Diverse Ways of Knowing: Challenges for Responding to Climate Change

Journal Item

Diverse Ways of Knowing: Challenges for Responding to Climate Change

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Summary
Climate change adaptation must include the recognition of uncertainty. This requires modes of learning that are strategically and practically flexible, adaptive and sensitive to actors' situations and orientation. Designs for future climate change education can draw on the seven-year program for building resilience to climate change in the transboundary Olifants River Basin to deliver transformative praxis innovations.

Keywords
Codesign
Coconstruction
Systemic And Transformative Social Learning

Background

We report on a research and development programme (2012–2019) aimed at building resilience in the Limpopo River basin located in the south eastern region of Africa (Association for Water and Rural Development [AWARD], 2018). The majority of the residents of the river basin are confronted daily with the challenges of increasing poverty, health risks, water insecurity and environmental degradation. These factors are compounded by climate change, which exacerbates food and water security challenges. There are major implications for agricultural practices. Governance is complex, and social system breakdown is a real risk (Kong et al., 2020; Pollard & du Toit, 2011a, 2011b; Pollard et al., 2014).

This paper is based on a synthesis of the highlights and suggested policy responses from the RESILIM-O project conducted by the research and development organisation, AWARD, with USAID funding. The project has focused on enhancing the resilience of the Oliphant's River Basin, which is part of the larger Limpopo Basin. We begin with an overview of the theoretical underpinnings and then justify and explain the conceptual framework that informed the activities. These were conducted as a basin-wide programme that aimed at building regional resilience. The key outcomes of these activities are discussed, and crucial policy-related suggestions offered.

Theoretical Underpinnings and Justification

The programme's original five-year time frame for addressing climate-related actions was intended to be prudent and

focused. Building on prior experiences (such as the Save the Sand Project (Pollard et al, 2008)), and working with partners such as local government, national government Departments of Agriculture and Water Affairs as well as conservation entities such as South African National Parks (Pollard et al., 2011), AWARD set out to design basin-situated activities associated with resource protection measures, rehabilitation initiatives and developmental activities that could contribute to climate change adaptation.

Drawing on complexity and systems theories (Cilliers, 1998; Holling, 2001; Ison, 2010; Walker et al., 2004), the basin was initially framed as a complex, open ecological system (Berkes et al., 1998), hence necessitating an approach that explicitly recognises change, heterogeneity and variability as the key characteristics but, at the same time, accepting the possibility of responding purposefully to unfolding climate change scenarios. Over time, this framing was consolidated as a basin that is a coupled, coevolving human and ecological system within a failing–or nonresilient–catchment governance system.

In reconceptualising governance systems, Ison and Straw (2020) point to the need to invest in recovering systemic sensibility, as well as building systems literacy and systems thinking in practice (i.e., praxis), among practitioners-stakeholders. These capabilities are needed because there can never be a "correct" answer or collection of answers to exactly what constitutes improvement in coupled, coevolving systems. In the field of hydrology, for example, understandings are shifting to an appreciation that because of human-induced climate change, stationarity is "dead"; that is, we can no longer pretend that the past can be used to predict the future (Milly et al., 2008). The realisation that we are inhabiting a territory new to human history–and in a radically new and uncertain world–highlights the quality and types of learning needed for adaptation to change.

In the face of this uncertainty, AWARD drew heavily on transformative social learning scholarship (Ison et al., 2013; Mostert et al., 2007; Reed et al., 2010; Wals, 2007), with the pursuit of social learning as a process based on "learning" in a very broad sense, including new understandings, identity development, change of practices, institutional development and agency building. It also included developing trust and a collective identity, and the ability to self-organise and self-regulate as the key attributes for ensuring collective action (Ison, 2010; Pollard & du Toit, 2013; Proost & Leeuwis, 2007).

