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Entangled Enclaves: Dams, Volatile Rivers, and Chinese Infrastructural Engagement in Cambodia

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This article seeks to advance understanding of the changing interconnections between rivers, infrastructure, and power relations as well as how these are increasingly shaped by a globalizing China and climate change. To do so, it analyzes damming practices in Cambodia and their evolution under a post-neoliberal, concessionary governing mode that materializes in enclaves of corporate authority under Chinese state-owned enterprises. Drawing from the literature on the political life of Chinese overseas infrastructure projects, this article develops the idea of ambiguously entangled enclaves. The focus is on the four most recent large-scale dams in Cambodia and the kinds of dis/connections, altered hydrosocial relations, and power dynamics they generate. The article highlights patterns of dis/entanglement that illuminate the role of Chinese infrastructural engagement in shaping new political-ecological relations and socio-spatial formations in Cambodia and beyond. It also adds insights into the multidimensional geography of enclavism in the Mekong Region.

Keywords: Cambodia; Dis/entanglement; Global China; Hydropower Dams; Infrastructure; Mekong



INTRODUCTION

As large dams are amongst the most massive infrastructure projects worldwide (Nüsser & Baghel, 2017), alterations in how they are developed epitomize broader changes in the geographies of global development (Sneddon, 2015). By the 2000s, the infrastructural promises of large dams, such as modernization, and mastery of nature, seemed exhausted. Recently, however, large-scale damming has accelerated, not least due to China's recent outbound infrastructural policies, spearheaded by projects such as hydropower plants (Mohan & Tan-Mullins, 2019; Urban et al., 2018). The Mekong Basin and broader Mekong Region in Southeast Asia are currently hosting one of the most intensive hydropower developments in the world. The focus here is on Cambodia, but the discussion relates its dynamics to the broader Mekong dam rush to grasp how Chinese

actors and their infrastructural engagements are shaping this rush, and with what effects.

Like most types of infrastructure, dams are paradoxical in the sense that they produce connections and disconnections, mitigate and create risks, and benefit some while harming others (Howe et al., 2016), usually in highly unequal ways (Scudder, 2019). Of specific interest in this study are the features of overseas Chinese dam projects, how they emerge, and how they may or may not be distinctive. Drawing from the infrastructure assemblage approach (Harvey et al., 2017), this contribution examines a wide set of contributing actors and their complex relational power dynamics (Oakes, 2021; Rogelja, 2020). It develops the concept of entangled enclaves to capture how the Chinese dams share features of disconnection and connection with the surrounding society and environment. The aim is to shed new light on the role and ambiguous qualities of China-made infrastructure in the shaping of political-ecological relations and socio-spatial formations in Cambodia and beyond. At the same time, this article bridges discussions on Mekong dams (Baird & Quastel, 2015; Blake & Barney, 2018; Geheb & Suhardiman, 2019; Mahanty et al., 2023; Middleton, 2022) with studies on the enclaved Mekong geographies (Laungaramsri, 2019; Nyíri, 2012; Rippa, 2019; Tan, 2017).

There are currently five large-scale dams (over 50 MW) in Cambodia, all of which are funded by Chinese banks and built and operated by Chinese state-owned enterprises (SOEs). This article draws on different periods of fieldwork that I conducted on these projects. The focus is on the four most recent dams: Lower Sesan 2 (LS2), which is built on a Mekong tributary in the northeast of Cambodia, and Atay, Tatay, and Russei Chrum, which are built on rivers outside of the Mekong Basin in the Cardamom Mountains southwest of Cambodia. Research materials include relevant project and policy documents, environmental impact assessments of the dams, media sources, and the official speeches inaugurating the projects, combined with an analysis of semi-structured key informant interviews and focus group discussions.¹

Research on the Cardamom dams in Koh Kong province was mainly carried out in 2013 and 2014, with some follow-up interviews in 2019. The interviews in two dam-affected downstream communes along Koh Pao and Tatai Rivers ($n = 38$) included focus group discussions with villagers and semi-structured interviews with village chiefs and local ex-workers in dam construction. Other key informants ($n = 23$) included officials from the Ministry of Environment and provincial Department of Labour, NGO staff and activists engaged in conservation and human rights, journalists, and representatives of donor and international organizations. Field research on the effects of LS2 in Stung Treng province took place in October 2022 and included individual, in-depth semi-structured interviews with residents and community fisheries representatives from five downstream, dam-affected communes ($n = 16$) as well as key informant interviews ($n = 18$) with provincial officials, NGO representatives, journalists, local and international experts, and consultants. The analysis is also informed by field visits and interviews in 2011 and 2013 on the Kamchay dam (Kampot province), which is the first large dam in the country.

1 Preserving anonymity of all interviewees and avoiding third party identification is critical because of the sensitivity of the topic. Hence, the details given on the informants are kept to a minimum.

I begin with a conceptual discussion of dams as multivalent infrastructures of resource and space making with differing patterns of dis/entanglement, and then situate Cambodia in the current dam rush. This is followed by an analysis of the enclave features of the Chinese-funded and -operated dams in the country. In other words, I examine how they are *disentangled* from local society, particularly in terms of regulatory exemptions and insulation from state oversight. I then present the converse—the entanglements of the dams: first, in terms of their overflowing negative effects, complicated by the powers of the climate-changed rivers and the regulatory insularity of the enclaves, and secondly, with Cambodian political and economic elites and the broader constellation of Sino-Khmer bilateral affairs. I conclude by summarizing the common features of the entangled dam enclaves, their patterns of disentanglement, and how these patterns are shaped by the interplay of the constituent elements of the dam assemblages: the different Chinese actors, the host country authorities, the legacies from previous, dam-related, regulatory reform, dam materialities, and volatile rivers.

