical process of “observe, reflect, plan, and act”. Starting with a conventional meeting with a farmer group, the agronomist acted as a facilitator raising awareness of nitrate observations but making clear he did not have a “solution”. Tools at each stage were used as observation which were then reflected on in a later stage – for example discussions on water quality led to some participatory GIS work which after reflection was shared and extended to end-consumers (eating produce from the land) and tourist operators (reliant on the aesthetics of the land to attract tourism).

Tools were suggested and adopted by the groups themselves with some input from the facilitator. Other tools included: visual aid tools e.g. photos of the area, disposable cameras issued to participants to map perceptions of natural beauty; future agricultural scenarios - facilitating understanding and planning; a theatre event – playing out “resource dilemmas” in an entertaining way to involve wider catchment communities in the debate.

Approaches to evaluation

The team used the SLIM “renewal model” to track iterations of “observe, reflect, plan, act” across the various meetings and activities performed by and with different stakeholder groups. Observation on group level changes in understanding and subsequent changes in practice were also tracked across the project period.

Concrete examples of impact that social learning has contributed to

The process itself became increasingly stakeholder driven reshaping research activities of the research team which indicated a move along the continuum of awareness through new knowledge creation, to behaviour change, to impacts in how research is conducted.

A willingness to collectively change practice is evidenced by levels of agreement on scenario planning as when the regional government was pushed by stakeholders (farmers and citizens) in a multi-stakeholder meeting to upscale environmental measures. This resulted in an “agri-environmental agreement” at regional level after further research on environmental evaluation which involved stakeholder groups.

Lessons and principles that emerged

Co-design of research rather than repackaging - the research was reframed by stakeholders and there is a clear difference here between effective communication of research and the process of social learning which led to the research itself and knowledge of the researchers being reframed. For example, farmers explored “catchment” by themselves, using maps as a dialogical tool, leading to further information requests, which reframed approaches by the researchers around questions such as “what would happen if we planted different crops?” building in real world farmer practice e.g. what time of year the fields are ploughed

Trusted facilitator important – the facilitator was key in starting the process and being a “common” element across the different stakeholder groups - although increasingly stakeholders became “self-driven” over time. The agronomist researcher was trusted partly because of reputational history (institutional respect locally) but he also built trust by being an honest broker through assisting rather than driving research and solutions forming.

Importance of time dynamic and creating physical and social “spaces” – the final multi-stakeholder meeting that resulted in a drive for change was the result of many smaller crafted “spaces” over a period of time that hosted the learning process and facilitated negotiation. Early meetings such as an information push based “GIS meeting with professionals” where participants did not perceive the nitrate tap water issue as “their problem” highlighted to the researchers the need to carefully craft these spaces in order to build context based knowledge and work towards communal solutions.

Lack of powerful institutional buy in can reduce impacts and sense of purpose - Part of the agri-environmental agreement required collective action to co-ordinate crop types and farming practices across the region. Despite local government buy-in, a barrier has been EC regulations on how agricultural policy funds are spent which effectively restricts the scope of such agreements. Hence there has been some disillusionment amongst stakeholders on institutions imposing rules and the lengthy process of building common agreement being a waste of time.

Other take-home messages or resulting questions

Time taken – the social learning participatory process can be an issue in terms of time and require levels of experimentation both in creating the learning spaces and in communal changes in practice. Researchers face pressures to deliver papers to their specialised areas that don’t recognise social learning. Politicians often want to make decisions in days and not

years particularly in this case where the local government is time constrained by spending and reporting requirements and view farmer processes as difficult despite seeing their intrinsic value. What can be done to manage these different pressures or is it the case in this example of the need to work at the EC level to increase institutional buy-in to processes that foster social learning?

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