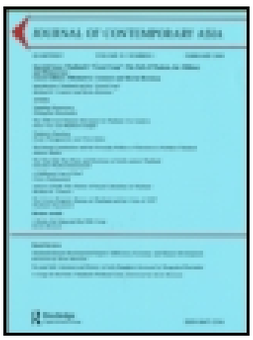

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Structural Injustice, Slow Violence? The Political Ecology of a "Best Practice" Hydropower Dam in Lao PDR

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ABSTRACT

Large areas of the rural Lao landscape are being rapidly transformed by infrastructure development projects. Arguably, it is hydraulic development that is contributing most significantly to rural socio-ecological change, due to the profound socio-political ruptures dams precipitate. The nationally iconic Theun-Hinboun Hydropower Project, commissioned in 1998 and expanded in 2012, provides an illustrative case of hydropower's complex social-ecological outcomes. Proponents have argued that the project represents a best-case example of planned, sustainable development, through successful mitigation of negative impacts and benefit-sharing with affected communities, and implemented in accordance with international good practice. This article questions the narratives of sustainability. It is argued that while the project could be considered successful in achieving certain economic objectives defined by the government and investors, evidence of social and environmental sustainability is questionable, raising questions about other dam projects in the country with weaker standards and oversight. Given the extent of negative impacts and associated social trauma in the Nam Hinboun basin, the article considers whether and to what extent such hydraulic development processes under authoritarian rule may be framed as expressions of structural injustice and slow violence.

KEYWORDS

hydropower; Laos; Mekong; environmental justice; slow violence

Dam projects have long been associated with human insecurity, injustice and even indirect and direct forms of violence (International Rivers 2016). In many countries, hydropower development can induce incidences of intimidation, coercion and forced resettlement of affected persons by company or state agencies. At the more extreme end, measures such as criminalisation, restrictions on movement, physical harassment, imprisonment, state-sanctioned disappearance and murder have all been documented in cases of contested dam projects. Recent examples include the killings of anti-dam activists in the Philippines and the state-linked murder of Berta Cáceres in Honduras (Human Rights Watch 2012; *The Guardian*, March 4, 2016). In Thailand, episodes of state-linked violence associated with dam projects have been documented, most notably with the controversial Pak Mun dam (Foran and Manorom 2009). In Cambodia, there

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have been similar reports of violence and intimidation at the nearly completed Lower Se San 2 Dam project (*The Cambodia Daily*, August 8, 2017). More commonly, a range of social traumas and coercive actions are associated with infrastructure projects, often overlooked as a "normal" or "everyday" part of the development process.

Lao PDR (Laos) is in the midst of an unprecedented hydropower and dam infrastructure building boom. The Government of Lao PDR (GoL) wants to become "the battery of Southeast Asia," with the former Vice Minister of Energy and Mines, Viraphonh Viravong declaring: "We want to develop all the (hydropower) potential in Laos that is environmentally acceptable and financially viable" (*Reuters*, October 28, 2014). Laos had about 6,000 MegaWatts (MW) installed hydropower generation capacity in 2016, and anticipates a capacity of 12,000 MW by 2020, of which two thirds are targeted for export (*Reuters*, October 28, 2014). Critical attention surrounding hydropower dam development in Laos and the Mekong region has primarily focused on the socio-economic and environmental impacts arising from specific projects (Lee 2014; Evrard 2015). A recurring theme has been the loss of livelihood for riparian communities, especially related to fisheries declines due to the diminished ecological capacity of tropical rivers after barrage construction. In general, the critiques of hydropower development emphasise the negative social and economic impacts for local people, environmental degradation and diminishment of biodiversity, as well as transformations of local knowledge and cultural traditions due to fisheries decline, both *ex-ante* and *post-facto* (see Baird and Barney 2017; Friend and Blake 2009; Orr et al. 2012; Sneddon and Fox 2012). Recent attention has also outlined the exclusionary, "water grabbing" dimensions of hydropower development, examining the involvement of state and corporate interests in the accumulation of material and non-material benefits (Matthews 2012).

In this article we extend critical research on Mekong hydropower development by examining under what circumstances state mediated, structural forms of injustice and institutional violence may be present within, and even integral to, dams and their associated multi-level resource governance systems. Our primary argument is that in Laos, the acknowledged adverse social impacts of hydraulic infrastructure (including dams and associated irrigation-based development schemes) do not represent exceptional circumstances, but rather are systematically produced through the "structural politics" of Laos' mega-project development model, as embedded in an illiberal, authoritarian political system (Rigg 2016, 200). Following Sneddon (2015) and Baird and Quastel (2015), for Laos we conceptualise large-scale hydraulic infrastructure and particularly hydropower as a techno-political intervention in the landscape that is integrated with regional and global energy production and consumption networks. As a result, hydraulic infrastructure frequently induces systemic, path-dependent and disruptive socio-ecological transformations through a spatialised and "tumultuous process of modernization and development" (Swyngedouw 1999, 1). Elsewhere, Swyngedouw (2006, 14) stresses the importance of tracing how social power relations (discursive, economic, political and cultural) are organised into co-evolutionary socio-ecological processes in hydraulic "land-waterscape" contexts. In this article we focus on how hydraulic infrastructure in Laos is established through, and articulates with, state and transnational governance regimes, in a way that unequally allocates the distribution of public goods and costs, and systematically externalises uncompensated environmental impacts onto struggling local communities. While livelihood

outcomes vary in important ways across project sites, villages, households and individuals, detailed analysis of the self-described "best practice" Theun-Hinboun Hydropower Project (ADB 2002, 18), helps to illuminate how the dynamics of hydraulic development can be conceived as organised through a structural form of injustice and dispossession (both material and cultural). Such processes, it is maintained, extend beyond particular instances of poor performance by companies and state regulators, to encompass sectoral development patterns and guiding policy settings.

The article then examines whether and to what extent the coupling between capital investors and the Lao hydraulic infrastructure regime could be considered through the lens of infrastructural violence or slow violence. The rush to hydraulic infrastructure in Laos invokes Lefebvre's (1991, 351) notion of a "fetishism of an abstract economic space," through which Lao rivers are conceived as sites "suitable" for intensive hydraulic development, via a simplified and calculative vision of nature as commodity (see also Scott 1998, 19–21; Mitchell 2002, 179–205). We draw attention to the progressive accumulation of uncompensated impacts introduced through hydraulic infrastructure development, that can ultimately result in heavily degraded ecosystems and negative livelihood outcomes for large numbers of people. Given the intensity of hydropower investment, we forward that Laos' hydraulic infrastructure regime also has implications for understanding the broader trajectory of authoritarian state formation, as infrastructural capacity mobilised through the hydraulic regime strengthens and empowers the central state apparatus. In developing this analysis the article also critically examines voluntary corporate claims to sustainability, approaches to hydropower regulation based on efforts to promote deliberative governance, and scholarly research that focuses on decentring state power and parsing forms of local agency in hydropower resettlement.

Instead of a clear neoliberalisation of corporate-authoritarian resource governance, the article draws attention to an increasing consolidation of state-led authoritarian paternalism under the Lao party-state, while extending Singh's (2014) critique of Goldman (2001) through a situated study. We argue that an important tool of statecraft employed by the Lao People's Revolutionary Party (LPRP) is focused upon controlling and disciplining rural subjects, whose local ecologies and livelihoods have been fractured through poorly mitigated hydropower development. This is accomplished through the consolidation of sovereign control through hydraulic infrastructure, harnessing both altered hydrologies and domestic and foreign sources of financing to introduce dam-enabled "public" irrigation development projects. Irrigation development is proposed as another high potential "mandated activity" (Creak 2018). It allows the LPRP to manage disparate and potentially unruly populations, rendering them more visible and malleable to further state interventions. The physical and socially hierarchical nature of irrigation management structures favours these modalities of control. In other words, extending full state hydraulic control over a complex land-waterscape via hydropower and through an inter-dependent irrigation infrastructure paradigm, enables new and profound forms of material, spatial and discursive command over internal political state space.