DAMS AS INFRASTRUCTURAL ASSEMBLAGES OF DIS/ENTANGLEMENT

The concept of infrastructural assemblages, developed in recent social infrastructure studies (Anderson et al., 2012; Appel et al., 2018; Barry, 2020; Harvey et al., 2017), assists in analyzing the characteristics and effects of infrastructure that emerge from interactions between competing human interests and governing rationales and more-than-human forces and materialities. Approaching dams as assemblages foregrounds the relational processes and effects of infrastructure and takes into account a wide set of contributing actors without conflating their intentions or viewing the Chinese projects, for example, simply as vehicles for furthering China's influence and power. Instead, the approach illuminates the complexity of Chinese actors and rationales (Klinger & Muldavin, 2019), the various aspirations and logics of host country actors (Goodfellow & Huang, 2021; Mohan, 2020), how the projects build on previous infrastructural agendas (DiCarlo, 2021), and how their effects are shaped by the non-human capacities (Rogelja, 2020) of dam materialities and fluvial forces altered and made more volatile by climate change.

Dams as Obdurate, yet Multivalent Infrastructures of Resource-Making

Hydropower dams potentially enable river resourcification, rendering them investable and exploitable, governable, and controllable (Käkönen, 2020). The potential is, therefore, multivalent, entailing the production of both electricity and manageable river flows to be optimized for various, yet limited, uses (Sneddon, 2015; Wyrwoll & Grafton, 2021). However, the extent to which these two purposes can be aligned depends on the composition of the broader dam assemblage and the modes of operation at stake. Yet, even in multipurpose operations, the enabling functions of hydropower dams inhibit various other river uses; infrastructural violence (Rodgers & O'Neill, 2012) is largely built into the dam materialities and causes major harm to adjacent and downstream communities regardless of the actors involved in the damming.

Once built, the dams lock in certain (often unjust, reductive, extractive, and dispossessive) hydrosocial relations while foreclosing on others (often more variegated, engendering, and decentralized) for long periods of time, if not irreversibly (Blake & Barney, 2018; Linton & Budds, 2014; Scudder, 2019). As spatially concentrated, sturdy constructions, dams re-scale power relations by creating nodes for centralized decision making. In the Mekong Region, dams have been widely reported to diminish livelihood opportunities for those affected, along with their decision-making powers over river uses and their abilities to influence how dams are built and operated (e.g. Baird et al., 2015; Middleton, 2022; Suhardiman & Geheb, 2022; Ponce, 2022). Despite the similar effects of the large Mekong dams (Geheb & Suhardiman, 2019), the constitutive coalitions of actors and their interplay do shape the dam effects, making the implications of the forceful entry of Chinese actors into the international hydro-power sector highly relevant to understanding current developments. In particular, the harm-related relations of responsibility and forms of response vary according to the types of involved parties in the dam assemblage (Käkönen & Nygren, 2023).

A key, non-human force that dams entangle with is river flow. The 'volatile rivers' concept aims to capture the new unpredictability and unruliness of fluvial forces (Krause & Harris, 2021) largely produced by climate change and environmental engineering, and the increasing conditioning of the Mekong flow regimes of the dammed rivers by electricity markets in far-away urban centers (Baird & Quastel, 2015). The reworked ebbs and floods of the Mekong and its dammed mainstream and tributaries have resulted in more rapid and out-of-monsoon-season fluctuations, drastic changes in previous seasonal riverine affordances, and potential augmentation of climate change-induced unpredictability. Importantly, as rivers become increasingly volatile, tensions between the production of hydroelectricity and manageable river flows multiply. The more the governing mode of the dam is set to maximize hydroelectricity production, the more ill-suited it is to respond to the new volatilities, and the likelier that it will augment them by, for example, resorting to emergency releases during the exceptionally heavy periods of rain that are becoming more frequent (Käkönen & Nygren, 2023).

Infrastructural Space-Making: China and Enclaved (Mekong) Geographies

The constituent parties to dam assemblages also affect the dis/connective capacities of the dam infrastructures, as well as their heterogeneous spatialities, which include both bounded and more diffuse territorial formations. The 'entangled enclaves' concept, akin to Mohan's (2020) notion of 'networked territories', draws attention to these complex enclaved Mekong geographies (Laungaramsri, 2019; Nyíri, 2012; Rowedder, 2020; Tan, 2017) and the modes of dis/entanglement that are common in Chinese overseas infrastructure projects (Rogelja, 2020). Resonating with discussions highlighting the various points at which the spaces constituted by globalizing networks and fixed forms of (state) territories may intersect (Jessop et al., 2008; Sassen, 2006), the concept also contributes to claims that global flows actually depend on infrastructural constructs that take territorialized enclave forms (Ferguson, 2006; Opitz & Tellman, 2012). The dam enclaves discussed here do not only form global territories; their entanglements also tie them into local state formation processes

in ways that resonate with Ong's (2006) concept of graduated sovereignty. In the Mekong Region, particularly in Laos, it has been noted that while enclaves such as Special Economic Zones (SEZs) fragment territorial state space, they also offer avenues for extending or exerting state powers (Nyíri, 2012; Tan, 2017).

While key China scholars (Cartier, 2017; Oakes, 2019) have challenged Ong's arguments regarding the SEZs in China—demonstrating that rather than graduated sovereignty, they are closer to state territorialization—Chinese overseas infrastructural projects seem to be ambiguous in that they are embedded simultaneously in multiple political and economic logics (Mohan, 2020; Rogelja, 2020). The concept of entangled enclaves tries to capture this multidimensionality. By drawing on the assemblage approach, meanwhile focusing on both disentanglements and entanglements, I also go beyond conceptualizing Chinese overseas investments principally as exceptional enclaves by highlighting their connections with webs of global development and capitalism and with the host state's governing rationales and pursuits.

