



Original research article

A political economy of niche-building: Neoliberal-developmental encounters in photovoltaic electrification in Kenya

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ABSTRACT

International agreements on energy access and climate change, formulated according to neoliberal orthodoxy, will drive significant finance to developing countries for clean technology investments. But critics call for more active state intervention – a developmental approach – arguing that free markets alone will not deliver what is required. This creates the potential for confrontation between contradictory ideologies in national policymaking and implementation: neoliberalism in global agreements versus developmentalism in national policy.

The Kenyan photovoltaics (PV) market has long-experienced neoliberal-developmental policy interactions, reflecting on which can illuminate how such encounters might unfold in the future. We construct a new ‘niche political economy’ theoretical framework to analyse these past interactions, constituting one of three contributions we offer. The second is empirical, showing how PV practitioners, national policymakers and global development actors have negotiated their policymaking encounters over time. Our third contribution offers reflections on the issues explored, discussing what this might mean for future neoliberal-developmental encounters.

We find that action on the ground will emerge from messy negotiated interactions between competing ideologies rather than be determined by powerful neoliberal actors. As such, realising global energy and climate ambitions becomes even more uncertain unless long-term active niche-building resources are secured in international agreements.

1. Introduction

International agreements on sustainable energy access (Sustainable Development Goal, SDG, 7) and climate change are mobilising billions of dollars of finance for technology transfer to the Global South [1–3]. But the emphasis on ‘hardware-financing’ to achieve their goals reproduces neoliberal orthodoxy [4]. Any public sector role is confined to regulatory functions, such as creating an enabling environment for clean energy technology markets to grow [5,6].

However, innovation scholars argue that financing technological hardware alone is inadequate for achieving successful technology transfer to developing countries [4]. Relevant capabilities also need nurturing [e.g. 7,8], and longer-term development requires building well-functioning innovation systems [9]. Entrusting these nurturing and building processes to the vagaries of free markets merely entrenches existing static comparative advantages [10], marginalising the needs of

poor women and men. For sustainable electricity access in developing countries, Ockwell and Byrne [11] demonstrate that decades of active publicly-funded interventions – those going far beyond neoliberal orthodoxy to include capability-nurturing, the building of actor-networks and directed technology-development – were crucial to the widely-acknowledged success of the Kenyan photovoltaic (PV) market [also see 12–14]. Indeed, others demonstrate the importance of an active public sector for achieving successful deployment and development of (especially low-carbon) technologies and capabilities, and innovation system building, in developing countries [e.g. see 15–18]. Therefore, if global energy and climate ambitions are to be realised, there is ample evidence that some kind of developmental approach will be crucial [19].

So, whilst global agreements reproduce neoliberal orthodoxy, national-level realities demand developmental approaches [e.g. see 19,20]. Given the extent of the energy-access challenge, with an estimated 1.1 billion people currently lacking access to electricity

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[according to 2014 data, see 21], neoliberal-developmental policy confrontations are likely to proliferate. As neoliberal orthodoxy remains hegemonic, with “disciplining” power over developing-country states [e.g. see 22], the prospects look poor for creating developmental space [23]. If analysts are to offer insights for realising socially-just achievement of global energy and climate ambitions, it is important to understand how past neoliberal-developmental encounters have played out. In support of this, we analyse the evolution of the aforementioned Kenyan PV market, which is a case rich in neoliberal-developmental encounters.

The question driving our analysis is “how have interactions between global development actors, national policymakers and local practitioners influenced material development of the Kenyan PV market?” We maintain the Ockwell and Byrne [11] conceptualisation of the Kenyan PV market and associated actor-network as a socio-technical niche, but synthesise the conceptual approach with a political economy perspective based on discursive institutionalism [e.g. 24]. This ‘niche political economy’ theoretical framework enables us to examine the neoliberal-developmental encounters in the Kenyan PV niche and how these have shaped niche-building efforts to date.

Our theoretical framework constitutes the first of three contributions the paper offers. The second contribution flows from applying this framework to the Kenyan case, which reveals the evolving political strategies deployed by different actors – PV niche, Kenyan state, and international donors – in constructing their respective interests through negotiations to mobilise resources for innovation experiments. We find that neoliberal hegemony has so far not been deterministic of niche evolution. However, recent iterations of Kenya’s energy policy imply that niche, state and international development actors are converging on a consensus that is more clearly neoliberal. If this consensus holds there are risks the Kenyan niche will wither even as its PV market thrives. For our third contribution, we discuss the implications of our findings for future neoliberal-developmental encounters. Our case illustrates that action on the ground will emerge from messy negotiated interactions between competing ideologies [25] rather than be determined by powerful global forces such as neoliberalism [but see 22]. As such, realising global energy and climate ambitions becomes even more uncertain unless long-term active niche-building resources are secured in international agreements.