In developing these arguments, we direct attention to a case study of a Mekong tributary river, the Nam Hinboun, at a juncture when much international and scholarly attention is aimed towards larger dam projects underway on the mainstream Mekong River (see Hirsch 2016; Blake and Robins 2016). After a brief review of relevant literature on structural forms

of injustice and infrastructural/slow violence involving extractive development, we examine the key policy settings underpinning the hydraulic infrastructure regime. We then elaborate the case study of the dams in the Nam Hinboun watershed, through a critical analysis of claims to sustainability *vis-à-vis* an adverse incorporation of rural communities into a new socio-natural hydraulic regime, and the creation of newly precarious livelihoods. Drawing from this critical approach, supported through long-term field observations *in situ*, and a detailed reading of the literature on dams and displacement in Laos, we maintain that the contemporary dam infrastructure paradigm in Laos can be most usefully considered as based upon embedded processes of structural social injustice, and at times, forms of dam-induced slow violence.[1]

Structural Injustice and (Infra)Structural Violence in Hydraulic Development

Development-induced displacement and resettlement is a well-recognised phenomenon globally, to which dam development has been a leading contributor (see, for example, Cernea 1997; Vandergeest, Idahosa, and Bose 2007). The World Commission on Dams conservatively estimated that large dam projects led to the displacement of 40 to 80 million persons worldwide from 1950 to 1990, the majority located in China and India (WCD 2000). More recent estimates suggest that up to 472 million people have been "potentially affected" by the world's 7,000 largest dams, based on an approximation of rural riparian populations in physical proximity to and likely dependence on affected riverine resources (Richter et al. 2010). These authors conclude that while dam development projects are typically aimed at reducing poverty and improving economic opportunities, deepening poverty and insecurity for project-affected persons are frequently documented as the actual outcomes.

In this section we explore concepts for understanding the diverse expressions of dams as (under)-development, as a phenomenon experienced most keenly by subaltern actors at the geographical and socio-political peripheries of state power. We focus on how the negative impacts from dams in Laos are not aberrant exceptions to the mainstream model of good governance practice and outcomes. Injustice in this context is structural because its origins lie in the socio-technological system of hydraulic development, built into the foundational designs of dam building as a technology that is materialised through the ruling ideology of the LPRP and operationalised through key regulating institutions and guiding policies (Resurreccion et al. 2011).

While this article focuses on Laos, the country's hydraulic regime is embedded in a wider regional context and reflects certain facets of a historical paradigm. Its ideological roots can be traced to not only the US and Western countries' full-basin planning models for the Lower Mekong established during the Cold War period, but also to a State Socialist fetish for scientism, modernity and technological progress transferred to Laos primarily via socialist allies in Vietnam (Biggs 2010; Sneddon 2015; Creak 2014). Moreover, Mekong dams increasingly invoke regional transboundary dimensions, due to their physical location on a common and highly connected watershed, but also through the institutional and financial networks involved in dam construction and the export of electricity, through the Mekong "powershed" (Middleton and Allouche 2016).

Critical scholars have pointed to the coercive and often violent logics and outcomes of large-scale resource development and state resource development policies in the Southeast Asian region (see, for example, Baird and Shoemaker 2007; Nevins and Peluso 2008). Rigg (2016) notes the importance of carefully distinguishing between processes that could be called development-linked injustice, and the more contentious terminology of structural violence. He argues for the former in understanding the context of policy-induced poverty, which became apparent through state land reform programmes in upland Laos during the 1990s and 2000s (see also Rigg 2005).

Although the edges between structural injustice and institutionalised violence are indistinct, we also draw upon Nixon's (2011) interpretation of how the causes and outcomes of poverty-inducing policies can also be hidden from public view, or accumulate slowly over time, with corresponding implications for the recognition of what he terms "slow violence." Writing more than 30 years ago, Watts (1983, 14) pointed to the "silent violence" visited on northern Nigerian communities suffering from famine, brought about by "the rupture of local systems as they became part of coherent and highly integrated global networks." O'Lear (2016, 5) extends this perspective to elucidate the concept of slow violence embedded within the concerns of environmental and climate justice, pointing to how it "focuses attention on latent, gradual, and invisible negative externalities related to mis- or abuse of environmental resources and ecosystems." The concept of slow violence can be applied to the broad spatial, scalar and temporal socio-ecological impacts and processes that arise from hydropower projects, with high propensity to generate negative but difficult to quantify impacts, particularly in the absence of transparent pre-project baseline studies.

Alternatively, Li (2015) understands corporate oil palm expansion in West Kalimantan through the concept of infrastructural violence. Li (2015, 3) argues that Indonesia's plantation complex is organised through a corporate "monopoly system," controlling space, nature, people, labour and access to livelihood. Concessions granted for large resource development projects subsume communities into new technical-bureaucratic systems and governance logics that are defined through an extractive development model. The oil palm concession system, combining elements of state and corporate rule in changing valences, produces systematic exclusions, including through extensive landscape degradation and the externalisation of environmental impacts. Li (2015, 3) thus argues that infrastructural violence takes on a deeply territorial form, whereby violence is inscribed into the landscape via the spatial form of plantation mega-projects: "[t]his kind of system does not need guns or security guards to enforce it: the violence is built into the organization of space, because of what it excludes, and what it precludes."

While hydropower concession sites do not represent "total institutions" in the style of some large corporate plantations (once operational, hydropower projects do not require a large labour force organised under intensive management and surveillance), hydraulic infrastructure can usher in new spatialised projects of state-led rural control, via direct enclosure and resource displacement, and through coercive resettlement programmes. In Laos, dams are often accompanied by (in)voluntary relocation, state-backed agricultural intensification programmes; attendant but risky and invariably under-performing compensatory irrigation projects soon follow. Taken together these hydraulic assemblages represent new socio-spatial engineering and territorialisation

projects (see Green and Baird 2016). Such projects invoke what Scott (1998, 4) called an ideology of "high modernism." In the Hinboun valley a key component of resettlement involves enhanced and consolidated state political control over rural populations and incorporation of communities into a Lao form of hydraulic modernism and bureaucratic management. Somewhat ironically, it is the internationally regulated, more highly capitalised, "best practice" hydraulic infrastructure projects that can accomplish these state objectives most effectively, furthering the logics of authoritarian state formation in a comprehensive manner.

Compared to its neighbours excluding Cambodia, Laos has been a comparative latecomer to a state-led (but largely foreign-funded) "hydraulic mission" (Molle, Mollinga, and Wester 2009, 332). While the Nam Ngum hydropower dam, built with international assistance between 1968 and 1971 (Hirsch 2016, 67) marked the era of large-scale dam development in Laos, much of the present boom in dam construction occurred after the World Bank approved the provision of loans and risk guarantees for the controversial Nam Theun 2 Hydropower Project in 2005 (Lawrence 2009). At this critical juncture, World Bank support opened the doors for a phalanx of foreign investors to enter the Lao energy market, drawn by the potential to harness hydropower for export to other mainland Southeast Asian economies. Post-2010, in addition to scores of tributary dams planned or under construction, attention has again turned towards developing the Mekong mainstream with a series of 11 large dams planned, nine of which are within Laos' section of the river (ICEM 2010, 29; Hirsch 2016, 66). By late 2017, two mainstream dams were under construction at Xayaburi and Don Sahong and a third, at Pak Beng, is in the advanced stages of planning and consultation. In 2013, Laos received approximately US$1.6 billion of external investment for the energy sector, with hydropower development accounting for just over half of total national inward investment (Suhardiman and Giordano 2014, 982). The Thai financed and built Xayaburi dam project alone is anticipated to cost $3.8 billion by completion in 2019 (Blake and Robins 2016, 4). The government news agency *KPL Laos News Agency* (July 6, 2017) forecast that at least 100 hydropower dam projects would be operational by 2020, with 85% of the power generated slated for export.