To some extent, the dams in this study could be interpreted as extractive corporate enclaves of conventional zonal capitalism (Ferguson, 2006; Appel, 2012). Indeed, key features of their disentanglements stem from the neoliberal Build-Operate-Transfer (BOT) template for building and governing dams introduced by the World Bank and the Asian Development Bank (ADB), which pre-dates the entry of Chinese actors into Cambodia's hydropower sector. This echoes how the Belt and Road Initiative (BRI) in the Mekong region builds on plans and routes that the ADB's Greater Mekong Subregion program has already laid down (Dwyer, 2020; Raymond, 2021). Some of the enclave features, however, do relate to the disentangled mode of entry that is common to Chinese SOEs (Rogelja, 2020), intensified by the willingness of Cambodian state authorities to insulate dam corporates from state oversight.

The entanglements and effects overflowing the dam enclave boundaries are also shaped by the complex interplay of all the constituent parts of dam assemblages, although some relate to the pragmatic and accommodating approach that is common to Chinese SOEs. Appel (2012; 2019) has eloquently described how Western/international corporates strive to maintain a sharp distinction between the enclave and the host government or society more broadly, which parallels that between those who are compliant with global standards and those who are not. The enclaving practices that Appel discusses relate to the “discursive and procedural regimes of the global” that assist in bracketing existing entanglements and in abdicating responsibility for the effects that overflow the enclave boundaries (Appel, 2012, p. 451). Similarly, ADB and World Bank-type actors in the Mekong Region distance themselves from situated modes of governing with their own sustainability standards and safeguard policies. In his study on the Theun Hinboun hydropower project in Laos, Whittington (2019) has referred to the emergence of ‘sustainability enclaves’ that form exceptional spaces of rule by surpassing the surrounding regulatory norms. In the case of the Nam Theun 2 dam in Laos, the World Bank also tried, and failed, to extend the higher standards beyond the project boundaries (Singh, 2018; Middleton, 2022). The Chinese financiers and corporates, in contrast, seem less concerned about distancing themselves from surrounding governing practices by adhering to global standards and less occupied with cloaking the entanglements they have with host-country political and economic elites (Byler, 2020; Mohan & Tan-Mullins, 2019; Woods, 2017), most likely

because they remain less pressurized by international campaigns and thus less preoccupied with reputational risks than, for example, the World Bank (Urban et al., 2018).

In terms of dam-related harm mitigation and sustainability standards, while Chinese hydropower SOEs increasingly subscribe to international standards of environmental and social safeguards to improve their reputation (Kirchherr et al., 2017), this is not yet consistent; the main position they still assume is to follow host-country laws and law enforcement practices (Hensengerth, 2017; Siciliano et al., 2019). Moreover, the Chinese financiers and developers advertise their approach as ‘no strings attached’ in terms of World Bank-type conditional legislative and governance reforms (while taking advantage of pro-corporate reforms pushed through by their Western counterparts). This makes them more accommodating to the needs and priorities of host-country elites, which in the Cambodian context include, for example, patronage-based resource deals (Beban, 2021; Nyíri, 2017). The latter have been key in Cambodian post-war state formation processes (Le Billon, 2002; Hughes & Un, 2011) and continue to play a central role in the power consolidation efforts of the current regime (Milne, 2015; Work et al., 2022). As a result, the Chinese are far from a ‘last resort’ lender or builder in Cambodia. Indeed, the entanglements the Chinese infrastructure projects enable or generate are preferred to the ‘strings’ that World Bank-type funders attach to their support (Chheang, 2022; Motta & Matthews, 2018).

My key argument here is that entangled enclaves are not the result of any singular logic but the product of multiple interacting actors with distinct rationales. This is also why the socio-spatialities of the projects are multidimensional or polymorphic, manifesting global territoriality with enclave features that fragment Cambodian state space and facilitate China-gearred global circuits of capital while, at the same time, the enclaves are entangled in ways that strengthen Cambodian state powers.

SITUATING CHINA AND CAMBODIA IN THE CURRENT (MEKONG) DAM RUSH

In the 1990s, dam development was challenged by environmental-social movements mobilizing anti-dam campaigns that put displacements and ravaged riverine ecologies and livelihoods in the spotlight (McCully, 2001; Khagram, 2004). As a result, international funding for dams stalled as major backers such as the World Bank withdrew from many projects (Richter et al., 2010; Zarfl et al., 2015). Recently, new hydropower projects have proliferated (Zarfl et al., 2015). The Mekong Basin makes up one of the most intensive scenes of the new wave of damming, with around 200 large dams in different stages of development (Figure 1). Of the total hydropower potential of the Mekong Basin, estimated at around 60,000 MW (Räsänen et al., 2018), around 23,000 MW is in the upper section in China, while most of the remaining capacity is situated in the rugged territory of Laos. Cambodian hydropower potential in the basin amounts to up to 9,000 MW (ADB, 2018), of which 400 MW is now built through the LS2 tributary dam. Most of the Cambodian hydropower potential outside of the basin has already been built (1,380 MW) with the Kamchay, Tatay, Atay, and Russei Chrum dams (see Figure 1). Most at stake with the recent and on-going Mekong dam rush are the world’s richest inland fisheries, particularly important for Cambodia, and most productive rice-growing areas in the Mekong Delta of Vietnam (Geheb & Suhardiman, 2019; Middleton, 2022).

