



Transdisciplinary Methods for Developing Nexus Capabilities

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A Stimulus Paper for the Transdisciplinary Methods for Developing Nexus Capabilities Workshop to be held at the University of Sussex, 29-30th June 2015

Please note that we expect there to be a high level of interest in the workshop; if you would like to take part, please send us your expression of interest by 8 May 2015.

Full details on how to apply here

<http://www.thenexusnetwork.org/events/transdisciplinary-methods-for-developing-nexus-capabilities-workshop>

What's it all about?

How can *real progress* be made in global provision of *water, food* and *energy*? How might this be achieved in *secure, just, equitable* and *sustainable* ways? Declared global commitments are *ambitiously transformative*. So, these are some of the most serious and pressing challenges in international politics. *Fears* are profound. *Hopes* are intense. Yet basic *entitlements* remain denied.

Among the most *intractable* features of these problems, are that they are *complex, massive, pervasive* and *intensely interlinked*. Both the connections and the interests at stake *transcend narrow policy* areas. So the central question to be discussed at the workshop, is *how to enable effective political action*? What are the roles for rigorous, practical joined-up thinking? What kinds of social and research capabilities and capacities are most needed – and in what kinds of mix? What kinds of method may best help inform, strengthen and catalyse the necessary transformative action?

How Does It Fit In?

This workshop is part of the wider programme of work of the [ESRC Nexus Network](#). Other current and pending initiatives that relate to this include a series of *thematic conferences* looking at specific settings in which water, food and energy challenges interact. These include *environmental values, business strategy, resource equity, ecological limits, urbanisation* and *transformative innovation*. This workshop will dovetail with these, by addressing cross-cutting general questions about the kinds of methods that best help in developing *capabilities for success*. Crucially, this not only means engaging with contending ways to think about methods, but also different definitions of “*success*”.

What are the Background Issues?

One key point that's often made, is that *context matters*. The precise ways in which water, food and energy challenges interact typically depend (among other aspects) on the *levels* and *scales* at which

they are addressed. Especially important, are the geographical **settings** and social **perspectives** in which they are viewed. Despite the usual prefix ‘the’, **there’s not one “Nexus”, but many.**

Another general issue is **complexity**. Nexus interactions involve many different kinds of processes and relations, typically changing in **highly dynamic** ways. This means that consequences of different interventions are typically **nonlinear** – not only **unpredictable** but often profoundly **surprising** in ways that defy conventional statistical forecasting, optimising calculations and aggregating models.

The dilemmas are therefore often more about ‘**uncertainty**’ and ‘**ignorance**’, than the relatively simple puzzles of probabilistic ‘**risk**’. This in turn means that there is always a **diversity** of possible strategic, technology and policy solutions in play. Rigorous evidence and analysis will always be able to rule out some possible responses as just plain ‘**bad ideas**’, no matter how they are looked at. But it is typically **ambiguous** exactly which technologies, policies or strategies offer the ‘best’ responses – even in a very specific setting. So each of many different Nexus contexts can be viewed in a number of sometimes **radically different**, but **equally valid** ways.

In practice, what this requires is the straightforward human capacity of **reflexivity** – the ability to understand how the answers that are obtained, depend on the ways questions are asked. This is quite easily appreciated in everyday life. But it is sometimes less readily conceded in academia or policy making – where **vested interests** and **disciplinary commitments** can restrict the flexibility.

As a result, what count as “solutions” are not about ‘**sound science**’ finding ‘**the right answer**’ through **definitive analysis**. With appropriate responses depending not only on the settings in question, but also on how both problems and solutions are viewed, the effects of power are as crucial in the conditioning of knowledge as of practice. So, perhaps the most frequently lacking capacity is the space to **interrogate power** – and its shaping effects on understandings. For instance, why are certain possible values, interests or ‘solutions’ prioritised for attention in the first place?

And power relations are relevant to Nexus thinking, not just in the overarching sense that differently perceived actions are backed by contending political interests. The shaping effects of power can also affect the detailed fabric of science itself – why expert policy understandings take some particular forms not others. For instance: why is **reductionism** so strongly favoured over holism? Loud calls to always reduce complexity and identify single unambiguous solutions are less about the complexities of the real world, and more about ever-present political pressures to **justify acceptance** of decisions.

Where Might All this Go?

The workshop will be open to about sixty people; with invited leading speakers from different perspectives. A priority will be placed on participants with experience developing cross-disciplinary methods. Interactions will be based on short panel interactions, with break-out groups and lots of room for discussion. A key output will be a **public report to ESRC** and other interested stakeholders. This will also offer a basis for onward critical discussion – feeding directly into various follow-on activities. So as to maximise the practical implications for skills development, training arrangements and capabilities provision, the report will focus on concrete methods and the ways to interlink them.