Laos' hydraulic infrastructural regime – including hydropower dams, associated irrigation schemes and livelihood replacement projects – progressively frames both nature and rural communities within changing configurations of state-based and corporate-led environmental management practices (Whitington 2012, 252). While injustice and violence can take on structural forms, not all infrastructure projects are necessarily representative of this phenomenon – and in Laos certain developmental state logics that aim to provide improved social protections to vulnerable rural communities may also be evident – for example, through public health and education-focused support programmes. The broader literature on rural development and agrarian change has grappled with how to understand the complex intersections between state development policy, rural transformation, and state formation. This research includes important debates on the cultural trauma of resettlement (Evrard and Goudineau 2004); the complex relationship between coercion and consent in state-backed resettlement policy (High et al. 2009); how "aspirations" and "desire" represent creative forces in shaping community responses to state policy (Singh 2012; High 2014); and analysis of new spatial configurations of state authority and sovereignty in national

peripheries (Lund 2011; Lu and Schönweger 2017). A key question for our empirical analysis is thus: under what conditions can dam building and infrastructure projects produce structural injustice and contribute to infrastructural or slow violence?

In the next sections of this article, we examine the convergence of factors whereby state-corporate alliances develop large dam infrastructure in Laos and how this confluence can predispose projects to forms of coercion and violent dispossession, beyond the normal hegemony of large-scale hydraulic development (see, for example, Zeitoun and Warner 2006; Menga 2016). In our case study on the Nam Hinboun, we find that neither state governance systems, "best practice" corporate standards, nor international regulation (for example, through the Equator Principles on bank financing) are equipped to handle the damaging social and ecological outcomes of hydropower infrastructure (Matsumoto 2009; Schepers 2010). While the broader literature indicates that negative social-environmental impacts are widespread in Lao hydropower projects, we posit that hydraulic landscape transformations may shift to a coercive and violent tenor when they are accomplished through overt applications of authoritarian state power. This may be expressed through a number of manifestations, such as through implicit and explicit threats of arrest and imprisonment; general fears in relation to state agents monitoring, enforcing or policing the project; or more personalised violence that, legally or illegally, employs the state's monopoly on the use of violence to sharp effect.

Case Study: The Theun-Hinboun Hydropower and Expansion Projects

The Theun-Hinboun Hydropower Project (THHP) is located in central Laos. THHP is a 210 MW trans-basin diversion scheme, commissioned in 1998 as the nation's first major public-private partnership in hydropower development. The GoL holds a 60% equity share in the Theun-Hinboun Power Company (THPC), funded through a $60 million soft loan package from the Asian Development Bank (ADB). Two 20% shares are held by MDX Power Public Company, a Thai company later renamed GMS Power, and Statkraft AS, a Norwegian state-owned utility company. Fully 95% of THHP's output is exported to Thailand under a 30-year agreement with the Electricity Generating Authority of Thailand (Virtanen 2006, 7). A concrete dam diverts water from the Theun-Kading river down a tunnel bored through an escarpment to a power station below, releasing turbinated water via a re-balancing pond into the Nam Hai and thence to the Nam Hinboun river. It was estimated that approximately 30,000 people living in 66 villages were negatively impacted by the initial project post-construction in 1998 (Imhof 2008, 36).

At the time of its construction, THHP was considered a flagship project for the Lao government, as in 1998 it was amongst the country's first multi-institutional foreign entry into its nascent domestic and regional energy market. The project was heralded by the ADB and other proponents as a textbook example of a successful application of a combined public-private partnership/build-operate-transfer model, that could subsequently be rolled out for energy infrastructure projects elsewhere in the Greater Mekong Sub-region (Middleton, Matthews, and Mirumachi 2015). THHP was considered pioneering because it demonstrated that banks and private investors could pool risks through entry into a multi-partner consortia involving a state-owned enterprise, as opposed to individually shouldering the risk in an uncertain business and political environment, as prevailed in Laos in the late 1990s.

The subsequent Theun-Hinboun Expansion Project (THXP) was built between 2008 and 2012, as an adjunct to THHP, through the construction of a 65-metre high dam on the Nam Gnouang river to create a 105 km^2 storage reservoir and a 60 MW capacity powerhouse below, with water disgorging into the existing THHP headpond (see Figure 1). The main THHP power station capacity was doubled to 440 MW, implying the doubling of water discharges into the downstream recipient Nam Hai-Hinboun system. Funding for the $665 million THXP project was sourced from several private overseas financial institutions, including the ANZ Banking Group (Australia), BNP Paribas (France), KBC (Belgium) and Thailand's Bank of Ayudhya, Kasikorn Bank, Siam City Bank, Thanachart Bank and Export-Import Bank. Unlike THHP, THXP did not require the underwriting of private risk and the GoL's equity stake by the key development banks, as had been the norm until that time with other large-scale hydro-projects in Laos. This new arrangement supported EdL-Generation, the GoL's new institutional investment arm for energy projects, with a greater domestic capital base and fiscal capacity, which in turn has facilitated bond issuances on the Thai capital

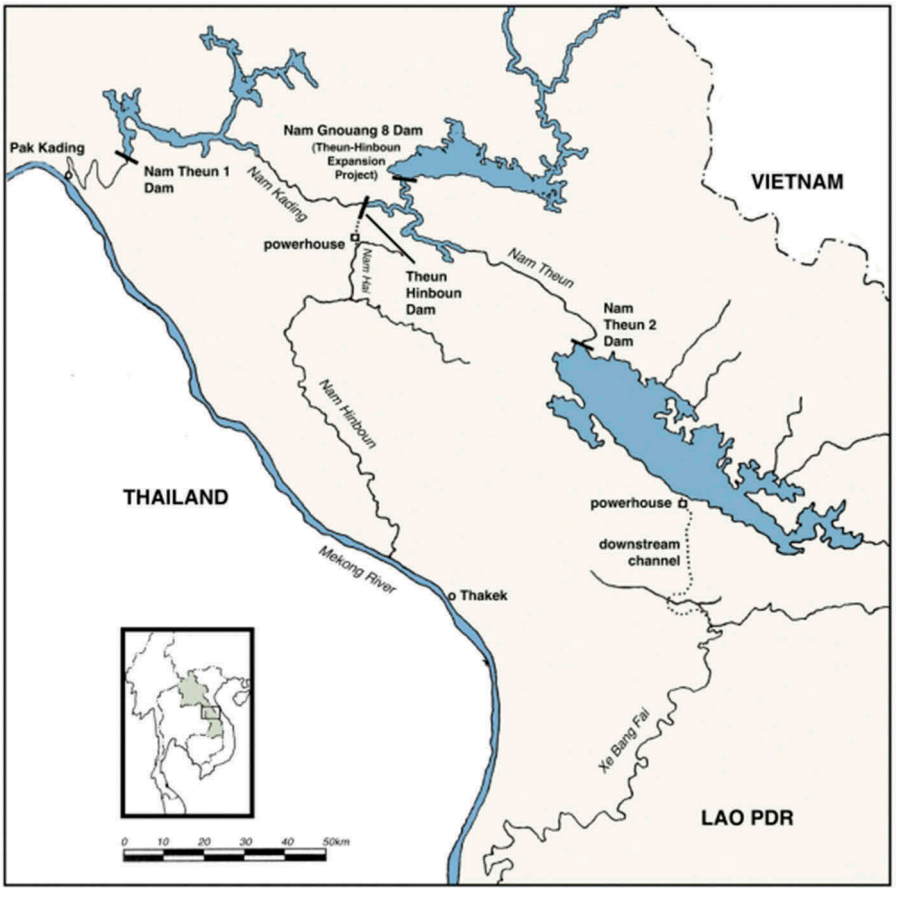

Figure 1. Map illustrating the Theun-Hinboun Hydropower Project and Expansion Project in relation to other large hydraulic infrastructure developments in central Laos. Illustration reproduced with permission of International Rivers.

market.[2] The first three of the investing international banks in THXP named above are signatories to the Equator Principles, which create voluntary standards for financial institutions to manage environmental and social risk in project finance, based on International Finance Corporation performance standards on social and environmental sustainability.