Enacting the Project Design

As a river basin programme, RESILIM-O had to respond to a considerable and challenging spectrum of diversity. A variety of legislative frameworks with the associated obligations and implications for practice meant that institutions and government departments were not necessarily aligned with the same, or a similar vision, as each other. The practitioners were not familiar with each other's ways of working. The combination of sectoral interests, commercial endeavours, social benefit and conservation programmes had precipitated tensions and conflicts of purpose over time. Differences in intentions and ideologies associated with solutions and responses have emerged over varying time frames and in response to differing contexts and scenarios, as well as to the perceptions of political and economic systems. The challenge of alignment has been exacerbated by differing commitments to shared cultural beliefs, languages and knowledge systems. Equally challenging was the coexistence of plural governance arrangements in the African context, where traditional and contemporary governance systems with different decision- and meaning-making systems have far-reaching implications for civic engagement.

Given this complexity, we adopted a collaborative and colearning approach to programme design from the outset, where stakeholders were engaged in understanding the basin as a complex, socioecological system with socioeconomic, politicoeconomic and ecological attributes and, critically, where values could be made explicit (Pollard et al., 2020a). In doing so, the stakeholders were able to name what mattered to them and learn of each other's views, understandings and concerns, as well as integrate with "expert knowledge"', which was shared in appropriate ways. Working in this way, a diversity of knowledge was taken to be an asset. Based on this shared systemic understanding and recognition of the "other", the stakeholders moved toward collectively identified risks and priorities for action, or "places to intervene in the system" (Meadows, 1998).

Only then did the project move into project implementation and use a common thread of resilience-building (Pollard et al., 2020b) to work with project staff and partners around ideas of learning, reflection and adaptation. To a large extent, resilience-building, in this context, was about responding collectively to common-pool resources that are under pressure. In this regard, catalysing and supporting networks for collective learning became critical across the focus areas, which included water governance (Pollard et al., 2021b), civil society organisations (Du Toit et al., 2020), agro-ecology and food security (Du Toit & Mkhabela, 2020), land reform and beneficiation (Pollard et al., 2021a), climate change for disaster preparedness (Kong et al., 2020) and youth empowerment (Mponwana & Du Toit, 2020). Finally, a dialogical approach to climate change literacy was embedded in all project areas through a systemic, social learning design (see Pollard & de Villiers, 2020).

In this context of "diverse ways of knowing", the programme set out to build on dialogical learning (Freire, 1970;

Habermas, 1984) by introducing the various stakeholder groups to adaptation actions through a social learning process. Building on the ideas of Communities of Practice (Lave & Wenger, 1991; Wenger, 1998) and Engeström's expansive learning (1999), we offer the following reflections on "learning" in such contexts:

1. Starting with what is meaningful and what is locally understood is valuable for developing responsivity because doing so integrates local knowledge into planned responses.

2. Social groups – or any group characterised by sustained interaction and relationships – can build up experience to cope with changes through social learning because this creates localised knowledge systems, comprising sets of actors, networks or organisations that enhance adaptation by improving linkages between knowledge and the environment.

3. Social learning can be beneficial to sustaining strained common-pool resources by advancing collective actions with transformative potential based on shared problem framing, as well as commitment to design and implementation strategies.

4. The use of "blueprints and toolkits" robs the social learning process of the prospect of learning in specific institutional contexts and should be undertaken only with knowledge of this risk.

5. Standardised campaigns and messaging can be troublesome and confusing when they meet with a diversity of discourses and practices across multiple domains.

6. Decontextualised climate change messages can be experienced as disempowering and of little value if they are not linked to localised, transformative learning processes. There is an increased risk of this where language translation is an imperative.

Conclusions

Our experiences contribute to a growing body of work that recognises the importance of systemic, social learning for working with multiple knowledge systems in contexts of uncertainty and complexity, such as human-induced climate change.

At its core, the programme adopted social learning as a process of coenquiry and codesign, working across multiple scales, from local realities to regional and national governance. Starting with "what matters" to different stakeholders, the facilitated process gave rise to negotiated understandings and adaptation options. To build preparedness and responsiveness in diverse situations, we maintain that transformative social learning for climate change can be embedded across multiple fields of practice. The understandings and capabilities to engage in these practices as coinquirers, codesigners and coevaluators will be needed in by the alumni of future climate change education initiatives.

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