



Anatomy of a buzzword: The emergence of ‘the water-energy-food nexus’ in UK natural resource debates



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ABSTRACT

The existence of a water-energy-food ‘nexus’ has been gaining significant attention in international natural resource policy debates in recent years. We argue the term ‘nexus’ can be currently seen as a buzzword: a term whose power derives from a combination of ambiguous meaning and strong normative resonance. We explore the ways in which the nexus terminology is emerging and being mobilised by different stakeholders in natural resource debates in the UK context. We suggest that in the UK the mobilisation of the nexus terminology can best be understood as symptomatic of broader global science-policy trends, including an increasing emphasis on integration as an ideal; an emphasis on technical solutions to environmental problems; achievement of efficiency gains and ‘win-wins’; and a preference for technocratic forms of environmental managerialism. We identify and critique an ‘integrative imaginary’ underpinning much of the UK discourse around the concept of the nexus, and argue that attending to questions of power is a crucial but often underplayed aspect of proposed integration. We argue that while current efforts to institutionalise the language of the nexus as a conceptual framework for research in the UK may provide a welcome opportunity for new forms of transdisciplinary, they may risk turning nexus into a ‘matter of fact’ where it should remain a ‘matter of concern’. In this vein, we indicate the importance of critique to the development of nexus research.

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1. Introduction

In recent years the terminology of the ‘water-energy-food nexus’ (also sometimes called the water-energy-food-climate nexus, energy-food-environment nexus, or the stress nexus; henceforth ‘the nexus’) has become increasingly prominent in international science policy and natural resource governance circles (Allouche et al., 2015; Andrews-Speed et al., 2014; Kurian and Ardakanian, 2014; Middleton and Allen, 2014; Scott et al., 2011; Sharmina et al., 2016) and as a framing for academic work from across a range of disciplines (Azapagic, 2015; Biggs, 2015; e.g. De Laurentiis et al., 2016; Lubega and Farid, 2014; Rasul, 2014; Smajgl et al., 2016; Yumkella and Yillia, 2015). The burgeoning use of nexus terminology can be traced back to the World Economic Forum in 2008, where prominent business leaders issued a ‘call to action’ on the ways in which water is ‘linked to economic growth across a nexus of issues’ (WEF 2008). The following year John Beddington (then Chief Scientific Advisor to the UK government),

raised similar issues when he referred to the ‘perfect storm’ of interlinked challenges facing humanity (Beddington, 2009), and a number of prominent international institutions (such as the World Bank, the UN World Water Assessment Programme, the European Commission, the OECD and the Global Water Partnership) subsequently produced policy and perspective papers on the nexus (Allouche et al., 2015). According to much of this literature, the solution to the interlinked challenges outlined by Beddington, was ‘nexus thinking’ (e.g. IGD, 2013) or a ‘nexus perspective’ (e.g. Bonn2011 Conference, 2011). The UN World Water Development Report 2014 provides an exemplar of the usage of nexus terminology within these international natural resource discourses:

‘The global community is well aware of food, energy and water challenges, but has so far addressed them in isolation, within sectoral boundaries . . . If water, energy and food security are to be simultaneously achieved, decision-makers . . . need to consider broader influences and cross-sectoral impacts. They must strive for innovative policies and integrated institutions . . . A *nexus approach* to sectoral management, through enhanced dialogue, collaboration and coordination, is needed to ensure that co-benefits and trade-offs are considered and that appropriate

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safeguards are put in place' (UN World Water Assessment Programme, 2014, p. 61 *Emphasis added*)

The nexus terminology has also entered the lexicon of high profile international development and conservation organisations such as Practical Action (Stevens and Gallagher, 2015), and WWF (2015), as well as multinational corporations such as Shell (Shell, 2012), SABMiller (Wales, 2013), and CocaCola (Koch, 2015). It is also gaining prominence as a framework for research funding with, for example, the European Union's Horizon 2020 programme including specific reference to the nexus and 'integrated approaches to food security, low-carbon energy, sustainable water management and climate change mitigation' (European Commission, 2015).

While mobilisation of the nexus terminology to describe resource interdependencies has been most visible in the international arena (Middleton and Allen, 2014), use of the term has become increasingly apparent within the UK, primarily through research funding mechanisms. Here, since 2012 the nexus has been the focus of a number of research activities, funding calls and cross-research council initiatives (e.g. EPSRC, 2014; ESRC/Newton Fund, 2015; ESRC, 2015, 2014, 2013; NERC, 2012). In light of these discursive shifts, critical reflection on the growing influence of the nexus vocabulary in the UK context is both timely and important. To this end, this paper examines the ways in which nexus terminology is being mobilised and contested by a range of actors in the UK natural resource debates, and seeks to understand if and why it is gaining traction across a range of stakeholder groups. In so doing, it will explore how this vocabulary articulates (or not) with broader trends and discourses in international environmental and science-policy debates, and reflect upon the risks of treating the nexus as a 'matter of fact'. In conclusions, we call for approaches which would open approach the questions posed by the nexus as 'matters of concern', and suggest pathways for social sciences to engage critically in nexus debates.