A non-governmental organisation (NGO) study conducted during the early stages of construction for THXP found that the project was in violation of the Equator Principles and GoL resettlement law (known as the Lao Resettlement Decree) on multiple points and that THPC had failed to comply with its own Concession Agreement and Resettlement Action Plan (Matsumoto 2009, 5–6). THPC has rejected most of these alleged shortcomings as either "misleading" or "incorrect" and insisted that it had adopted "best practice" approaches to resettlement and was in full compliance with both Lao law and the Equator Principles. It reiterated that "THXP could become a model of sustainable development of hydropower projects" (THPC 2009, 3–9). The Nam Gnouang Dam and THXP diversion project required the resettlement of 4,186 people, including some highly vulnerable ethnic minority communities, and studies identified that the project would negatively impact another 51,400 people across a wider area than the original THHP, largely through significantly increased downstream wet season flooding and fisheries degradation (International Rivers 2014). Villagers were effectively given no choice or voice in their resettlement, which was conducted through a joint operation between THPC and the GoL.

Theun-Hinboun Hydropower and Sustainability Claims

Those promoting hydropower development in Laos and the wider Mekong Region have depended heavily upon a narrative of building sustainable, renewable energy projects for their legitimacy. Both the World Bank and the ADB have been strident advocates of the notion of sustainability and good governance principles, routinely pointing to their projects for "best practice" credentials in regional hydropower development (see, for example, ADB 2002, 18; Jusi 2006; Illangovan 2009). While sustainability is normally considered to be dependent upon a triple bottom line mix of economic, environmental and social indicators, the ADB sometimes perceives sustainability in a more direct business-like manner. Its Operations Evaluation Department conducted a "Project Performance Audit Report" on the THHP in August 2002, and evaluated its sustainability according to financial terms alone (ADB 2002, 11).

Project proponents have maintained that the THHP and THXP represent textbook examples of sustainable development, through achieving successful mitigation of environmental and social impacts and benefit-sharing with affected communities, "planned and implemented in accordance with international good practice" (Sparkes 2014a, 1). Mirroring this narrative, on its home webpage THPC claims itself to be a "guiding model for sustainable hydropower development in the Lao PDR."[3] In a company press release celebrating 20 years of power generation, the Minister of Energy and Mines, Khammany Inthirath, was quoted: "The Theun-Hinboun project has improved the living standards of all ethnic peoples, playing a vital role in implementing the strategy for rural development, poverty alleviation, and the development of Lao PDR as a regional energy link" (THPC 2018). Sparkes (2014a, 12) further argues that the

THXP "…illustrates how a resettlement and social mitigation programme can be developed in the context of a hydropower [sic] with the goal of achieving socio-economic sustainability despite considerable disruption." Sparkes (2014a, 12) lauded the project for its "clear commitment from investors and management to sustainable targets that are legal obligations (entitlements and targets)," noting how "broad [sic] stakeholder acceptance was achieved through participatory planning and implementation in cooperation with local authorities and other organizations, including NGOs." He concludes by making the bold claim that for the hydropower industry, "this approach can be seen as a paradigm shift," as "at present, only responsible developers have made sustainability a key component in project planning and implementation" (Sparkes 2014a, 12).

In a separate paper, Sparkes (2014b) asserts that THPC has adopted a path-breaking corporate social responsibility (CSR) approach to its mitigation and social development activities within project impacted communities, thereby offering lessons to other operators, especially in youth education for project-affected communities. Sparkes (2014b, 274) claims that "the pro-active [sic] and preventative approach used by the THPC and the programmes which resulted from its involvement with local communities fulfil the requirements for best international practice regarding CSR." Sparkes is not a disinterested observer, having been employed by the project in a number of roles, initially as a consultant anthropologist investigating impacted communities, later as the Social and Environmental Division manager of THPC and most recently as a Vice President of Statkraft (International Hydropower Association 2014). He thus ranks amongst the most influential foreign actors in THHP and has been effective in directing an overly positive international public narrative of project sustainability when there has been considerable debate among researchers and activists.

In the state-controlled domestic media the project has been praised regularly for its alleged great success. Indeed, in 2013, two THPC directors were awarded "Development Class II" medals by the Governor of Khammuan province in recognition of their contributions to national development efforts, with the *Vientiane Times* (May 31, 2013) noting that THPC had donated $1.5 million for irrigation projects in five villages of that province. As argued by Goldman (2004), the privileged knowledge of "experts" hired to conduct scientific studies in the service of banks or hydropower companies in making the spaces of development legible to outsiders has not only led to the subjugation of the knowledge of "non-experts," including villagers and NGO dam critics, but has also led to the rise of multilateral development banks into influential environmental organisations in the region, through their ability to co-opt willing partners and access senior state leaders.

Sparkes' (2014a) published self-assessment of THHP is notable, given that it was based on just a dozen references, none of which are from peer-reviewed academic sources, and of which only one – (Shoemaker 1998) – represents a critical stance on this clearly controversial project. Half of the remaining citations are project reports approved for release by the developer. Left uncited were at least ten subsequent reports by both academic and civil society researchers that have critically examined the local and community impacts of THHP and that challenge many aspects of the sustainability and best practice narratives. In our view, there are significant omissions of critical counterfactual evidence in Sparkes' (2014a) report, and arguably a tendency to

emphasise interpretations that find more succour from the project's co-investor – Laos' single-party regime.

Drawing from extensive local field research conducted by both authors in the Nam Hinboun valley, the next section of the article outlines the local conditions that constitute structural injustice and infrastructural/slow violence in the Lao hydraulic infrastructure regime. We identify how such outcomes can be associated with state-corporate impoverishment and "abandonment" of rural communities, to face externalised impacts of hydropower development and also how injustice and violence can be associated through the coerced *incorporation* of communities into state-controlled resettlement schemes, which can reproduce vulnerability and introduce novel forms of precarity whilst ushering in new modes of coercive population management (Rigg et al. 2016). This pattern can be conceptualised as an uneven process of slow violence, through destabilising environmental livelihoods, and subsuming a community's customary resource rights into heavily centralised political-economic systems of authority and control (Swyngedouw 1999; Strang 2016).