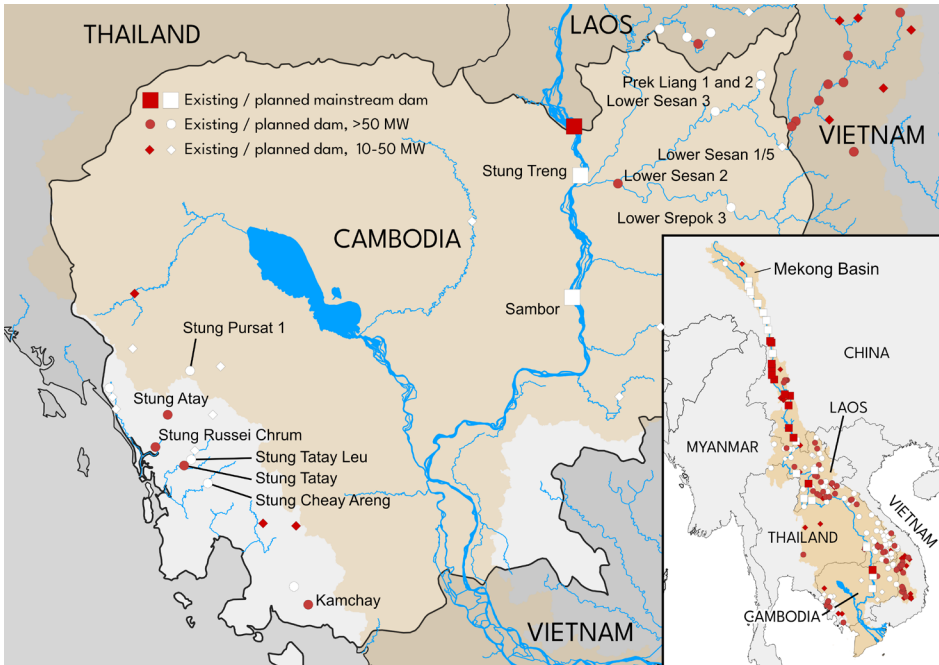


Figure 1. Existing and planned large dams in Cambodia and the Mekong Basin (By Marko Kallio. Source: MRFI, 2021)]

China, which dammed its rivers at the highest rate globally during the 1970s and 1980s (WCD, 2000), has evolved into a global powerhouse for hydropower development. In fact, hydropower is one of the key sectors in which the ‘rise of China’ has materialized in the Mekong Region as well as globally. Dams have formed a central part of China’s ‘Going Out’ strategy and its subsequent adoption of the transnational infrastructure initiative, the BRI. Chinese state-owned banks and SOEs have become the largest financiers and builders of dams, particularly in contexts where damming is still dependent on external infrastructural capacities (Kong, 2021).

The damming of the Mekong began in Yunnan province as part of the Chinese government’s ‘Going West’ policy to connect and develop its western regions, considered overlooked and in need of integration (Yeh & Wharton, 2016), although the main beneficiaries of hydropower are the eastern regions. In the Mekong Basin, the morphing of ‘Going West’ into ‘Going Out’ and then the BRI has materialized in dam projects in Laos and Cambodia. In Laos, the dam rush was triggered by the ADB-supported Theun Hinboun (Blake & Barney, 2018; Whittington, 2019) and the World Bank-supported Nam Theun 2 (Johns, 2015) projects followed by several projects with dominance of Thai developers. While dam developers are indeed diverse, Chinese investors and developers have steadily played a more prominent role in the sector (Matthews & Motta, 2015; Tan, 2015). In Cambodia, which has emerged as China’s closest ally in Southeast Asia (Nyíri & Tan, 2017), all the large dams have been, thus far, financed, constructed, and operated by Chinese SOEs.

While many of the Chinese Mekong dam projects are labeled as part of the BRI, this obscures their much longer and more complex infrastructural genealogy. The first plans for dams in the Lower Mekong were developed under the auspices of the Mekong Committee (established in 1957), with the guidance of American experts, as part of a Cold War anti-communist mission that entwined geopolitics with technopolitics (Hirsch, 2016; Sneddon, 2015). These schemes were, however, eventually deemed unfeasible for various reasons, including financial barriers and escalating conflict evolving into warfare. A significant new push for the dams followed in the 1990s as the World Bank and the ADB attempted to steer the re-embedding of Laos and Cambodia in regional and global circuits of capital with investor-friendly, neoliberal juridico-institutional reforms (Glassman, 2010).

This resulted in the formulation of new property arrangements aimed at transforming the construction and operation of dam infrastructure into lucrative investment assets attractive for foreign, private-sector investors. This meant implementing BOT contracts that guaranteed the concessionaire profitable years between the loan payback period and handing the dam over to the state to deal with the maintenance costs of decaying infrastructure (Bakker, 1999; Walker & Smith, 1995). BOT contracts also guarantee a high degree of autonomy in altering riverine flows to create a regime that is optimal for maximized electricity sales, and frequently include clauses to pre-empt riverine uses that may threaten the profitability of dam operations. While the enclave model is often depicted as something that characterizes the infrastructural engagements of globalizing China, in the case of hydropower, it is not the enclave model itself that is particularly 'Chinese'. In Laos and Cambodia, all the post-1990s, second-wave large dams are BOT projects, with dam controllers that maximize electricity sales (Merme et al., 2014; Middleton et al., 2015). Because of the high degree of autonomy granted to the heterogeneous concessionaire consortiums, dam assemblages are variously dis/entangled and exhibit differing patterns of harm mitigation, and treatment of affected people (Käkönen, 2020).

When considering historical changes in these dam assemblages, it is tempting to interpret them through the lens of geopolitics. The first wave of global damming, entwined with US Cold War geopolitics, has evolved into damming as an instrument of Beijing's geopolitical designs. This has triggered China-US rivalries and US efforts to balance China's increasing influence, reflected in the new Mekong partnerships that foster renewable energy alternatives to hydropower development. The overseas expansion of Chinese hydropower developers, however, is less about geostrategic planning than outbound infrastructural fixing of domestic problems, entailing geo-economic logic that subsumes a range of activities: seeking new markets for Chinese engineering firms—especially in sectors like hydropower that are domestically oversaturated with surplus expertise (Urban et al., 2018); securing the value of domestic currency by creating outlets for China's accumulating foreign exchange reserves (Motta & Matthews, 2015); and ensuring flows of critical resources by exchanging dam infrastructure for resource access (Mohan & Tan-Mullins, 2019). Thus, the 'Going Out' of Chinese hydropower developers cannot be attributed to a single cause. Monolithic claims that China's geopolitical priorities drive their overseas infrastructure projects are simplistic (DiCarlo, 2021; Oakes, 2021), although Chinese overseas infrastructural engagements do seem to blur public/private boundaries and entwine

geo-economic and geopolitical reasoning in distinctive ways (Siciliano et al., 2019; Mohan, 2020) that shape their patterns of dis/entanglement. Importantly, however, these patterns are also shaped by other actors, rationales, and forces—human and non-human.

