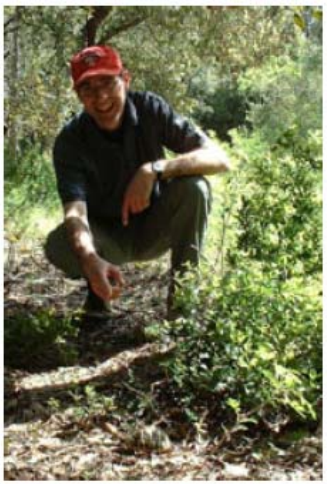
Innovation for sustainable development

René Kemp

At UNU-MERIT I work on the topic of innovation for sustainable development. It all began with a project on eco-innovation 18 years ago. It is a wonderful topic that allows me to delve into issues of societal transformation and possibilities for shaping processes of change. I started out as an econometrician, but I turned into a social scientist and policy analyst. In my own transition I was much inspired by the work of Chris Freeman who (with Goethe) considered all theory grey when not informed by the golden tree of life. I fully agree. To the economic community I would say, let's *not* assume that the world is square or any other shape than round – in which behaviour is highly institutionalized and governed not only by economic incentives but also by beliefs of those who live (the zeitgeist), social values and interests. Chris Freeman's work of historical change is appreciative of this; the insights he obtains are informed by empirical analysis and historical sense. I would encourage everyone to read his last book *As time goes by* (written with Francisco Louçã).



Theorist discovers tortoise!

I have a strong interest in issues of policy learning and how innovation for sustainable development may be furthered through the use of policy. I developed a model for furthering this, known as "transition management". It is about how we may deal with past ills *without creating new ones* - which really is the true challenge for society (the topic which occupied social theorists from Lewis Mumford to Ulrich Beck).

What is meant with innovation for sustainable development and what is transition management? Innovation is the introduction of novelty in the economic realm. Innovation for sustainable development is a more difficult concept. According to the World Summit of Sustainable Development in Johannesburg it is about "…meeting human needs while preserving the earth's life supporting systems." This is a useful definition as it conveys that what is to be sustained is not a predetermined environmental feature but a process of development that constitutes true progress.

The usefulness of the notion of sustainable development is that it makes us reflect upon development processes: is the development really beneficial, who benefits and who suffers, through what mechanisms, and how may we reduce the undesirable effects for others or ourselves and increase positive outcomes?

Hence, to talk about "sustainable technologies" is wrong. It assumes that sustainability can be achieved through certain technologies, whereas sustainability cannot be bought in a shop. As an inherently indeterminate and contested concept, sustainability cannot be translated into a blueprint from which criteria can be derived and unambiguous decisions can be taken to get there. From a governance perspective such disagreement *is* an essential part of sustainable development, one that makes operationalisation and implementation difficult.

- there are different ideas of what sustainable development amounts to for actors in various sectors (e.g., energy, transport, agriculture, food systems, waste management);

- existing solutions tend to be sustainable within these sectors rather than across the whole of society:
- new developments bring new risks that cannot be anticipated;
- it is a long-term, open-ended project that precedes and supersedes limited term, democratically elected governments;
- it involves making choices on highly contested issues (Farrell et al., 2005)

These fundamental problems make sustainable development a particularly difficult concept to grasp for policymakers or anyone else. It is easy to celebrate it because of the good associations it brings, but it is inherently difficult to implement. When companies practice corporate sustainability, they can claim to pay attention to issues of pollution and worker welfare and safety although they will never lose sight of the bottom line of earning a healthy profit. I don't want to sound too negative about corporate sustainability. Such efforts help to improve existing production regimes and products, but that is as far as it goes. Transforming regimes of energy production and use transport and agriculture, is an altogether different matter. It is also widely believed to be beyond the capability of governments or entire nations. At least that is what most governments and economists think.

Climbing down from the tower of high theory

Transitions to sustainability

I am an economist but I think it is possible to work towards sustainability transitions through the creation of a more strategic policy framework, guided by sustainability visions expressed by social groups in society, with actual policies being informed by long-term promises and bottom-up lessons. The visions should help define experiments and programmes for system innovation, the lessons of which should lead to a *revision* of the visions and to the identification of new things to do (new experiments and changes in the policy framework). This is the basic tenet of transition management, a model which I developed with Jan Rotmans 6 years ago in a project for the Dutch government, and which was further developed with Derk Loorbach.

