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COMMENTARY:

Social learning and sustainable development

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To understand what social learning approaches can offer the sciences of adaptation and mitigation, we need to assemble an appropriate evidence base.

Research-for-development institutions such as the Food and Agriculture Organization (FAO) of the UN, CGIAR and their partners are under mounting external pressure from donors to link knowledge to actions that achieve substantive, long-lasting and demonstrable development outcomes[1]. If research is genuinely to result in beneficial changes in behaviour, policies and institutions, research outputs need to be much better informed by and engaged with the processes through which individuals, communities and societies learn and adapt their behaviour in the face of change[2,3]. Social learning approaches may be able to contribute substantially to this aim[4]. Definitions vary, but in a nutshell social learning approaches facilitate knowledge sharing, joint learning and knowledge co-creation between diverse stakeholders around a shared purpose, taking learning and behavioural change beyond the individual to networks and systems. Through an iterative process of working together — engaged in interactive dialogue, exchange, learning, action, reflection and continuing partnership — new shared ways of gaining knowledge emerge that lead to changes in practice[5]. As such, social learning builds on well-established traditions from participatory development, but puts learning and collective change at the centre of engagement. Social learning can provide a way to address complex socio-ecological (so-called wicked) problems by integrating diverse knowledge and value systems at many different levels and through different learning cycles.

From theory to practice

As a concept, social learning is appealing. But how can we implement it as effectively and efficiently as possible? In practice, it takes many different forms and can be used to effect different types of change. Some examples of innovative sustainable agricultural development projects and programmes that are taking this approach are shown in Table 1. These illustrate a range of scales at which social learning and change are happening, from the individual to the community to networks and systems. The range of outcomes from these projects is equally wide, from changes in the way farmers go about their business to new agricultural input distribution systems to the creation of new institutions and the empowerment of national agricultural planners.

On the face of it, social learning approaches should be able to contribute to smarter, more effective research-for-development institutions in terms of performance and governance, and also help them to achieve more sustainable results, measured as development outcomes[6]. We also know that iterative learning processes are perceived to be a critical component of adapting to environmental change, and that there is an absence of learning tools that can be applied in contexts where uncertainty is high[7]. But at the moment, we have only limited evidence on the impact of social learning approaches on tangible development outcomes, and not much is known about the costs of social learning approaches in comparison with more traditional, linear practices[8]. There has been only limited effort put into evaluating social learning methods beyond one-off case studies and *post hoc* or appreciative reflections[9,10]. Larger-scale reviews of social learning have thus far focused on its framings and methodologies more than on its ultimate impacts. Scientists are particularly concerned with the transaction costs that they perceive to be high (for example, the amount of time spent dealing with 'messy partnerships') and a limited ability to replicate and scale up results more broadly.

A framework for gathering evidence

In view of the limitations of the current evidence base and calls for greater empirical rigour in evaluating social learning[11], we are embarking on a systematic evidence-gathering effort, using a common evaluative framework to track new initiatives from

Table 1 | Five examples of social learning in sustainable development and adaptation.

	Approach	Model of social learning (SL)	Key outcomes	Key lessons
Farmer field schools in Kenya[14]	Participatory agricultural extension that provides a platform for male and female farmers to work together in groups to learn about the 'how and why' of various farming practices. Facilitator promotes active participation, group dialogue and reflection through experimentation.	SL as both concerted action and a mode of governance that effects change in individuals and communities. Involves testing and improving practices and rethinking the principles that underlie these practices.	Increases in farm productivity and incomes, reductions in pesticide use, improved farming knowledge, empowered farmers, changed gender roles and norms and improved community relations.	The combination of instrumental knowledge (about practices and innovations, for instance) and enhanced individual and collective agency acquired through the learning process can enable poor farmers to improve their well-being and agency.
Participatory varietal selection in Africa with crowd-sourcing[15]	Creation of knowledge networks with a learning environment for co-producing knowledge. Uses mobile phone technology so farmers are engaged in evaluating and distributing seeds on a massive scale.	SL as concerted action that effects change in individuals and networks. Involves testing and improving existing practices.	Expansion in acreage under improved varieties; new farmer networks evaluating and distributing seeds.	Co-designing and evaluating research that involves equitable and widespread participation of different groups in testing and assessing new technologies and practices. Sharing these lessons improves uptake by marginalized groups and can redirect research to meet users' needs.
Learning alliances in Latin America[6,9]	Building multi-stakeholder innovation platforms that develop collaborative teams and 'co-learn' regarding needs along the value chain (or from one region to another) with farmers, traders, agribusinesses, banks, producer associations and so on.	SL as concerted action that effects change in individuals and networks. Involves testing and improving existing practices, as well as rethinking the assumptions and principles that underlie these practices.	Support for continuing dialogue between researchers and development actors on lessons learned, innovations, adaptations and emerging demands for new research.	Can increase reach of local meetings of participants with videoconference links and learning tours. Strong facilitation is key. Purpose and supporting processes need to self-evolve to become more endogenous (rather than directed) SL spaces.
Community-based management with participatory future scenarios in Africa[16]	Learning dialogue through facilitated workshops with meteorological and agricultural extension experts, with joint learning around timely seasonal weather forecasts and information on agricultural management options to capitalize on that learning.	SL as concerted action and mode of governance that effects changes in communities, networks and systems. Involves rethinking the assumptions and principles that underlie practices and designing new governance norms.	Communities and local governments create new institutions that help link different timelines, for example the immediacy of farmer priorities and responses with longer-term understanding and capacity to plan and respond to climate change.	Champions at different levels and creating a level playing field are crucial. Strategic, culturally sensitive communication efforts are important. Need to create room for reflection, building trust and inclusive learning spaces. Need to recognize and accommodate users with different timeframes and purposes.
Participatory future scenarios at regional level in East and West Africa[17]	Participatory future scenarios that explore plausible regional economic development pathways to the 2050s and the impacts that these may have on key development outcomes.	SL as mode of governance that effects changes in networks. Involves rethinking the assumptions and principles that underlie practices.	Key national and regional food system decision-makers are engaged and empowered in new future-oriented and food security-based dialogues.	As for example above. Forward-looking planning processes are new in many regions so capacity strengthening is a key need. Engaging and linking private and public sector decision-makers is challenging but critical for influencing policy change.