THE ENCLAVE FEATURES OF THE CHINESE DAMS IN CAMBODIA

What is common to all five operating large dams in Cambodia are certain enclave features. The dams form spaces of governing that exempt them from surrounding jurisdiction and state oversight. They also entail certain elements of economic enclavism. These partly relate to their ‘Chineseness’ but also adhere to the BOT template that predates the entry of Chinese actors into the Cambodian hydropower sector. They are also the effect of project facilitation by the Cambodian state authorities that takes the form of insulating Chinese companies from host state regulatory frameworks to add economic viability to ‘not-so-profitable’ projects. The hydropower dams (backed by coal plants that are also China-funded and built) have long been part of a strategy to address problems of expensive electricity and low domestic generation capacity (Royal Government of Cambodia [RGC], 2010), and have been promoted by certain key ministries such as the Ministry of Mines and Energy, and the Prime Minister.

In Cambodia, the World Bank-influenced Electricity Law (2001)² laid the foundations for BOT hydropower projects, with the overall aim of creating favorable conditions for the private sector to lead development in the power sector (Middleton et al., 2015). The World Bank also advised on how to amend BOT contracts to add attractiveness—by offering tax holidays, for example—yet banks have not been intensively involved in intervening in legislative reforms related to safeguard mechanisms and sustainability standards (as in Laos). The Environmental Impact Assessment (EIA) regulations, guided and funded by the ADB at the end of the 1990s, constitute the most important reform that is not about regulations *for* investments but regulation *of* them (Hensengerth, 2017).

Despite the neoliberal reforms, the profitability prospects of dams remained insufficient (Middleton, 2008) and it has been more challenging to attract private-sector investors in Cambodia than in Laos. This is because most potential sites have a relatively low dry-season production capacity, which significantly reduces their economic viability, but also relates to controversy avoidance. Most off-the-Mekong sites are situated within important protected areas, making Japanese and Western-based investors and companies wary. This seems to have been the case with Canadian investors and developers who withdrew from the Kamchay dam (Hensengerth, 2017) and Japanese investors who pulled out from the Atay dam (Lyttleton & Nyíri, 2011). The Mekong tributary and mainstream dams, in turn, come with high socio-ecological impact, especially in terms of fisheries (Baird, 2016; Hensengerth, 2017). The ADB turned away from LS2, for example, because the social and environmental effects were expected to be very serious while the economic benefits were deemed marginal (Baird, 2016).

2 The law was amended but not significantly altered in 2007 and 2015.

Instead of attracting foreign private investors and developers for whom the neoliberal reforms were designed, the dams constructed thus far have all been taken up by Chinese SOEs, which are less constrained by global standards. Furthermore, while the Chinese state-owned hydropower companies mostly operate with similar commercial considerations as those in the private sector, the state backing they receive allows them to carry out less profitable projects. This is especially so if the broader packages of aid, investments, trade, resource access, and geostrategic deals yield opportunities that China's government considers geoeconomically and/or geopolitically important (Motta & Matthews, 2018; Siciliano et al., 2019). As Lee (2014) has argued, in the case of Chinese state capital what is being accumulated does not consist solely of profits but also of (geo)political influence and access to resources. Hence, she terms this the logic of encompassing accumulation. While not solely profit-driven, Chinese overseas SOEs are incentivized to optimize the economic viability of their contracts (Lee, 2014). In this respect, the authoritarian powers of the Cambodian ruling regime have provided the concessionaires with disentanglements that augment exploitative opportunities and profit margins by guaranteeing insulation from state oversight. The Cambodian hydropower projects could thus be considered post-neoliberal, albeit not in the sense of an alternative or radical shift away from neoliberalism, as in some debates related to Latin America (Ruckert et al., 2017), but instead in the sense of a partial shift or continuation that nevertheless entails departures from the core elements that the prefix 'post' marks and calls attention to (Davies & Gane, 2021). While the governing mode of the Chinese dams in Cambodia takes root in neoliberal logics, some of the key tenets of the logics such as private profit maximization have significantly altered, while at the same time the dams are also shaped by authoritarian governance.

From off-the-Mekong to on-the-Mekong Dams

Cambodia's first large-scale dam, Kamchay (2012), was a similar frontier opener for Cambodia as the Nam Theun 2 in Laos. Concessioned in 2005 for 44 years to a Chinese SOE, Sinohydro, it was one of the first overseas BOT hydropower projects globally undertaken solely by a Chinese SOE. It thus presented a formative experience for the Chinese overseas hydropower industry, which had earlier tended to undertake engineering, procurement, and construction (EPC) contracts in which ownership is handed to host authorities immediately after construction is completed (Urban et al., 2018; Mohan & Tan-Mullins, 2019). Kamchay was funded by the China Exim Bank as part of an aid package that consisted of loans and grants tied to the contracting of a Chinese SOE as the dam concessionaire, and separate funds for a Cambodian naval patrol craft and a new Council of Ministers building in Phnom Penh (Dreher et al., 2017). Atay, Tatay, and Russei Chrum, located in the Cardamom Mountains in Southwest Cambodia (see Figure 1 and Table 1), soon followed, developed similarly to the Kamchay and likewise situated within protected forest areas or negatively affecting them. Their remoteness, on the other hand, has meant that they have required very few forced displacements. The only off-the-Mekong dam that would have caused significant displacements (1,500 indigenous people), the Areng dam, has been stalled by local resistance and unprecedented mobilizations supported by civil society groups (Milne, 2021).