Transition management is a model of reflexive governance that aims for generating "momentum" for sustainability transitions through processes of positive feedback. It accepts that not all actors will contribute to a transition, but once a new development takes shape, others will follow suit, including companies vested in the old system. This is already happening in the area of energy where oil companies are moving into the business of renewables. When this occurs the change process becomes a force of its own. This is a critical phase in a transition in which unwanted path dependencies can occur. Society has to develop antennas (via 'assessment tools') for systemic effects.

Transition management has elements of planning but does not aim to control the future. It relies on market forces and decentralized decision-making, but not in a blind manner. Through "context control" in the form of taxes, emission trading systems, the use of goals and regulations, it tries to orient market dynamics towards societal goals. Private initiative is thus not curtailed but rather reoriented towards those activities that serve not only private goals but also serve social goals. This is done through programmes for system innovation.

Different visions are explored. This is important because sustainable development is about locally adapted solutions meeting local concerns besides global concerns. This is my simple

proposal about innovation for sustainable development, which of course is far less simple than I have just made it out to be. Transition management is a model of multilevel governance that helps societies to transform themselves in a gradual, reflexive way through guided processes of variation and selection, the outcomes of which are stepping stones for further change.

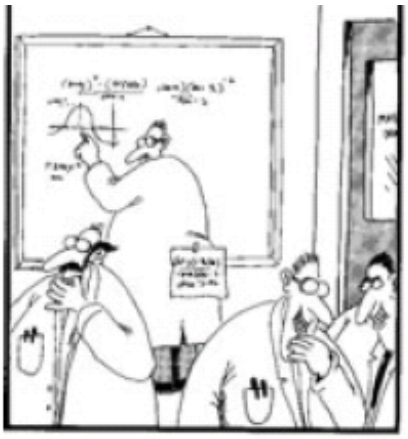
It is something radical as regards to its orientation towards system innovation and regime change. But it is not radical as far as innovation policy is concerned. It offers a new framework for such policies and tries to involve all kinds of societal actors in the process: technology vendors, local authorities interested in taking sustainability initiatives, environmental groups and public authorities.

To those who think this is a theoretical fancy, the model of transition management is used by the Dutch government for managing 4 transitions: the transition to sustainable energy, the transition to sustainable mobility, and the transitions to sustainable agriculture and sustainable use and management of natural resources.
See: www.senternovem.nl/energietransitie/
www.senternovem.nl/energietransitie/Transitiebeleid/index.asp
A description and discussion of Dutch transition management policies is offered in Kemp and Loorbach (2005) and Kemp (2006).

Whether this model can be used in developing countries I don´t know. As with any good policy, the approach must be adapted to local needs and possibilities. I should emphasise that it is not an instrument but a framework for policy, helping to adapt policies and create institutional capacities in selected directions.

On a more personal note
My hobbies are cycling, Belgium beer, tango dancing and jazz.

I am a big jazz fan. It started 25 years ago with the album “A love supreme”of John Coltrane and the love grew stronger ever since, as with true love. Joe Lovano is a new favourite of my (a joyous encounter). The list of songs and albums I like and love is very long. Two of my favourite albums are “Live at the village vanguard” of John Coltrane and “Like a kiss that never ends” by David Murray. Songs I can listen to every day are “So what” (Miles Davis with John Coltrane, in New York, 1959) and “I’ll see you in my dreams” by Django Reinhardt. The master piece of romantic swing is “Begin the Beguine” by Artie Shaw. I never understood the title, so if someone can enlighten me on this, let me know.



The deepest love is for my children: Laurie, Steven and Julia. To them the following statement does not apply: “history is made by mistake”.

My favourite motto about science is from Nelson and Winter: *Abstract analysis of institutional arrangements that would be “optimal” in idealised situations is at best only one useful heuristic for the main work, and at worst a diversion from it* (1982, p. 404). Absolutely wonderfully put. How true.

Cartoon by Gary Larson

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