It is impossible to anticipate here even the general shape of the likely outcomes. But it is possible to sketch some of the key implications that are already widely discussed in various academic and policy debates around ‘**the Nexus**’ – and which will doubtless feature in the deliberations. These are sketched below, simply in order to help **stimulate interest** and **provoke critical discussion**. They are not in any way intended to anticipate conclusions – if anything rather aiming to encourage criticism.

One theme might be the need radically to **broaden out** the scope of the approaches, methods, skills and training that are normally involved in addressing water energy and food challenges. For instance, appraisal (analysis and evaluation) of Nexus challenges might usefully include a wider range of policy options (including non-technological strategies), issues (including less readily

quantified impacts and benefits), knowledges (including humanities and creative arts), and wider societal perspectives (including the usually-marginalised groups). Capabilities need to be developed to **bridge across disciplinary divides** and work in more **flexible** and **responsive** ways – recognizing and counteracting the **blinkers** imposed by privileged **sectors** or favoured **academic methods**.

This is not only about **multidisciplinarity** – adding together different disciplines in structured ways. Nor is it just about challenges of **interdisciplinarity** – involving more intimate and detailed syntheses of contrasting elements from different disciplinary frameworks. In addition to each of these, the most important capabilities are increasingly about encouraging **transdisciplinarity** – allowing problems to be **framed** and potential responses **defined** right from the outset in **equal partnerships** between interdisciplinary researchers and non-academic partners in **business, government** and **civil society**. Although such rhetoric is increasingly common, resistance remains strong both in academia and beyond. So, what all this means in practice is not only misunderstood, but often misrepresented.

This poses deep challenges for the conventional ways in which **research is organised, peer review** is conducted and **academic excellence** is recognised and impacts achieved. There are equally profound challenges for notions of **'usefulness', 'user'** and **'impact'** – each demanding queries over **"according to whom?"** and **"why?"**. It is typically much easier, for instance, to demonstrate 'usefulness' or 'impact', where methods are aligned with the most powerful proximate interests. Here, neutrality is sometimes more about **active critical challenge**, than about gauging locally intermediate positions.

So, deep and urgent needs are evident in many places, to transcend the usual comfortable ways to talk about (and do) research and policy. It is not enough merely to **"engage"**, but to be **responsible** and **clear** about exactly how and why – declaring (rather than ignoring or denying) normative ends.

In all this, the role of social science is not just about understanding how to **implement the findings**, of transdisciplinary research, but also about **how and why such research itself is – and should be – conducted**. Alongside crucial provision of expertise, academic disciplines also embody social and organisational interests in their own right. Notions of academic quality can therefore also often be political and contestable. So **excellence** and **relevance** are not contending values to be traded off, but **mutually shaping** and **inter-dependent**. The challenge is not just to **"join up"** thinking, but to recognise how production of **'Nexus knowledge' is shaped by – and is itself a form of – action**.

What this all means, is that being **rigorous** is more than simply complying with particular disciplinary conventions. It is about being clear – and **reflexive** – about how the picture changes depending on how it is framed. And **'evidence based policy'** is not just about **aggregating numbers** or **engineering expert agreement** – but about being more **explicit** and **accountable** about the **inherently subjective and political** (as well as technical) nature of any particular conclusions. Likewise participation is not about pushing for closure in citizen jury **'verdicts'** or **consensual** inclusive deliberation – but about **exploring more systematically** how different views yield different pictures of the same evidence.

What's at Stake?

In the end, it may be worth reflecting on the **sheer scale** of the challenges. Arguably never before has **humanity as a whole** sought to undertake **concerted deliberate action** of such ambition and scale as is now required by Nexus challenges – intentionally to transform global infrastructures for provision of water, food and energy. Here, the lessons of past emergent transformations in progress around security, equality and sustainability are worth bearing in mind: **success requires struggle**. But the social and environmental imperatives are undeniable. So Nexus responsibilities are unavoidable.

Yet there are grounds for optimism. There are precedents for political change on this kind of scale. But here (more speculatively) another message may be clear. This can be seen, for instance, in ongoing global transformations like those away from slavery, colonialism, racism, class and gender exploitation. Here, the principal drivers of change have lain initially and primarily not in formal

academic understandings or **integrated analysis** – nor even in **‘practical’ business strategies** or **structured policy processes**. Indeed, academia, business and government have often been as much resistant as encouraging of change. Time and again, crucial engines of progress lie in ‘unreasonable’ bottom-up pressures in **unruly collective action by social movements**. So: success in tackling Nexus challenges is arguably at least as much about **catalysing radical politics**, as **informing orderly policy**. Again the methodological implications for building Nexus capabilities are both pragmatic and strong.

So, the immediate practical questions for the workshop (and following report) emerge quite clearly:

What different kinds and interconnections of method in contrasting contexts, form the most practical basis for enabling transformative action to address Nexus challenges?

How can such encompassing Nexus methodologies best enable academic, government, business and civil society actors to develop appropriate skills, training and research capabilities?

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