The on-the-Mekong dams³ have much greater dispossessive effects in terms of displacements and downstream livelihood losses. Thus far, only one of them has been built, the LS2, which is the most recent of the Cambodian dams and was built on a Mekong tributary. It is labeled as a flagship project of the BRI with a subsidiary of China Huaneng as the main shareholder (51%) and a significant share of financing from the Industrial and Commercial Bank of China. Initially, however, it was to be built by a Vietnamese subsidiary of the state-owned company, Vietnam Electricity, that eventually had insufficient finances to do so, while still retaining a 10% share of the project. China Huaneng has called the LS2 as a “display window project” for the BRI (Human Rights Watch, 2021, p. 2) despite it has been assessed as the most detrimental single Mekong tributary project with respect to downstream fisheries losses (Ziv et al., 2012; Baird, 2016). Several other projects on Mekong tributaries in the northeastern region are also being considered, while the most disruptive of the remaining potential dams, the Mekong mainstream dams Stung Treng and Sambor, are currently suspended. There are, however, signs and concerns that Stung Treng could nevertheless be moving forward (Flynn & Pry, 2022; Fawthrop, 2022) amid strong speculation that the Cambodian Royal Group as well as Chinese counterparts are involved.

Project name	Status	Power generation capacity (MW)	Construction started	Inauguration	Main concessionaire(s) (parent companies of the subsidiaries)	BOT (years)
Off-the-Mekong projects						
Kamchay	operating	193	2007	2011	Sinohydro	44
Stung Atay	operating	120	2008	2014	Datang	35
Stung Russei Chrum	operating	338	2010	2014	Huadian	35
Stung Tatay	operating	249	2011	2015	China Heavy National Machinery (93%)	42
Stung Cheay Areng	shelved (in 2017)	108			Sinohydro	
Stung Tatay Leu	under construction	150	2021		China Heavy National Machinery	39
On-the-Mekong projects (tributary and mainstream projects)						
Lower Sesan 2	operating	400	2013	2018	China Huaneng Group (51%), the Royal Group (39%) and Vietnam Electricity (EVN) (10%)	45
Stung Pursat 1	under construction	80	2022	(planned for 2026)	SPHP (South Korean-owned)	39
Stung Treng (mainstream)	suspended	980			(MoU with China Southern Power Grid Company)	
Sambor (mainstream)	suspended	465 (-2600)				
+ at least 4 (>50 MW) on the Mekong tributary dams planned in the Northeast, and 3 (>50 MW) off-the-Mekong projects						

Table 1. List of large dams (over 50 MW) in Cambodia with key facts. (Sources: EAC 2022, MFRI 2021, ODC 2019, and media sources)

3 The term 'on-the-Mekong dams' refers to dams that are built within the Mekong Basin either on the mainstream or on the Mekong tributaries.

Economic Enclavism and Exceptional Spaces of Governing

While hydropower dams that produce electricity for domestic consumption are obviously closely linked to the domestic economy, they also have certain features of economic enclavism. A specifically Chinese feature is the loan condition that a Chinese SOE must build and operate the dams, which guarantees that “most of the money never leaves China” (Mohan & Tan-Mullins, 2019, p. 1374), a disentanglement facilitated by the Cambodian state authorities with exemptions from public tendering and opaque decision-making processes. Further bypassing the domestic economy, the dams also employ Chinese equipment, expertise, managers, and skilled labor, and even a high proportion of manual labor during the construction phase. The long-term BOT contracts, the use of Chinese managers, and the fact that in Cambodia, unlike in Laos, state-owned domestic companies do not take shares in hydropower projects, leave limited possibilities for the ‘transfer’ of expertise capacities. Although LS2 is more domestically entangled because unlike the previous dams, it entails a domestic shareholder, the Royal Group, which, however, appears to have assumed responsibility for financing the dam rather than being directly involved in its construction (Flynn, 2022). In more local terms, the promised employment has remained very limited as, at least in the case of the Cardamom dams, most Cambodian workers were eventually drawn from other parts of the country (Käkönen & Thuon, 2019). Indeed, the most obvious connection the dams have with Cambodian society is the electricity they produce. Their combined capacity now reaches 1300 MW, representing approximately half of the total installed capacity in the country from all energy sources (Electricity Authority of Cambodia [EAC], 2022; International Hydropower Association, 2019), although it largely flows to Phnom Penh and other major urban and industrial centers such as Sihanoukville, that also host increasing numbers of Chinese businesses. In the case of the Cardamom projects, the hydroelectricity produced has completely bypassed adjacent areas, at least temporarily, as promises of electrification, made to render negative effects more acceptable, have been considerably delayed.

Further enclave features relate to the exceptionality of the dams as spaces of governing, which results from state-assisted state avoidance. The government’s attempts to facilitate frictionless access to the country’s rivers have meant regulatory exemptions and lax oversight in terms of the labor and EIA laws. This has allowed nominal harm mitigation and minimization of profit-inhibitive construction costs. Moreover, the highest state authorities have granted the concessionaires exemptions from the Protected Area Law by securing access to rivers within protected areas. Furthermore, in response to requests from its Chinese counterpart, the government pushed rather unusual legislative guarantees through the National Assembly to secure the agreed electricity purchasing for the concessionary periods, regardless of whether Cambodia’s state power company, Electricite du Cambodge, is disposed to buy it (Hensengerth, 2015; O’Neill, 2018). These conditions also provide long-term disentanglement from the host state should a less generous government take power in the future.

The BOT contracts also grant hydropower corporates wide discretion in terms of deciding how to operate the reservoir and the dam gates. This disentangles the dams from both regional inter-governmental and domestic basin planning and management but, once again, has little to do with the ‘Chineseness’ of the concessionaires,

apart from the lengthy duration of the BOT contracts in Cambodia, which seems to be part of Cambodian government efforts to balance out the lower economic prospects.