In Section 2, we develop our theoretical framework and explain our methodology in Section 3. The case study is presented in Section 4. In Section 5, we discuss the case and reflect on what it could mean for future neoliberal-developmental encounters. Section 6 concludes with a brief summary.

2. Theoretical framework: a political economy of niche-building

We locate our paper in the strategic niche management (hereafter, niche theory) literature on sustainability transitions; a literature that analyses both past and presently-unfolding socio-technical change with the intention of understanding how to guide it in more sustainable directions [26]. Niche theory analyses how novel socio-technical ‘solutions’ to sustainability challenges develop so as to replace dominant (unsustainable) socio-technical systems: e.g. how renewable energy-based systems replace fossil-fuel-based energy production and consumption. However, the sustainability transitions literature is predominantly Eurocentric [e.g. 11,19,23,27], and has long and repeatedly been critiqued for its techno-managerialist analysis of transitions [e.g. 28–30]. Both critiques are now being addressed, with politics and power receiving attention in the Eurocentric literature [e.g. 31–37], and political economy analyses of energy transitions in African contexts also appearing [e.g. 19,22,23,38,39].

Much of the latter Africa-focussed literature combines transition theory’s multi-level perspective (MLP) with political economy to understand the role of the state and its relations with labour, markets, and global capitalist forces [39], however, examines how the introduction of

electricity impacts village-level power relations]. Nevertheless, there is some engagement with the niche level [22,23] but, concerned with understanding the totality of MLP and political economy dynamics, these analyses cannot examine the detail of niche-building in particular. Ramos-Mejia et al. [27] are concerned more specifically with the politics of niche-building as enacted through socio-institutional dynamics, with illustrative cases in Thailand and India (none in African settings). These contributions all provide useful insights: for example, Power et al. [23], show how the Mozambican state has little developmental space within which to create energy pathways that are not shaped profoundly by international capital and donors; Ramos-Mejia et al. [27] show how different values (as institutions) influence transition efforts such that promoting apparently ‘better’ pro-poor technologies can actually reproduce inequalities [and, for the mediating effects of socio-cultural processes on energy project development outcomes in India, see 40].

One purpose in this paper, therefore, is to theorise how a ‘niche political economy’ is constructed around a novel socio-technical ‘solution’ (off-grid PV) in a development context (Kenya). This can help us understand how encounters between ideologies, actors with different interests, locally-specific energy challenges, policymaking and material developments shape energy pathway construction. In this respect, our analysis speaks to the notion of “energy landscapes” (different to the MLP’s landscape concept), described by Power et al. as a set of “dynamic entities constituted by complex local, national and transnational flows of technology, funding and ideologies” [23, p. 12], and the notion of “disciplinary neoliberalism” offered by Newell and Phillips [22], whilst revealing the messy realities of policymaking and its outcomes on the ground [25].

We develop our theoretical framework by drawing on a discursive institutionalist conceptualisation of political economy, examining how this compares with niche-theory concepts. Our discussion is structured according to the three categories of discursive institutionalism – ideas, interests and institutions – within each of which we consider how niche-theory concepts are related. It is important, therefore, to begin with a summary of niche theory so that the discussion of how the various concepts of each framework relate to each other is meaningful.

2.1. Niche theory in brief

A socio-technical niche is a protective space for learning about new innovations (e.g. solar home systems, SHSS) in social context [41]. Protection prevents the innovation from facing normal market pressures while it develops to compete with the currently-dominant technology in its socio-technical ‘regime’ (e.g. fossil-fuel-based electricity provision and consumption) [42]. A niche consists of the innovation and the empirically-identified actors who are working to develop it, and so is different to a market, which is an outcome of the exchange of money for goods and services. The niche provides opportunities to: (1) generate learning from innovation experiments in context; (2) build widening networks of actors, who bring resources to niche-evolution; (3) develop robust expectations for guiding actors’ learning; and (4) institutionalise new socio-technical practices [11]. Socio-technical experiments, and processes and events, are key sites for learning, and so we capture this range (experiments, processes, events) in the term ‘encounters’.

2.2. A discursive institutionalist political economy and niche theory

We reinterpret niche theory through a discursive institutionalist political economy lens [e.g. 24] that, following Kern [33], consists of three co-productive categories: ideas, interests and institutions. Ideas evolve and can be traced by analysing the discourse on the issue of focus. Interests are emergent rather than self-evident to actors, especially in situations of complexity and uncertainty such as in socio-technical niche-building. And institutions are rules – formal or informal

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