Structural Injustice and (Infra)structural Violence in Practice

In the aftermath of the original THHP project, certain middle and lower watershed communities on the Nam Hinboun river system were gradually left to manage the project's impacts in an increasingly challenging environment, through being denied the electricity, water supplies, sanitation, effective livelihood systems, education and other infrastructure originally promised to them. While through an Environmental Management Division THPC has implemented a mitigation and compensation scheme since 2001, our field research identified major deficiencies and gaps in these schemes. Since 2012, the THXP further accelerated ecosystem degradation along the valley, particularly through an altered hydrological regime including deeper and extended periods of wet season flooding. This has necessitated the resettlement of downstream communities from riverside locations (THPC 2014, 18). The company has developed a CSR-based community development and infrastructure programme which includes the provision of electricity, proper schools and health care to villages denied these services since 1998. However, evidence from field research points to significant gaps and a high degree of complexity involved in attempting to reconstruct livelihoods in the new resettlement sites. This complexity has been exacerbated by the GoL's favoured approach of clustering villages into large, consolidated focal sites. Such state resettlement-irrigation scheme configurations serve to consolidate party-state political control over village discontent and resistance to the last two decades of largely uncompensated environmental degradation, incomplete and inadequate compensation and broken promises (see, for example, FIVAS 2007; Barney 2007). Over the last two decades the most consistent theme in the Nam Hinboun valley has been displacement and environmental injustice through the comprehensive impairment of the river's ecosystem services and the subjugation of the rights of its citizens to determine, or even participate in, the management of their community ecological resources. In different times and places, more direct forms of infrastructural violence have become apparent, as project externalities take on highly damaging forms, and as villagers have been threatened with arrest and imprisonment for resisting the terms of hydropower resettlement and livelihood reconstruction.

The Social Costs of Hydropower: Impacts for Food Security

A key impact of THPC's twin hydropower projects has been the creation of conditions of food insecurity for thousands of people living across a wide area, upstream and downstream of the dams. To be sure, food security was problematic prior to the 1998 THHP, and poorer households were always vulnerable to natural hazards such as floods and fluctuations in food production capability (Claridge 1996, Barney 2007, 21). However, there were a number of key "safety nets" in existence prior to the project, including access to rich forest resources and relatively fecund fisheries and wetlands, which have all been diminished in the post-project scenarios. The natural resource base deterioration has been induced through multiple pathways, with the most important being the reduction in fish and wildlife protein availability and the reduced capacity of villagers to produce rice for household consumption and sale, chiefly due to the exacerbated rainy season flooding making cultivation impossible over hundreds of hectares. For a mix of reasons, most of the THPC project compensation and mitigation programmes, including pumped irrigation for dry season rice and communal vegetable gardens, have floundered, and have not replaced the livelihood shortfalls induced by project impacts (Barney 2007; FIVAS 2007; International Rivers 2014).

Hydropower development has seriously impacted fish populations through a number of mechanisms, including: radically altered flow regimes; blockage of fish migration routes; changes in sediment transport regimes; and alterations in turbidity, water temperature and chemical properties of turbinated water. Thorncraft (2006, 58) reported an "obvious decrease in river fisheries diversity, abundance and migration patterns," including up to 82% reductions in fish catches in some downstream stretches of the Nam Hai and Hinboun rivers, and declines of 38–81% in catches in the Nam Theun-Kading catchment, following the THHP (see also Schouten et al. 2004, Tables 6.5, 6.5 and 6.6). Based on lead author Blake's interviews with affected downstream villagers in 2004, 2007 and 2013, formerly prolific populations of mollusc, crustacea, edible aquatic weed, aquatic reptiles and some amphibian species that were important in the diets of local people appear to have been eradicated after the dam started operations.

Supplementary attempts to mitigate impacts via the provision of small artificial rearing ponds, tanks and other structures for fish raising have proven mostly unsuccessful. According to THPC's own evaluation, by 2015 only 63% of families were considered to be "food secure" against a baseline of 58% set in 2007–2008 and a target for 2015 of 80% (THPC 2015, 2). This measure was the poorest performing of all Human Development Indicators considered. The same document also revealed that resettled households across all impact zones were the least food secure (28%) against a figure of 78% for communities that hosted those resettled. This disparity is stark in itself, but, as explained below, there are also multiple tensions at play within and between the resettled communities (see International Rivers 2014; Manorom, Baird, and Shoemaker 2017) that may lead to a further erosion of food security for resettled households in coming years.

Hydropower Resettlement and Introduced Resource Conflicts

Extensive field research conducted through independent site visits at Ban Sivilay (a pseudonym) between 2005 and 2015 identified significant livelihood issues arising from both the original THHP project and the THXP expansion phase. The impacts of the first dam have rendered most (85 hectares) of the community's wet rice agricultural land unusable, due to exacerbated wet season flooding. By 2015, the company's own surveys (THPC 2015, 7) revealed that the average annual household income in Ban Sivilay was just 5.2 million kip (US $630); representing a regression since the first surveys in 2009 when household income was calculated at US$750 (THPC 2010, 30). It was also far below the Laos *per capita* gross national income for 2015 which had reached over US$2,000.[4]

In 2006, THHP communicated to Ban Sivilay villagers that they would be relocated to a higher elevation location within their own community boundaries; an arrangement that received village approval. However, this plan was shelved on the instructions of the GoL local administration, in an apparent effort to reduce compensation and mitigation costs and to facilitate the implementation of integrated, resettlement/irrigation-based livelihood schemes. In 2014, and against majority community wishes, villagers were ordered to relocate into a consolidated focal resettlement site, that merged them with two neighbouring upstream communities. The new resettlement village is located in the territory of Ban Phoxai (a pseudonym) – the next village upstream.

As part of the resettlement plan, Ban Sivilay villagers reported being promised three *rai* (4,800 m^2) of irrigated rice land per family, along with subsidised seeds, fertiliser and water pumping costs for a period (Village interviews, November 2015). Nevertheless, the majority of villagers feared for the loss of access to their local resources, including places for finding forest and aquatic food, grazing land, their smallholder rubber and eucalypt plantations, upland swidden fields and some newly created wet rice paddy located along hillside streams. While the resettlement site is only four kilometres upstream from the old village, a return journey to some households' upland fields and forests could mean an arduous daily round trip of some 14 kilometres. If one owns a motorbike or a modified hand-held tractor, it is an expensive trip in terms of fuel. Older residents especially, accustomed to helping out in the household in small but important ways, for example with collection of non-timber forest products for household consumption, were rendered largely immobile.[5]

The depth of community angst was stressed by village leaders at the new resettlement site (Village interviews, Ban Sivilay, November 2015). They stated:

> At first the company came and talked with us about moving [in 2006 meetings]. But this was to move within our own village. The second meeting, they came to tell us to move over here. The third meeting, some villagers agreed and some did not. Some people who disagreed, the district officials called them, to "educate" them, and told them that they have to move.
>
> Ten villagers were sent summons to be arrested last year [2014], they are afraid of the force of the district…When we said we didn't want to move, the officials said you are [attempting to be] "above the law," and you will be arrested. Some people suggested writing a complaint letter but we don't have enough money to petition the [provincial] governor.

The villagers eventually acquiesced to the resettlement plan on threat of arrest and a promise of an access road to facilitate trips back to fields, forests, wetlands and gardens. While a riverside road along the Nam Hinboun was constructed by a sub-contractor in early 2014, it was built without culverts and during the first (THXP-induced) wet season flooding event a section of the road was washed out. While the road was eventually repaired and a culvert added, for many villagers this represented yet another season of uncompensated livelihood damage and other negative impacts, adding to the previous 17 years of villagers' experiences with failed assistance schemes from THHP and the GoL.

