

Why we should stop talking about ‘desertification’

 zimbabweland.wordpress.com/2016/07/25/why-we-should-stop-talking-about-desertification



A great new book has just been published called *'The End of Desertification? Disputing Environmental Change in the Drylands'*, available at a shocking price from Springer. It is edited by two people who know a thing or two about these issues – Roy Behnke and Mike Mortimore – and it has 20 top quality chapters from all over the world, documenting why the term desertification has passed its sell-by date, if it ever had one at all. It is an impressive and timely synthesis, and I hope will become available in cheaper or free formats soon.

The myths of desertification have a long history. Ideas of desiccation and desert advance framed colonial science, informed by the narratives of the ‘dust bowl’ in the US. Yet whether from long-term environmental monitoring, areal and satellite photography, ecological modelling or local knowledge and field observation, the standard narratives have been found severely wanting. Unfortunately this accumulated evidence has been ignored, and the narratives of desertification persist. Why is this? As I discussed at the book launch event in London recently, we can get some insights from some reflection on the relationships between science and policy in this area – particularly in Africa – over the last 30-40 years.

Paradigm change

Within science, the debate has followed in many ways a classic Kuhnian cycle. A standard paradigm was challenged, a new paradigm proposed, and normal science then proceeded to test and nuance. In the 1970s, influenced by the new mathematics of complexity, ecologists such as Bob May argued that stability not an expected feature of ecosystems, even under deterministic conditions. In the context of African rangelands, Jim Ellis and team in Turkana – notably through [the classic 1988 paper](#) – contributed to an understanding of ecosystems not at equilibrium where density-independent factors (rainfall/drought/flood/snow) meant that animal populations were not at equilibrium, and different management regimes needed to apply.

Challenges to desertification myths, and simplistic equilibrium approaches to rangeland dynamics based on Clementsian succession ecology, have long been made. Jeremy Swift and Andrew Warren wrote classic papers in 1977 for the [UN Conference on Desertification](#), but both were ignored. Stephen Sandford’s classic book of 1983 on pastoralism made many similar points, based on a mountain of evidence. The Woburn conferences in the early 1990s that I helped organise – and the two books that followed that I helped edit ([here](#) and [here](#)) – picked up on these findings and extended and expanded them, looking at the implications. A new paradigm for African rangeland management was born. African debates, we hoped, would become more compatible with mainstream ecology that had been around for several decades, and link to practice elsewhere – most notably in Australia.

This consolidation of empirical data within a new conceptual frame provoked lots of new work, and I don't know how many PhDs and other studies have flowed from this. It also provoked inevitably some misunderstandings. For example, the assumption for example that all dryland systems were the same as Turkana (they are not – as I showed for Zimbabwe and Layne Coppock showed for Borana, in the [Rangelands at Disequilibrium](#) book); that in non-equilibrium systems degradation wouldn't occur – of course it can, but in different ways. Others, such as [Andrew Illius](#), helped introduce a more spatial perspective, highlighting the importance of patch dynamics in complex dryland ecosystems. Others extended and nuanced the argument, by integrating perspectives on animal and herder behaviour for example, as in [Saverio Kratli's](#) impressive work in Niger. In the last decade, the science of remote sensing and GIS has enhanced spatial understandings of environmental change massively, reinforcing the argument against a linear view of desertification and a more dynamic view.

[Susanne Vetter](#) did a good job in summarising where the debate had got to by 2004. A more balanced view emerged – at least in the scientific community. This was 'normal science' in the Khunian sense and continues today. I get loads of papers to review that use the debate a starting point, and don't have to go through the rigmarole of justifying the argument in the way we did in the 1993 [Rangelands at Disequilibrium](#) book.

Policy and institutional inertia and resistance

But the relationship between science and policy is not linear. If accumulated evidence had led to a transformation of paradigms, then surely policy and practice would follow suit? Well, no this is not how it happens! Evidence and policy, despite the rhetoric around evidence-based policymaking, are not neatly linked. Here [the politics of knowledge and policy](#) intervenes. Why is it that, even when scientific evidence is incontrovertible, then shifts in policy discourse and practice doesn't happen? As always, in the debate about drylands in Africa we have to look at the intersections of discourse, actors, interests and politics – and so the politics of knowledge in policy. Here other forces are at play, beyond the slow accumulation of knowledge.

There were some in policy and practice circles who backed the non-equilibrium view, questioning the simplistic versions of desertification across the drylands. But this was sometimes a naïve advocacy for 'indigenous' systems – valorising transhumance or nomadism in a simplistic, romantic way. Ignoring challenges of land management, and inventing an ideal 'tradition', is not the answer.

Mainstream institutions and policy, while often playing lip service to changes in the growing critiques of the desertification framing, did not take the argument for rethinking on seriously. Paradigms may have shifted in science, but not in policy. Even today, it is amazing how often you see projects, documents, statements, plans repeating the same old story; as if debates in science over decades had never happened. Last month was '[World Desertification Day](#)' held in Beijing when many speeches were made repeating old myths. Each time there is a Conference of the Parties of the [UN Convention on Combating Desertification](#), every government signatory, [including Zimbabwe](#), has to trot out the arguments in its submission.

Why don't things change?

