

Governance challenges in knowledge systems and the pursuit of sustainability

By Louis Lebel

Who gets to define which problems are important?

Science and technology are, on the one hand, claimed as central to the successful pursuit of sustainability, while on the other, blamed as the reason society is side-tracked on unsustainable pathways.

Neither claim is true. The dilemma arises from a misunderstanding about the relationships between knowledge and action, between science and policy, between research and practice. The knowledge required in pursuits of sustainability usually does not come down a pipe from a laboratory or policy think tank into head office at the turn of a tap. Farmers and doctors don't continue their out-of-date practices just because they haven't read the extension officers brochures or the latest evidence-based review article.

More often than not the knowledge needed and useful to sustainable development is co-produced, negotiated and tangled up in doing. Knowledge systems for sustainable development are not computer networks or masterpieces of plumbing: those images are misleading. The connections and relationships between knowledge and action are perhaps better described as arenas: places where people meet, share ideas, learning occurs and where power is exercised. The forms of engagement and configurations of power vary hugely among arenas and thus the relationships so contained can be straightforward, and one-way, or complex, and multi-player.

The main message of my talk is simple: the research we attempt, the influence it has on decisions and actions of ourselves and others, is strongly dependent on how the knowledge systems we sit and are trying to influence, are governed.

I will explore three questions about governance, knowledge and action in the pursuits of sustainability:

- 1) Who defines the problems important for research and action?
- 2) When is research-based knowledge acted upon? And,
- 3) How are the impacts of research assessed?

Concisely these can be thought of as the challenges of agenda, authority and accountability.

Who defines the problems?

Research and practice agendas in development are often set according to relatively narrow sets of interest even when sustainability is the stated goal. Consultation with women, minorities and peasants is often token or biased by vocabulary and standard practices.

Around where I live there are partly forested hills. These upland "forests" and "watersheds" are depicted as crucial to the well-being and environment of Thailand as a whole. When a tree is cut it floods in Bangkok, there is drought in rice fields around Chiang Mai, and climate changes. These scapegoat discourses are directed at minorities farming in the hills from air-conditioned offices in tree-less plains. The irony hurts.

Enhancing representation and turning public participation into meaningful engagement is critical. It allows access to new sources of knowledge, may help build support for otherwise unpopular but sensible policies, and builds sense of shared responsibility and purpose.

Thus in northern Thailand there is also a valuable body of research on the effects of roads and land-use on hydrology; this challenges dominant paradigm and bureaucracy research about causes, effects and magnitudes. There is also research on local institutions and management that points to both instances of success and failure.

Scientists and practitioners promote causes through networks and coalitions legitimizing their relevance to wider society. This is political and important, but it is not the two community model of knowledge and action.

Ultimately agendas are set by who pays for them. We need to repeatedly ask: *who funds, what?*

Sometimes the ways investments are directed don't just set agendas for research they also can shape what actions are taken. A good example is the Global Fund for HIV, tuberculosis and Malaria. Fund leaders change perceptions of donors about plausible solutions. Applicants need to engage with researchers for their action-oriented programs to be able to make successful proposals which go through a technical review process.

The way agenda's are set imply we don't simply walk from knowledge to action; the process is often much more convoluted and reflective. The resulting complexity is probably important to success in pursuits of sustainability.

When is research-based knowledge acted upon?

Going from exploring to making decisions and taking actions often must draw on many different kinds of knowledge including those involved in day-to-day operations. Boundaries between science, or research, and non-science, are made not given. Authority of research-based knowledge is not inherent, but must be granted, often by non-researchers.

Knowledge systems may be full of propaganda and misinformation. It takes a lot of effort to edit and filter; maybe more than creating novelty. These and other boundary functions may be undertaken by organizations, review procedures or looser associations. Networks often work more quickly than peer review. One example are shrimp growers associations in Thailand. Farmers gain a lot of value from their peers about markets, diseases, prize squeezes and technical matters. They have a seminar – consultant culture, and surprisingly are often more interested in diversification/sustainability of environment than the national research community because their practical experiences underline the importance of water quality and controlling “stress”. But they are also very sceptical of knowledge-pushers.

Taking action in uncertain situations with incomplete and contested knowledge is not an unusual situation in sustainable development. In trying to manage complex and multiple uses of water a diverse range of “progressive” tools are being explored: basin committees, expert panels, assessment procedures, multi-stakeholder dialogues. Such initiatives may help reduce arbitrariness in decision-making or at least the exploration of alternatives. Either these knowledge interactions cannot thought of in terms of plumbing.

How research is presented matters not only for influence, but also to protect from over-simplification and misrepresentation to justify policies.

So research-based knowledge may be acted on when it isn't deployed in isolation, when it is challenged by practice and experience, and when there is trust in sources, that often comes from joint agenda setting, learning and production. The arenas of knowledge and action for sustainable development are often not in the two-community configuration even science bodies and programs still like to talk about.

How are impacts of research assessed?

Research and the systems which produce need to be monitored and evaluated. Conventionally this is by peer-review. But for complex challenges in SD: who sets the criteria by which research and action are judged?

Dual accountability is an important feature of arrangements (institutionalized or more precarious) of how knowledge systems that work are governed. Institutionally this is challenging as it can require validation activities by multiple stakeholders. Wider public involvement in evaluating science and other forms of participatory technology assessment are not commonplace, especially, in developing countries. Moreover, evaluations should lead to revised performance through learning, but often do not.

Knowledge systems in agriculture can involve relatively direct forms of validation. Private-public partnerships with growers' can create systems which provide good feedbacks and foster innovation. These, however, are usually profit and competitiveness oriented rather than about sustainability per se. The spread of no-till agriculture in the Pampas of Argentina is one example studied by colleagues where there was good alignment of private initiatives and public good outcomes by some measures (less fertilizer, better soils). In the Yaqui Valley of Mexico the key role was not played by private consultants but multi-functional farmer Credit Unions.

The notion is when no single group dominates, a creative tension emerges, that can be partly managed by boundary-spanning organizations. These creating and enhance knowledge-action arenas.

Knowledge systems

Thinking about knowledge is hard; it gives me headaches. Coming from Thailand, truth is, politics is similar. So how do you think about knowledge and politics, together?

In my view thinking about knowledge systems with explicit attention to people and organizations, their routines, social practices and relationships – rather than pipes, mailboxes or brochures -- is like aspirin. Things actually start to make sense again.

We can see more how research agendas are set. We can understand how critical decisions can seem quite unrelated to state-of-the-art. We can appreciate the trappings of scholarly publication lists and impact factor calculations and the risks for impact assessment consultancies.

But we can also praise the diverse range of experiments underway in more intense engagement and deliberative-styles of politics that push agenda setting, authority and accountability into public spaces with negotiation and learning. The arenas are diverse and while they can be diagnosed there may be no ideal or model institutional or organizational forms.

The bottom line is that research products are not independent of the process that went into creating them. The governance of knowledge systems matters for who gets to define which problems are important for research and whose knowledge is acted upon.

In Thailand if you go to the market to buy socks, even a shirt or pair of shorts, you will often be told: it is “free-size”, don’t worry. The 100-kg American or Australian should be as wary as us. There isn’t a free-size institution for better governance of knowledge systems.

Thanks

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