Geoforum 55 (2014) 120–132

Contents lists available at ScienceDirect

Geoforum

journal homepage: www.elsevier.com/locate/geoforum

‘They don’t know what they are talking about’: Learning from the dissonances in dialogue about soil fertility knowledge and experimental practice in western Kenya

Joshua J. Ramisch

School of International Development and Global Studies, University of Ottawa, 120 University Private, Ottawa, Ontario K1N 6N5, Canada

ARTICLE INFO

Article history:
Received 22 January 2014
Received in revised form 29 May 2014
Available online 28 June 2014

Keywords:
Local environmental knowledge
Soil fertility management
Farmer experimentation
Cognitive dissonance
Development communication
Participatory research

ABSTRACT

Knowledge-based development interventions for improved natural resource management have long advocated for the integration of local and outsiders’ knowledge. Participatory and conventional approaches frame this as a dialogue between “local” and “scientific” knowledges, using the relative strengths of each stakeholder’s experience to reinforce knowledge gaps. While the epistemological and methodological challenges of such dialogue are well-documented, this study uses a community-based learning project for integrated soil fertility management in western Kenya to explore the less understood dynamics of dissonance between and within knowledge systems. While participatory research did build a dynamic expertise for soil fertility management shared by both smallholder farmers and scientists, divergent expectations and understandings emerged after the initial enthusiasm of shared learning. This included scientists assessing farmers as “not very good” researchers and farmers seeing researchers as “not very good” farmers. Dissonances between actors’ different understandings of soil, the research process, and each other had multiple implications, including on the validity of conclusions reached by different actors and on the possibility for scientific support for local experimentation. While many dissonances ultimately fueled learning and improvements to the project, this required both farmers and scientists to move beyond initial critiques of each other’s knowledge and practices. At their worst, dissonant knowledge claims were actually political ones, hiding competition for control of the development process. Recognizing the nature and extent of dissonances is therefore a crucial step in understanding how best to apply limited resources and disciplinary expertise within participatory teams attempting to build hybrid knowledge.

Introduction

Participatory, on-farm approaches to natural resource management (NRM) are increasingly accepted as mainstream (Taylor and de Loë, 2012; van Asten et al., 2008). While designed to improve upon previous top–down or training-based extension models, even their proponents admit that these approaches do not always achieve their promised potential (Sillitoe, 2010; Nederlof and Dangbégnon, 2007; Braun and Duveskog, 2008; Orr, 2003). One reason is that knowledge-based NRM projects rely on dialogue and co-learning, which necessarily expose incompatibilities and contradictions that relate not only to epistemological but also to power differences between the different actors such as farmers and outsiders, e.g. researchers or other development agents (Kolawole, 2013; Brookfield and Gyasi, 2009; Fairhead and Scoones, 2005; Long, 1992; Nadasdy, 1999).

A well-established literature addresses the challenges of bringing together different “knowledge cultures”, which Tsouvalis et al., (2000:912) define as the common knowledge of a given set of actors, embodied, socially situated, and conversationally derived. For example, “scientific” knowledge is socially constructed in specific locations like laboratories or trial sites (Callon, 1986). Individual disciplines may have their own cultures of practice, vocabulary, and analytic preferences (Bracken and Oughton, 2006), but interdisciplinary collaboration is possible exactly because the local or situated knowledge of “researchers” is based on claims of universality and shared skills and norms like trained scepticism (Turnbull, 1993). The knowledge of local people engaged in farming is also contextual or situated (Nygren, 1999; Sillitoe, 1998; Brokensha et al., 1991), which – even if it also incorporates elements of formal education – is embodied in shared cognitive and experiential perspectives that relate to a given place and time (Geertz, 1983). It is worth noting that despite decades of insistence that dichotomizing “local” (or “indigenous”) and

E-mail address: jramisch@uottawa.ca

http://dx.doi.org/10.1016/j.geoforum.2014.05.009
0016-7185/

"scientific" knowledge is unhelpful (Agrawal, 1995; Brokensha et al., 1991) these terms persist as a heuristic tool, if only because local populations continue to encounter outsiders who bring non-local perspectives and priorities (Briggs, 2013). Yet as this study illustrates, while the dichotomy highlights the most visible grouping of stakeholders into an us/them pair, it unhelpfully projects an implied unity of knowledge, practices, and political power on each side while obscuring the differentiation in knowing and interests within them (Kothari, 2002).

Two challenges face the possibility of dialogue and mutual learning between knowledge cultures. The first is epistemological: How comparable or compatible are the cultures' concepts and logics? How do they understand each other? The second challenge, which often impedes or distorts mutual understanding, is political: actors must contend with differentials of power, experience, and agenda-setting agency within any potential dialogue that would define problems and find solutions (Bryant, 1998). Studies of the political ecology of knowledge over the last two decades have addressed both these themes, initially emphasizing the epistemological aspects of reconciling difference, but with increasing attention to the politics and processes of knowing and understanding will offer hope for improved partnerships between local and scientific actors (Briggs, 2013).