In a commentary in the [Living with Uncertainty](#) book in 1994, Stephen Sandford said we would have to wait a generation for things to change (we have, and things still haven't!). One reason is that a new 'normal science' only permeates through slowly via training, curriculum change and so on. Has this happened? I suspect not. My son just did A level biology – and he had to learn Clementsian succession by rote. I fear this is also the case in Africa. Incumbent power also resists change. This reflects the conservative nature of institutions and professions. While the science of rangelands has shifted, among field level departments, aid agencies, and their officials – old ideas stick. There is fast turnover of staff, poor resourcing, and institutional inertia and limited learning. A perennial pattern, perhaps especially in Africa.

But it's not only inertia. There is also a more active politics of resistance. Take Ethiopia. Over the years, the policy documents framing pastoral development have changed. The well-funded [Pastoral Community Development](#)

[Project](#) had a lot of the right rhetoric when it was established. It seemed to have taken on the new paradigm. But implemented by the Ministry of Federal Affairs, the programme has often focused on a programme of sedentarisation, fixed water points, and environmental measures to – you’ve guessed it – combat desertification. Threats of desertification and an old approach to dryland development align with Ethiopian state interests, making the drylands governable by a centralised state. When confronted – and I have been in several debates with high level officials on this programme – it’s defended essentially in political terms. Science is a long way from the discussion.

There is also the persistent and insidious power of incumbent institutions, hooked into a narrative that will not budge. In my view, one of the most mistaken moves in this field in the last 25 years was the creation of the [UN Convention to Combat Desertification](#). As a concession to African states in the post-Rio deal, it has not had the traction of the conventions on biodiversity or climate change. The desertification narrative suited many purposes, and the critiques first raised in UN circles in 1977 were not heeded. The rhetoric is more sophisticated these days – participation, inclusion, cooperation, local knowledge and a wider view of land degradation are all part of the mix these days. But the fundamental frame remains – paradigm shifts do not shift UN bureaucracies, and too often resources are wasted and attention diverted from the real challenges of the drylands. Such organisations – and the UNCCD is not the only one – also become legitimators for science that has long been challenged. I don’t know how many comment pieces, policy briefs and communiques I receive that repeat those tired and [long-disputed statistics](#) of the areas of the world that are desertified or the amount of Africa that is suffering a nutrient deficit. Too often it’s spurious science and economics presented as fact, supporting a narrative that we thought had been dismissed decades ago.

Embracing uncertainty, working with variability

As science over many decades has shown, non-equilibrium ecology is a useful way of thinking about complex, highly variable dryland ecosystems – [especially in the context of climate change](#). In particular, it provides a useful basis for challenging simplistic, linear desertification narratives. The key lesson is that there is no simple, standardised solution to dryland development, especially with fast-changing climatic, economic and political contexts – flexibility, agility and adaptive management is key. It is not amenable to a standard, control-oriented technocratic response. Just as the science has undergone a paradigm shift, so must policy and practice. Of course wider contexts matter too. An ecologically-determinist view is inadequate – land tenure, administrative systems, investment regimes, and political economy contexts are vital. Since the non-equilibrium ecology challenge of the early 1990s, the contexts of [Africa’s pastoral drylands have changed dramatically](#). Land grabs, privatisation and enclosure, settlement and the growth of towns, and changing commercial economies in the drylands have had a huge impact. Non-equilibrium ecology will not provide the answer, just a pointer. A wider engagement with political economy is necessary too.

Particularly worrying in the last ten years has been how the desertification narrative has been reinforced by debates about climate change. Again, against much evidence, climate change is simply taken to mean a secular shift, and so increasing desiccation, leading to land degradation and desertification. In fact, much climate science points to processes of increasing variability and uncertainty, not secular change. The satellite image data shows ‘deserts’ expanding and contracting over time in a complex patchwork, and not simply advancing. A focus on non-equilibrium, dynamic systems points to a different response – one centred on flexibility, adaptive management, responsive care and resilience, not control and technocratic intervention. The desertification narrative promotes a control-oriented response – with destocking, ‘green belts’, forest planting and engineering solutions dominating – rather than one that embraces uncertainty, and makes productive use of variability, as in the non-equilibrium paradigm. But of course realising the alternative paradigm is difficult. Institutional biases, procedures and routines reinforce control, especially when funding agencies and governments have fewer and fewer people in the field, connecting with the real world of the drylands. Funding flows, metrics, goals and targets just add to this, and I fear that both large-scale climate finance and the framing of the SDG goal 15 will only compound the problem.

The end of desertification?

So will this book make a difference? Is this the end of desertification talk? I hope so. But I also doubt it, unless it is more fundamentally connected to a political project of shifting the underlying politics of knowledge and practice that underpin the desertification narrative. Evidence as we've seen is not enough. We have to expose powerful people and institutions; we have to refuse to engage with organisations that promote inappropriate models of dryland development, and challenge them forcefully at every turn. I recommend a Tumblr site dedicated to 'desertification nonsense' that exposes organisations, governments, aid agencies and others (rather like the one exposing [all-male panels](#), where the potential thumbs up from David Hasselhoff aims to encourage any workshop or conference organiser to change their plans). More positively, we have to develop, share and promote the new narrative – translating the science of 25 years or more into new ways of doing things. We have to focus more on training and curriculum change, and shift perspectives across generations. And we have to engage all these people still stuck in the old paradigm in our research, and avoid the perennial danger of the academic/research bubble, where paradigms change, but don't make a difference.

This post was written by [Ian Scoones](#) and appeared on [ZimbabweLand](#)

Like this:

Like Loading...

Related