In addition to the prospect of losing access to their resources, Ban Sivilay villagers expressed fears that they would move to the resettlement site, only to find that the new pumped irrigation schemes would be unsuccessful, as they had been in a GoL-THPC-supported irrigation scheme constructed in their village between 1998 and 2001. Villagers wondered whether their new Ban Phoxai host community, with whom they have close ties, but with separate land and resource bases, would easily relinquish their lands to the new arrivals. Again, their fears were well founded, as conflicts soon emerged. In November 2015, the promised 4,800 m^2 of irrigated paddy per household was reduced by the host community to 600m^2, before being negotiated back up to 1,600m^2; still a third of that originally promised. Leadership was also a problem. By Lao law there can only be one village leader per settlement, and the village leader of the new resettlement village was from the host community, Ban Phoxai. This essentially left Ban Sivilay villagers disenfranchised, restricting their ability to raise concerns and grievances with higher authorities (Interviews, Ban Phoxai, November 2015).

The newly constructed GoL-THXP irrigation system for resettled communities carries significant risks of under-performance. In other contexts from around the Mekong region failed irrigation schemes have led to the emergence of new debt relations, entailed various socio-ecological costs, as well as establishing dependencies on volatile markets and capricious bureaucrats exerting control over water users (Blake, Carson, and Tubtim 2005; Blake 2012).[6] The Phoxai resettlement site has been carved out of a gravelly hillside, providing only marginal and hardpan soils for establishing household gardens. Ban Sivilay livestock are only allowed to graze in the old village spaces, making them more susceptible to being stolen at night. The host community has disallowed any collection of forest products by Ban Sivilay villagers outside of their immediate residential area and has blocked the collection of aquatic resources in their stretch of the Hinboun river. The result has been rising resentment and social tensions between what were formerly two close-knit communities, with intimate connections based on marriage and kinship ties, a shared Tai Bor ethnic identity and generations of neighbourly relations. While Ban Sivilay villagers appreciate their newly-constructed homes, school and the health clinic at the resettlement site, in November 2015 some resettlers were in desperate circumstances with regard to household food security. Sivilay villagers indicated that they would independently return to their home village if the situation did not improve. Indeed, one elderly and recalcitrant couple did remain in the old village, refusing to move to the resettlement site even in the face of threats of arrest and intimidation by local officials.

In an informal focus group discussion conducted in November 2015, one senior villager and former headman contested the terms of the resettlement and disputed the

characterisation that the community lived in a state of poverty prior to hydropower development:

> There was no *naa saeng* [irrigated dry season rice] last year. The land that they provided had no water. For two years we have lived here and we nearly died! We are not allowed [by the host community] to cultivate land for crops. Living here is just for staying, not for [livelihood] activities…Everyone has no idea for life here, they are very sad. I agreed with the Theun-Hinboun programme, but in practice it is different…The aim of the programme is to make people better [off] but in reality things are getting worse. In the old village we were poor, but in another way we were not, because we had land, livestock and food (Interview, November 26, 2015).

For Ban Sivilay, a case can be made that THHP has leveraged the authoritarian power of the state for implementing a coercive and forcible resettlement process. Our interpretation is thus somewhat at odds with arguments made by Katus, Suhardiman, and Sellamutu (2016, 7), examining power relations in the THXP resettlement process at the Nam Gnouang reservoir. Through local analysis of "villager's conceptions of space and place," these authors focus on how villagers, developers and local state authorities were all "active participants" in the process of village consolidation (Katus, Suhardiman, and Sellamutu 2016, 14). Emphasising a blurred boundary between state and society and the role of gendered power relations, the authors show that certain community actors were able to capitalise upon personal connections with local party-state authorities to secure advantageous locations in the resettlement focal site area. There is no doubt that resettlement involves local complexities – and similar stories could be told of the intricate negotiations, decentred power geometries and forms of local agency that villagers deploy from the Hinboun resettlement process. However, it is striking that Katus, Suhardiman, and Sellamutu (2016) do not assess the authoritarian party-state structures under which these negotiations and forms of villager agency play out (Green and Baird 2016). This key issue is identified by one of their district government informants: "The Party approves all of the GoL's work, and is thus the highest authority in Laos" (cited in Katus, Suhardiman, and Sellamutu 2015, 10). In our view, developing an interpretation of decentred power relations while underplaying the tightly-controlled authoritarian basis for the organisation of state power in Laos produces a partial and, in many ways, a de-politicised perspective.

The evidence from Ban Sivilay presents a microcosm of wider systemic socio-ecological transformations and far-reaching livelihood problems affecting people living along the Nam Hai and Hinboun floodplain. A rapid river survey conducted by the second author by boat in November 2015, facilitated by his Ban Sivilay interlocutors, highlighted that scenarios of coercive resettlement were occurring in villages all along the Hinboun river system. In our interpretation, such moments of rupture mark the points at which rich, ecologically-founded, and place-based traditions of community life along the Hinboun river were being disassembled and deeply fractured.

Loss of access to agricultural land and natural resources, both aquatic and terrestrial, worsening flood impacts, rice productivity declines, decimated fisheries, degraded domestic water quality and availability and mitigation failures were just some of the issues repeatedly stressed in villagers' accounts (see, for example, Shoemaker 1998; Barney 2007; FIVAS 2007; Matsumoto 2009; International Rivers 2014). These losses result in increased out-migration, rising household debt, declining incomes, diminished

food security, health problems, including skin diseases from prolonged exposure to floodwater, increased risk of drowning amongst children and elderly, and poverty for some of the country's most vulnerable and marginalised households.[7] While some enterprising households will undoubtedly benefit from some new opportunities presented through THHP/THXP, on average there have been annual cumulative economic losses for the downstream villages. An impact assessment written by RMR (2006, 189), and suppressed by THPC (FIVAS 2007, 54), estimated uncompensated damages since operations began at nearly $300 per household per year. For the families involved, this represents a significant loss. Our community interviews identified that villagers were afraid to speak out about the process of enforced resettlement to multi-village focal sites or raise concerns with the official party-state grievance mechanism established post-THXP, for fear of difficulties with local authorities (see also Singh 2012).[8]

In the resettlement sites, both individual and collective identities are being refashioned, including through new state-designated names for merged villages and developmental programmes delivered by a growing array of bureaucratic agencies, as part of productivist state imperatives that set district and provincial targets for wet season and dry season rice output. Part of this process of state-directed identity building and social engineering is a drive for expanded irrigation development, seen as a core of centralised agricultural planning and high modernism in all the Lower Mekong states (Blake 2012; 2016). The underlying narratives and justifications employed by local and national elites favours an irrigation-led development paradigm at the expense of alternatives. The reasons for such projects' strong tendency to fail result from multiple environmental, economic, technical and managerial factors. Irrigation projects which rely on pumping require a high degree of co-ordination amongst stakeholders, and a level of technical competence on operation and maintenance which is invariably deficient in rural Laos. As some members fail and withdraw – mostly the poorer and more vulnerable households – an increasingly higher burden of costs and responsibilities is shifted upon the remaining users, who eventually withdraw as well, especially when yields are not as high as anticipated, input costs increase, disease and pest outbreaks occur and infrastructure falls into disrepair. There are numerous cases of irrigation system abandonment all along the Nam Hinboun and other river systems in lowland Laos, with some systems going through several cycles of construction, rehabilitation and failure. Irrigation in Laos is characterized by a target-driven bureaucracy, and forms part of an underlying infrastructure development paradigm where physical structures are seen as symbols of modernity and progress, rather than a means to an end (CES and AFD 2008).[9]

The shift from predominantly rainfed (or flood recession) agriculture to a hydraulic productionist-oriented regime, overseen by external authorities and mechanisms, forms part of an overall process of state territorialisation, pacification and subjectification of rural citizens that operates along a water resources control paradigm (Mollinga 2007). Importantly, the irrigation infrastructure typically does not become the legal property of the so-called beneficiaries, and neither are they afforded water rights. The new spaces of production are incorporated by the state, which can then act as a paternalistic benefactor towards its subjects, where previously it was the will of gods, spirits or local factors that blessed or punished villagers during each rainy season crop. Formerly relatively autonomous and self-reliant villagers become dependent on capricious party members, opaque bureaucracies and distant transnational corporations for water

provision, crop production and livelihoods. Some community members (particularly minor functionaries of the state) note the benefits of new infrastructure such as health clinics and schools, while the majority of farmers have decried the terms under which they have been displaced. The increasingly centralised state machinery rigorously censors state media, monitors online media sources, and enforces a public discourse that portrays such "multi-purpose" dam projects as proxies for technological progress, modernity, productivity, poverty eradication and the beneficent influence of paternalist bureaucratic power (Gindroz 2017).