De facto corporate authority in hydropower enclaves is most intensive during the construction phase when it is exercised over the living and labor conditions of workers confined to the construction site for the duration of their work contracts. While part of a labor regime that has been interpreted as incorporating the legacies of the socialist work unit model (Nyíri, 2013; Lee, 2014), the harsh conditions in the confined site that have marked the construction of the Chinese dams in Cambodia seem more than just 'strict control'. In the case of Cardamom dams, numerous accidents occurred, resulting in injuries and the loss of at least fifteen lives.⁴ These conditions, however, are generated by the contained enclave features combined with an absence of state oversight and labor union protection rather than a general characteristic of Chinese overseas hydropower projects. Features of extraterritorial authority became particularly apparent after an incident in which Chinese work supervisors were accused of using violent punishment methods on Cambodian workers in the construction site of the Tatay project. Ex-workers and staff from local NGOs reported that suspected Chinese offenders were apparently sent back to China rather than coming under Cambodian jurisdiction (interviews, February and March 2014). Local authorities and NGOs also expressed strong frustration because of denied access to inspect this and other cases of worker maltreatment (interviews, February and March 2014). The situation changed when the dams become operational, with only around 100–200 workers remaining at each plant: most of these higher-skilled (Chinese) workers' working and living conditions seem to be relatively well-organized.

Among the most pronounced forms of disconnectedness are the minimal mechanisms for public information disclosure, meaning that adjacent localities have little information on dam operations; when a partial collapse occurred at Atay, for example, no details were reported to the local authorities (International Rivers, 2015). Even normal public disclosure mechanisms are absent, although operations like Russei Chrum and Tatay may rapidly cause major water-level fluctuations (International Rivers, 2015), and locals are concerned about safety and afraid of accidents. As a villager downstream from Tatay commented:

There has been no communication . . . maybe they have had a consultation with the big men, but they have not approached us. We lack information about the dam. And we worry if we need to be evacuated and how that is done if something happens with the dam. (interview, March 2013)

BLEEDING DAMS: OVERFLOWS AND DISRUPTED HYDROSOCIAL RELATIONS

Similarities in disentanglements of the dams result in similar forms of entanglement, as their negative overflows are connected to regulatory flexibilities and thus generated by regulatory disentanglements (Appel, 2012; Rogelja, 2020). While many of the harms are materially built into the dams, they could be better mitigated if

⁴ Several examples of injuries came up in interviews with ex-workers and local NGO staff (March 2014). The amount of lethal accidents is compiled from different local media sources between 2011 and 2012.

the government demanded it or the companies adhered to higher international standards. Because the hydropower corporates have been afforded wide discretion over regulating the fluvial flows, they exercise control well beyond project boundaries, conditioning hydrosocial relations downstream and disallowing many previously important ways of using the rivers.

Limited EIAs and Devalued Effects of Negative Overflows

Impact assessments supposedly constitute the key device in informed consultations and decision-making by producing and presenting the anticipated zones of impact, defining what is at stake and who is to be included in, or excluded from, consultations, thus prefiguring who is eligible for compensation and how (Lamb, 2014). The first large dam, Kamchay, established a precedent for insufficient Environmental Impact Assessments (EIAs), with construction illegally starting before the EIA was approved. The Cardamom dams followed with the EIAs of Atay and Tatay finalized only after work had started, and none of the EIAs made publicly accessible. Moreover, impacts were assessed in only the most immediate areas and included only the most direct losses in terms of biodiversity, and even these inadequately (Käkönen & Thuon, 2019). Losses to downstream fisheries were excluded or seriously downplayed, along with damage to the coastal mangrove swamps, which are vital to climate resilience in an area considered one of Cambodia's most vulnerable to climate change. The residents excluded from the impact zones were also excluded from consultations, while those invited to participate were provided with limited portrayals of impacts combined with unkept promises of compensation, while critical questions were pre-empted by intimidating practices. As a result, most negative effects were downplayed and left uncompensated.

Even in the latest project, the LS2, which is much more damaging than its predecessors, the EIA and consultations have been significantly incomplete, with practices that seriously downplay and devalue losses (Human Rights Watch, 2021). While framed as a 'display window project' of the BRI, the Human Rights Watch (2021) has instead labeled it a 'disaster' because of insufficiently compensated displacement of nearly 5,000 mostly indigenous and ethnic minorities for whom the experiences of trauma and loss have been deeply injuring (Mahanty et al., 2023), and the extensive livelihood losses for riparian communities (Baird & Green, 2019).

In all cases, highly flexible oversight from state authorities (the disentanglement) has not only facilitated the unlimited out-bleeding of externalities but also guaranteed that Chinese companies are not held sufficiently accountable, or in the case of the Cardamom dams, not held accountable at all, for compensating for these impacts.

Entanglements with Volatile Rivers and Patronage Relations

Despite documentation of the extensive and serious impacts of LS2 (Baird & Green, 2019; Human Rights Watch, 2021; Mahanty et al., 2023), certain overflow-related dynamics have been under-examined. These include entanglements with increasingly volatile, climate-changed river flows and the effects of changing drought and flood patterns on dam operations. It has already been observed that LS2 produces much less electricity than originally projected because of more intensive drought

periods than anticipated, meanwhile augmenting newly erratic flooding patterns in unexpected ways.

Downstream residents complained bitterly in interviews about the sudden flow fluctuations and changing flood patterns. As one resident along the Sesan tributary observed, “The water level is not rising normally as it used to. Instead, now the flow of the river is sudden, at times there is no water, and when they open the [gate of the] dam, the flow comes suddenly and rapidly” (interview, October 2022). A representative of the community fisheries group in the same commune stated:

Fishing is so much more difficult nowadays. We can not fish the same fish anymore, and overall the fisheries have declined. And the river is not what it used to be. The water level fluctuates so quickly. Often in the morning it is down and in the evening it goes up. And the current is much faster. We have lost boats because of it. And sometimes we leave our nets to water and when we come back they hang in the air because the water has gone down so quickly. (interview, October 2022)

Among those interviewed were some living downstream from the confluence of the Sesan tributary and the Mekong mainstream who experience the effects of both LS2 and the upstream tributary and mainstream dams in Laos and China. These informants also strongly lamented the harms caused by the reduced difference between the dry and wet season. One commented:

As we know from our ancestors, by June the river would rise and fill up to the river bank. But now, even by September, the river would not rise to fill up to the river bank like before. But when the river flow finally rises up, during the rainy season, it does so abruptly, and it destroys our crops. (interview, October 2022)

Another informant even stated that “the river has changed so much, we don’t even have a dry season anymore” (interview, October 2022). All residents downstream of the Sesan and Mekong confluence complained that the reduced flood-pulse impedes seasonal fish migrations to flooded forests and floodplains, while the increased dry-season flows injure flooded forests that are vital for fisheries.