2. Conceptual framework and methodological approach

The paper follows the interpretivist tradition (Fischer, 2003; Hajer and Fischer, 1999), being concerned with 'how the social world is interpreted, understood, experienced, produced or constituted' (Mason, 2002: 3). Our focus is upon the 'world making' properties of language (Cornwall, 2007), and in examining the kinds of work that particular words do for particular actors. We suggest that currently the term 'nexus' can be helpfully understood as a buzzword (cf. Jensen, 2013; Williams et al., 2014; WWF, 2015), and the analysis presented here is situated within a longstanding tradition of discursive profiling of buzzwords or keywords (Cornwall, 2007; Davis, 2008; Mautner, 2005; Rist, 2013; Standing, 2007; Vincent, 2014; Williams, 1976). The elements most characteristic of buzzwords are 'an absence of real definition, and a strong belief in what the notion is supposed to bring about' (Rist, 2013). Indeed, the purchase and power of buzzwords arises precisely as a result of 'their vague and euphemistic qualities, their capacity to embrace a multitude of possible meanings, and their normative resonance' (Cornwall, 2007), characteristics which enable them to enlist broad support and become useful in a variety of contexts while maintaining an ambiguity around their meaning. As we illustrate, the term nexus meets both of these criteria: the term is used in fragmentary, multiple and ambiguous ways, and yet there is among those utilising this vocabulary a strong belief in the presumed attainability and ultimate benefits of the benefits a nexus approach.

As Vincent (2014) notes, buzzwords derive their meaning from the cluster of inter-related concepts and terms which become associated with them. These associations progressively come to delineate the boundaries of legitimate use. The ambiguous qualities of buzzwords make them particularly susceptible to

processes of 'semantic appropriation' to suit particular agendas (Mautner, 2005). Exploring the implications of buzzwords in existing debates is particularly important due to the future-orientation buzzwords express. While rooted in the concerns of the present, buzzwords indicate a desirable future state of affairs (Vincent, 2014), and like metaphors (Lakoff and Johnson, 1980) can influence what is thinkable and thus what is doable. As a result, the 'buzz' around the buzzwords is an area of power struggles over competing narratives: 'nodes around which ideological battles are fought' (Stubbs, 2001, p. 188 cited in Mautner, 2005).

The term nexus is deployed in relation to phenomena occurring at a range of scales, and overall the nexus discourse is global in scope, both in terms of interlocutors and analytical focus. The UK is emerging as an important arena for the operationalisation and institutionalisation of the term as a tool for action, including knowledge production, as indicated by its growing importance in academic research. Our analysis problematises some of the tacit assumptions which we can see being currently assimilated into the term nexus as its network of meaning and intent solidifies in the UK context. We show that the term is being appropriated by dominant discourses of the managerialist type, which we suggests risks turning the nexus into a 'matter of fact', 'a single discrete self-evident problem susceptible to primarily science-based solutions' (Stirling 2014). Where 'matters of fact' are stabilised and established ways of relating to the world, institutionalised by particular (knowledge) cultures, and largely closed to debates about the conditions which enable their existence, 'matters of concern' are processes rather than objects, are characterised by controversy, and are not stabilised or institutionalised (Latour, 2004). In agreement with Stirling (2014), we argue that the epistemological and political character of nexus challenges necessitates a 'matters of concern' approach, and highlight the importance of social science-led productive critique in developing nexus debates.

The present paper is based on a qualitative analysis of 20 semi-structured interviews with key UK stakeholders from across a range of professional cultures active in debates around food/energy/water interdependencies, including: academics from a range of natural and social science and engineering backgrounds; research funders (EPSRC & ESRC), policy makers and civil servants (Defra and the Environment Agency); and private companies; and a qualitative analysis of a wide range of policy documents, funding calls, and published academic papers referring to the nexus. Approximately half of the interviewees were selected on the basis that they actively had used the language of the nexus either in published academic or non-academic work; had received funding for nexus-themed research; or had talked publicly about the nexus in other fora. The remainder of the interviewees were selected from the policy environment and the private sector due to their involvement in what might be considered 'nexus debates', i.e. debates around food, energy, water and environmental interactions and interventions. To protect the anonymity of the participants, they are referred to by their professional affiliation only in the remainder of the text (condensed into: 'academic'; 'policymaker'; 'private sector'; and 'research funder' categories). Direct quotes from the interviewees are incorporated in the text in italics. Recorded interviews lasted from between 25 min to an hour, and were coded thematically in NVivo using a grounded, inductive approach to identify prevailing motifs and themes.

3. Diverse understandings of the nexus

We find that within natural resource debates in the UK understandings and usage of the term nexus are plural, fragmented, and ambiguous. Thus in addition to simple descriptive understandings of the nexus as '*the interactions between food*

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