Authoritarian High Modernism and Hydraulic Infrastructure

So far this article has outlined how hydraulic infrastructure is inscribed into a watershed and landscape, displacing local resource access for present and future generations, and resulting in the incremental degradation of the ecosystem. This section of the article briefly explains how we understand hydraulic infrastructure as intersecting with structural injustice and at times infrastructural violence; and how emerging configurations of state power and authority in Laos invoke logics of hydraulic authoritarian high modernism (Dye 2016; Evers and Benedikter 2009).

In Laos, the application of forms of coercion, injustice, oppression and even structural violence is built into the institutional-political system in fundamental ways. Our account broadly follows Scott's (1998, 87–90) characterisation of authoritarian states' obsession with technocentric, high modernist ideology and utopian schemes that simplify society and nature. We discern the orientation towards state-making through rendering both the landscape and its inhabitants (as subjects) more legible and disciplined. An emergent and evolving state authoritarian, high modernist ideology in Laos frames the ways that hydraulic infrastructure may be discussed, shapes how local communities are able to respond to project displacement and resettlement, and forms the backdrop for a hegemonic view of hydropower as a beneficial form of development intervention for the Lao nation, which lies beyond substantive domestic public debate or political negotiation.

Hydropower projects precipitate a civilising mission and accumulation of state power by regulating and taming unruly hydrologies, through building access roads, dams, power stations, electricity distribution systems and other ancillary infrastructure, that tend to erase or simplify "traditional" or existing lifestyles and emic knowledge systems and transform socio-natural landscapes. However, associated processes of resettlement and large-scale irrigation development arguably present national elites and bureaucracies with the fullest opportunity to fashion a new rural society and radically simplify and transform the landscape in a new utopian image. In Laos, this drive is exemplified by the growing number of hydropower resettlement schemes, involving a typical grid layout of residential houses, roads and administrational infrastructure – facilitating state monitoring and regulation of residents' activities. Irrigation schemes help complete the land-waterscape transformation, through the construction of headworks, canals, sluices and parallel roads that permit access to markets and adopt technologically "modern," economically "rational" and market-oriented agricultural practices. Such infrastructural-resettlement projects provide prime opportunities for a spatial re-ordering of nature and society. The state's desire to construct a succession of

small- or medium-sized irrigation schemes at each resettlement site, replicated in river valleys nationwide, speaks to a modular strategy of enhanced state socio-political control, and indeed raises critical questions about other narrative justifications beyond rural economic growth, poverty alleviation or increased crop productivity. In fact, we argue that the prime objective is to discipline, to make legible, dominate and politically incorporate a potentially unruly, diverse and scattered population. This state-making logic and social engineering motivation is generally overlooked in mainstream analyses of Mekong hydraulic development. The application of the term "structural violence" to this context thus draws connections between hydraulic high modernism, widespread dam-induced peasant displacement and impoverishment and the exercise of coercive political control.

Central state power stifles meaningful public participation in most decision making on collective assets and public property in Laos, including in the environmental realm (see Baird 2018). This articulation of authoritarian state power and infrastructural violence has two primary and related implications. First, it smothers the potential for grass roots, democratic expressions of direct political dissent; and second it facilitates the externalisation of social and environmental costs onto project-affected communities. This in turn helps to establish the "enabling" investment environment for the construction of additional mega-projects, that are typically highly profitable for corporate investors and shareholders, state officials and key bureaucracies, even when they perform poorly economically (Ansar et al. 2014). The addition of development technical assistance, and subsidies, grants and loans on concessional terms, through classifications of Laos as a Least Developed Country lends significant impetus to an investment regime that is based upon a logic of structural injustice and slow infrastructural violence.

In liberal-democratic political contexts, public consultations and participation holds at least the potential to ameliorate the negative social impacts of infrastructure projects, even if this remains an unrealised standard in many practical contexts, particularly for underprivileged and discriminated minority communities. Such patterns are indeed commonplace in liberal democracies, nevertheless environmental and social impacts are less likely to be fully externalised onto the public sphere and into the future, while an internalisation and presentisation of project costs in turn removes at least some incentives, and slows the momentum of projects with heavy environmental and social tolls (World Commission on Dams 2000; Ansar et al. 2014).

In Laos, by contrast, donors and international financial institutions have proven unable to grapple with the full manifestations of authoritarian state power and, indeed, international development assistance has often had the effect of supporting and legitimating the consolidation of party-state authoritarian rule. The lines of transmission between international financial institution support, much needed infrastructural investment, and the release of funds for social welfare spending, are routinely re-routed by the interests of the authoritarian state and patronage networks of a small political elite (BTI 2018, 5–6). Under these circumstances, internationally backed investment in hydraulic infrastructure is transformed into water and land grabbing, contributing to structural injustice and infrastructural violence, and the projection of social-environmental impacts onto recipient populations through patterns of slow violence.[10]

In the Greater Mekong Sub-region, state agencies dominate discursive spaces, such as attempts to hold local or national public consultations or multi-stakeholder platforms on proposed dam projects, often facilitated by international organisations keen to promote improved water governance (Dore 2007; 2014). These fora remain dominated by powerful actors, including state bureaucrats who direct or constrain free interchanges and dictate who has the right to speak. Such processes occur alongside active attempts by the state to claim that state-sanctioned knowledge is politically neutral and based upon sound scientific and technological understandings. The processes are facilitated by a never-ending stream of officially approved, but depoliticized, economic, technical, social and environmental "expert" assessments. Critical civil society accounts are dismissed by the state as anecdotal or non-scientific, highlighting an anti-politics agenda (Kakonen and Hirsch 2009). Singh (2009; 2012; 2014) also argues that authoritarian state power operates in more subtle forms, through bureaucratic performances of public participation in state-backed infrastructure projects that can reshape donor engagement through strategically manipulated cultural repertoires. Such culturally-infused performances and other "state-making practices" (Singh 2014, 32) have been crucial for the legitimacy of a one-party authoritarian state, governed by an elite that insists hydropower development will pull the rural population out of poverty and deliver sustainable benefits for the poorest groups.

Human Rights and Development

Hydropower development has been framed by the state as a technological intervention that will pull the Lao nation out of Least Developed Nation status, and deliver dependable economic benefits as the domestic mining boom passes its nadir (Osborne 2016; World Bank 2017, 8). Negative impacts are widely portrayed as unavoidable, yet invariably minor and always mitigable. It is rare for any GoL spokesperson to make a public admission of negative social impacts arising from hydrodevelopment. Dams are consistently de-linked from any political context, while criticism is construed as generated by poorly informed environmental activists who neither understand Laos nor the benefits that hydropower brings at a local or national level. While every country has its elitist and technocratic dominant narratives that nurture emotions of national pride, belonging and collective identity, it is rare to find a nation where technocentric infrastructural development intervention has acquired a status beyond any possibility of significant internal critique or public scrutiny (but on North Korea see Winstanley-Chesters 2017). For most citizens, it is beyond the pale to speak of hydropower and dam development in anything other than terms that endorse national policy, and that recognise the party's aspirations to turn the country into a regional energy hub, for fear of repercussions to themselves, their institution, or their family members (Baird 2018; Creak 2018). According to one villager interviewed in a lower Nam Hinboun village: "We live under a government that does not allow us to speak out about these issues. We are not like the villagers in Thailand where they can protest…I saw on television they could protest against the Xayaburi Dam, even though it is on the Mekong in Laos" (cited in International Rivers 2014, 24).