a range of institutional settings that incorporate social learning approaches. This framework revolves around a set of practical guidelines that will help anyone interested in taking a social learning approach to use the best available knowledge, information and tools to implement and document their initiative (Fig. 1). It is increasingly recognized that case studies are not only an appropriate but also a necessary tool when considering social learning[12]. The problem is that they are seldom set up to allow comparison and lesson-sharing across a large range of environments and contexts,

which would enable us to answer questions about cost, effectiveness, scalability and impacts. The new approach should help us to do so.

The first step involves taking stock of what is already known, gathering baseline information and identifying indicators that will allow an understanding of the process of change. It also involves determining whether social learning is really the right approach to the challenge in question: in some cases, social learning may actually overcomplicate a relatively straightforward task. Next comes the identification of feasible options and

solutions jointly with research users — those that will take action. Asking those who already work on the ground to give feedback on the usefulness of social learning approaches can help to assess whether such techniques are applied effectively. This is followed by documenting the process and gathering evidence on the changes taking place, at which point the people involved can be brought together to jointly analyse and interpret the evidence, and design new actions and solutions. A key step here is archiving and widely sharing the new information; too often data and analyses are

held closely by a few people, limiting their accessibility and use.

In the spirit of social learning this framework is being supported by continuing facilitated dialogue, collective analysis and evidence sharing. Work on the first iteration of the practical guidelines that accompany the framework is well underway, and these guidelines are being made available through an open-access wiki space as they are produced, so that they can be critiqued and improved by the community. Developing this body of evidence from across an ever-growing range of actors interested in these methods, we argue, necessitates taking a social learning approach to testing our hypotheses about its effectiveness and impact on development outcomes[13].

A call to action

By applying this framework for monitoring and evaluating social learning activities to a wide range of initiatives, expanding on the examples in Table 1, we will be able to build up a body of robust evidence concerning the conditions under which social learning approaches are effective, replicable and/or scalable, and sustainable.

To really understand what social learning approaches can offer the sciences of adaptation and mitigation across a range of contexts we need a step change in how this kind of work is initiated, documented and evaluated. Here, we have proposed a way to facilitate this step change, and we suggest that actions by many different institutions with similar aims could usefully be launched, using this framework, across the international agricultural and food systems research and development community. This could be a highly effective and efficient way to generate a sufficient body of evidence to fill this important knowledge gap. ❑

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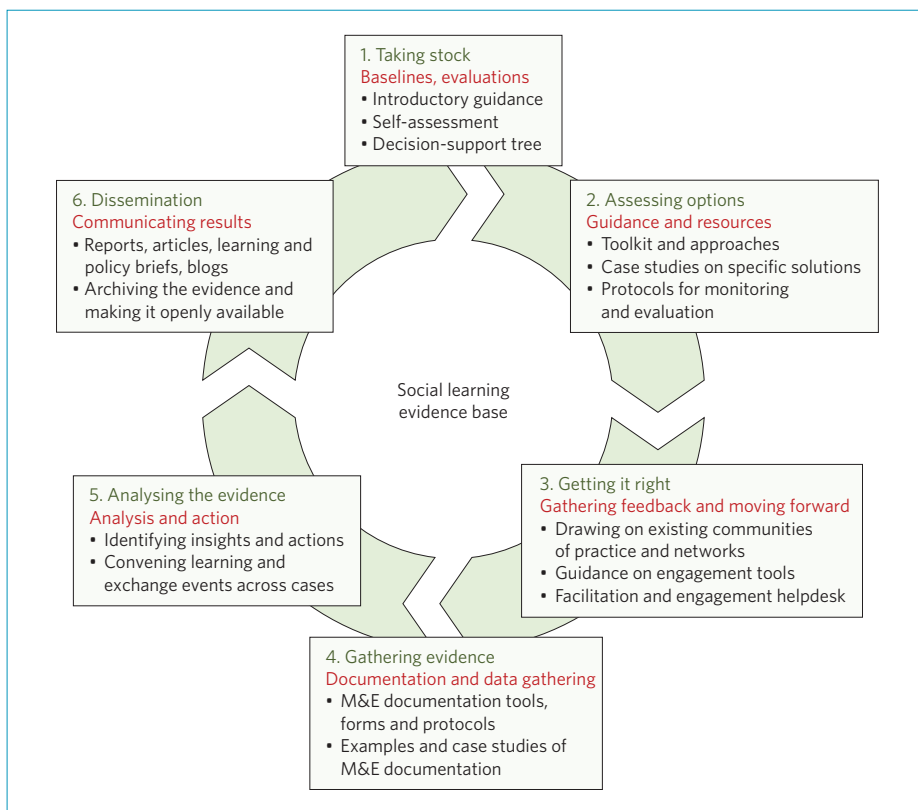*e-mail p.kristjanson@cgiar.org

Figure 1 | An evaluative framework for assembling an evidence base on the impacts of social learning. 'Communities of practice' refers to groups of people who share a research approach or set of methods. M&E, monitoring and evaluation.

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