Many studies in the 1990s and early 2000s addressed the adaptive and scientific merits of local knowledge as the entry point towards legitimating a greater role for local voices in NRM (Winklerprins and Sandor, 2003; Niemeijer and Mazzucato, 2003; Brush and Stabinsky, 1996). Promoting the voice of local knowledge and perspectives has the intention not only of generating more comprehensive understanding of problems and solutions (Reed et al., 2007) but also leading to more empowered actors (local and outsider) who are more likely to view outcomes as legitimate and trustworthy (Raymond et al., 2010; Syme and Nancarrow, 1996). For proponents, such dialogue should allow actors to bring together and challenge a range of knowledges, creating new, hybrid knowledge (Ramisch et al., 2006; Forsyth, 1996; Nygren, 1999) that can be used to produce useful policy and more effective resource management (Fraser et al., 2006).

Of course, "integration" of local knowledge into existing, unjust power structures of governance can also be a strategy for concentrating and consolidating the discursive and political power of "experts" (Birkenholtz, 2008; Agrawal, 2005; Mitchell, 2002). Local perspectives have regularly been collected to build the canon of "legitimate", state knowledge of natural resources (Sivaramakrishnan, 2000). While the scientific paradigm is presumably strengthened by such inclusions (Goldberger, 2008), the incorporation process may also be colonization: coopting, suppressing, or commercializing other knowledges (Busingye and Keim, 2009; Nightingale, 2005; Mitchell, 2002). Professional scientists may be reluctant to accept local knowledge as valid for environmental decision-making not just because of an "epistemological anxiety" about the quality of local knowledge and its tools (Innes and Booher, 2010) but also because acknowledging local specialist knowledge would require the "experts" to cede power over the development agenda and its resources (Laurie et al., 2005). Indeed, scientific interventions can derive power from their ability to develop crisis narratives, especially where expert knowledge unmasks problems previously "invisible" to local communities and offers technical solutions (Leach and Mearns, 1996; Ramisch, 2010) even if these problems stem in part from the science-driven "modernisation" of agriculture in the past (Mackenzie, 2000). Just as importantly, local people around the globe may be skeptical of technical advice not only on its own merits but also according to the trust they are willing to invest in scientists and the institutions (state or otherwise) that they represent (Sillitoe, 2010; Burgess et al., 2000; Wynne, 1992).

From the outset, studies of the political ecology of knowledge have addressed the roles of experts and expertise (Wynne, 1992, 1996) and the politics of knowledge contestation in a public sphere. In the last decade much of this literature has moved away from the global South to consider the dynamics of popular understandings of science more globally, particularly relating to climate or environmental hazards (Raymond et al., 2010; Demerrit, 2001; Eden, 1996). If "citizen science" in late industrial contexts emerges from direct engagement and contest with the science produced by "expert" institutions (Fischer, 2000), the indigenous knowledge literature has remained largely silent on overt contestations (Leach and Fairhead, 2002). In the Southern context, the political marginalization of local actors means that rather than engaging directly with "experts" we see many more examples of withdrawal or resistance at the margins (Kothari, 2002; Crush, 1995). The monopolizing discursive power of "experts" includes the ability to label "local" knowledge as distinct from other, more legitimate ways of knowing (Agrawal, 1995). While at the most extreme experts may dismiss local knowledge as "non-knowledge" (Nygren, 1999), even participatory efforts to consult and validate local knowledge actors may unintentionally downplay contestation within local communities when documenting "what local people know". The reasons for this are likely twofold. On the one hand, donor-funded researchers may hesitate to talk about challenges or failures because "airing dirty laundry" might be considered unprofessional or counterproductive to future funding. On the other hand, when the principal task is simply creating political space for local participation in NRM, exposing dissonances that show no single "local" knowledge culture exists or that the knowledge context is politically complicated might appear to undermine the project of creating "hybrid" knowledge.

Soil fertility management is one of the most studied areas of local ecological knowledge and therefore eminently suited for investigating the role of dissonance and contestation. While many authors have focussed on the farmer-scientist relationship, largely with a goal of how to improve it, there is notably little attention to the dissonances within or between the knowledges of different actors. Traditional agricultural research and extension has indeed appeared to be hindered by past failures to recognise differences between actors' knowledge, values, and experiences (Nederlof and Dangbégnon, 2007; Fairhead and Scoones, 2005; Liebig and Doran, 1999; Sikana, 1993; Brokensha et al., 1991; Pawluk et al., 1992). Farmers and researchers might use similar words and think they are describing similar processes when talking about soil but as Ingram et al. (2010) note, it is the divergences between their perceptions of soil and its management that should be important to understand if communication is going to be effective. Literature on the epistemological aspect of the dialogue suggests that such gaps can be bridged and that co-learning between farmers and scientists is indeed possible (Kolawole, 2013; Brookfield and Gyasi, 2009; Liebig and Doran, 1999; Bergeå et al., 2008; Carolan, 2006; Sillitoe, 1998; McCown, 2001; Pawluk et al., 1992). The political aspect of the farmer–scientist research relationship remains more problematic: while "participatory" projects may assume they have distanced themselves from top–down modes of operating many remain embedded within configurations of institutions (Buller, 2009) and disciplines (Haraway, 2000) that reproduce the same discursive patterns of dominant knowledge systems that they are struggling to transform at the development interface (Long and Villareal, 1994). The present study contends that while some of the dissonances that emerge between knowledge cultures in a participatory research project can indeed sabotage such projects, meaningful engagement with most dissonances is essential for true learning or hybridization of knowledge to occur.

The farmers and researchers of interest to this article regularly voiced frustration with each other's agricultural knowledge and