As a result of the systematic and near ubiquitous censure of criticism by the government and its agents, that also requires foreign nationals officially permitted to

conduct work or research in Laos to conform to an unwritten code of conduct around disparaging comments about dam development, a kind of voluntary silence has emerged amongst civil society and academic representatives. When an arbitrary and sometimes invisible line in the sand is crossed, the state is prompt to take action (Gindroz 2017; High 2013). For locals, the line in the sand is known, and any displays of public protest are dealt with quickly and efficiently (Baird 2018; BTI 2018).

The issue of legal rights granted to citizens under Lao national law has provided an entry point and a modicum of optimism for a nascent and marginalised civil society working on social and environmental justice issues. One of the legal instruments that might have offered some measure of protection was Prime Minister's Decree No. 192/2005 on Resettlement, Compensation and Grievance Procedure for Project Affected People, which in principle allows for reasonable compensation for losses resulting from state-sanctioned infrastructure projects and involvement in decision-making processes for resettlement (Lee 2014; Suhardiman and Giordano 2014). In practice, however, the Ministry of Natural Resources and Environment (MoNRE), the agency responsible for environmental impact assessment approval, is unable to enforce the formulation of Resettlement Action Plans, nor monitor or evaluate its implementation (Suhardiman and Giordano 2014). Instead, Resettlement Action Plans are often approved by the Ministry of Energy and Mines as part of a memorandum of understanding with the project owners, thereby bypassing MoNRE's mandate. This results in Resettlement Action Plans depending almost entirely on the developer's voluntary code of conduct, rather than being driven by a separation between the state's investment approval and regulatory enforcement functions (Suhardiman and Giordano, 2014, 983). Despite a poor record of enforcement, Decree 192/2005 was annulled in April 2016 and replaced with Decree 84/2016. The new decree waters down a number of protections for Lao citizens in the compensation and resettlement process, particularly regarding recognition of informal land and property rights (Mekong Watch 2016). This raises concerns for civil society activists working in Laos about the further erosion of untitled land and resources rights for marginal groups (Dwyer 2017).

Conclusion

This article has considered a case study of a complex, trans-basin hydropower project that some advocates consider to be an exemplar of "sustainable" hydropower development, that has received considerable direct and indirect public subsidies over the course of its 20-year lifespan. However, civil society critics and other researchers have noted a troubling tendency for a widespread externalisation of social and environmental costs by the project and questioned the sustainability narrative. The case study identified a *systemic* production of harmful and dislocating impacts from hydraulic infrastructure development. This application of the hydropower development paradigm in Laos provides a salient example of the slow violence of ecosystem degradation, livelihood choice erosion, loss of local autonomy, cultural transformation and exposure to multiple new risk factors from development-induced displacement and resettlement. However, the broader outcomes of this investment model extend to more acute forms of state-enforced violence and repression, including intimidation, imprisonment and disappearance for failure to comply with the state resource governance regime. At

multiple large-scale infrastructural development projects underway nationwide including on the mainstream Mekong, alongside the consolidation of centralised party rule, a sharper break towards systematically externalised socio-ecological impacts, the silencing of any sort of political dissent and other structural forms of injustice alongside expressions of infrastructural violence are clearly evident.

The state has forcefully imposed its strategic governmental vision into the everyday lifeworld of riverine communities over the duration of the case study Theun-Hinboun project, capitalising on corporate-led hydraulic development. Indeed, the state, through the LPRP, has used its position of pre-eminent domain and supreme authority to command hegemonic domination of the water and energy management sectors. In effect, it has used turnkey hydropower projects nominally under the auspices of the private sector, such as THHP/THXP, as a vehicle for exerting greater social and political control. In particular, this article has identified how involuntary resettlement into focal resettlement-irrigation sites has opened new ways for concentrating state power and authority. While earlier attempts to expand irrigation schemes in the Nam Hinboun valley by state agencies or THPC directly have borne little fruit and appear to be ecologically and economically unsustainable, it may well be that the benefits accruing to the state are just as much political as economic, in making rural communities legible and disciplining and territorialising populations on party-state-defined logics. Supported by international and domestic private sector investment, the fundamental transformations ongoing in rural Laos from rampant hydropower construction and associated irrigation are not only environmental and economic, but also inherently socio-political. Parallel to the process of state centralisation and empowerment associated with hydraulic development has been a gradual repression of a nascent domestic civil society and a deteriorating human rights record, culminating in the 2012 state-sanctioned disappearance of the country's best known civil society activist, that has acted as a harbinger of increased internal fear, repression and silencing of critical voices (Baird 2018; BTI 2018; Gindroz 2017). In the Nam Hinboun valley, cumulative and pervasive forms of slow violence are progressing, that manifest in everyday, non-spectacular forms of suffering, oppression and neglect. Slow violence occurs not only under the purview of the state and dam management authorities but is actively being reproduced by their policies, strategies and actions in developing infrastructure, relocating vulnerable populations, and deliberately transforming rivers and watersheds into industrialised, simplified, and state-controlled hydraulic landscapes.

Notes

1. The lead author was part of an external evaluation of the project's Environmental Management Division in 2004 and has visited the downstream impact areas on several occasions since, while the second author has conducted a longitudinal ethnographic study of a village in the middle Nam Hinboun basin since 2005.
2. In October 2014, EdL-Generation planned to raise up to $246 million on the Thai bond market, that would provide financing for an additional nine hydropower plants and allow it to increase its stake to 100% in four schemes (*Reuters*, October 15, 2014).
3. Source: http://www.thpclaos.com/index.php?lang=en. Accessed May 25, 2018.

4. Under THXP's concession agreement, the company is contractually obligated to raise income levels in villages to a baseline standard of 20.4 million kip (about $2,450) per household.
5. This account is not unique with villagers at the upstream Phousaat resettlement site making similar claims (see also International Rivers 2014).
6. In a 2004 review of the THPC Environmental Management Division, Blake et al. (2005) found that there was a high drop-out rate of farmers practicing dry season rice farming, especially amongst poorer households, mostly due to high entry costs and unserviceable debts.
7. The first author heard several accounts of people drowning in the Nam Hai downstream of the powerhouse, including a five year old boy, caught unawares by rising water levels following periods of turbine shutdown and subsequent water release. These incidents were not systematically announced by THPC (see FIVAS 2007, 15–17).
8. Elsewhere in Laos, villagers that have demonstrated against infrastructural development projects, including dams, have experienced persecution, arbitrary detention and arrest by state authorities (Gindroz 2017).
9. Laos is not alone in the region in experiencing fundamental and repeated failures in creating economically successful or ecologically sustainable irrigation systems, without recourse to external subsidies, largely channelled through opaque state "hydrocracies". There have been similar experiences noted in Northeast Thailand and Cambodia, for instance, at a range of scales (Hoanh et al. 2009; Blake 2016).
10. Most new infrastructure developments in Laos no longer have international financial institution involvement. Most are being funded through either the private sector in collaboration with state-run Exim banks, such as in THXP, or Vietnamese, Thai or Chinese state-owned banks. There are now many domestic Lao private sector interests developing smaller-scale hydraulic infrastructure that involve displacement and resettlement, including at least one on the Nam Hinboun.

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