The paradox is that while the dams reduce seasonal flow variation and do away with important flood-related riverine affordances, they also cause harmful, abrupt floods. The exceptionally long, strong rainfalls at the end of the wet season are increasing due to climate change, resulting in overtly full reservoirs, that in the case of LS2 floods upstream communities, and emergency releases of dammed water harming downstream communities. The more profit-oriented the dam operation mode, the more likely that emergency releases will be required. The operators of LS2, for example, maximize dry season hydroelectricity production, jeopardized by decreasing dry season flows to the reservoir, by filling it to maximum capacity during the wet season. As the dam operators are allowed to optimize profits but not flood mitigation, the dam exacerbates exceptional floods.

The sudden flow increases caused by LS2 have created major problems for the riparian communities, including harvest losses, although most interviewees were hesitant

to talk about these harms in concrete terms because they feared negative reactions from the local authorities. While information disclosure about water releases has improved, discontent remains, with one interviewee commenting, “Yes, now they give us announcements more often about opening the gate. But even if they announce this, I ask—where can I move my house?” (interview, Oct 2022). The compensations for the losses caused by sudden water releases seemed to be rather guided by local authorities than by the dam company. They also appeared to be somewhat arbitrary. Based on more or less indirect hints of the informants, it seems that they have been made conditional on avoidance of public complaints and demonstrated loyalty to the ruling party. Responses to increased river volatilities thus seem to be entangled with neopatrimonial relations and the aims of the ruling party to secure support.

ENTANGLED POLITICAL AND ECONOMIC ELITES

Apart from the adverse externalities that overflow and harm riverine communities, there are other ways in which the projects exceed their confinement. The entanglements discussed here are partially unique to the Chinese projects but, again, instead of being of ‘Chinese design’ they are perhaps more about active attempts by the Cambodian elite to gear the projects towards serving their ends. Such entanglements are important for understanding how corporate enclaves do not only undermine state powers but may also get tied into their strengthening.

Discursive Entanglements and Inaugural Speeches

The powers of the corporate dam concessionaires have in many ways been strengthened by, and at the expense of, Cambodian state powers. Because most infrastructural work has been out-contracted, concessionary damming does not offer direct avenues for developing state infrastructural powers or hydraulic capacities like model cases of state-led “hydraulic missions” (Scott, 1998; Molle et al., 2009). Even some of the hydroelectricity transmission lines have been concessioned out to Chinese SOEs. This means that, in addition to the concessioned dams, a significant share of vital Cambodian energy infrastructure is now in the hands of Chinese state-private entities. The additional regulatory exemptions in turn limit the avenues for strengthening administrative state powers. Although large in scale, the dams do not provide the means to demonstrate the strengths of the state in terms of mastery of nature (Harris, 2012; Mitchell, 2002) in any straightforward way. Consequently, the highest state authorities have, however, developed discursive strategies that aim to entangle the out-concessioned hydraulic infrastructures with ruling regime achievements and present them as showpieces of national pride.

The inaugural speeches of major infrastructure works are public rituals replete with symbolism, which entail efforts to streamline the complex web of relations that have brought the infrastructure into being by highlighting specific efforts and activating the relational potential of the infrastructure in selective ways (Harvey, 2018). They are often delivered by central state figures to demonstrate their own association with the project and index state commitment. In Cambodia, the previous Prime Minister Hun Sen himself has made all the inaugural speeches for the dams as well

as those in ground-breaking and similar ceremonies. In them, he has portrayed the projects not only as joint accomplishments but as achievements requiring the decisive efforts of the ruling regime, especially his own.

With the first dams he emphasized the cruciality of his personal role in mobilizing the necessary resources via visits to ‘the Chinese leaders’, and his party’s provision of the crucial investment precondition of stability in remote and previously ‘unruly’ corners, such as the Cardamom Mountains: “If Cambodia lacks peace and stability, would anyone in his/her right mind think that China would pour out money and invest in Cambodia?” (Cambodia New Vision [CNV], 2010). In the LS2 inaugural speech, he also underlined his own role in ensuring “good compensation for people” (CNV, 2018). All the speeches discursively entangle the projects closely with the potency of the ruling party, the Cambodian People’s Party (CPP), with Hun Sen himself as the principal patron. The complex assemblages of relations are framed to direct attention away from the facts that the state has outsourced critical infrastructure to Chinese corporations for longer than is common for BOT dams, and that the projects are constructed and operated with as little state involvement as possible. Similarly, dams and other major infrastructure projects that are mostly of Chinese construction figure centrally in all ruling party posters across the country, as if gifted by the CPP.

Hun Sen’s speech-making strongly signals that the projects and their claimed benefits—“the whole country needs electricity” (CNV, 2017)—should be regarded first and foremost at the national scale, assigning local concerns a secondary role (cf. Harvey, 2018). The repeated references to cordial relations with China accompanied by numerous handshake pictures to symbolize the potent bilateral relations highlight the international relevance of the projects and activate the relationality of the dam infrastructures in selective ways. The praise for the Chinese actors is directed towards the guidance of the central state of the People’s Republic of China (PRC) rather than the banks and corporates:

Once again, I would like to convey thanks and appreciation for the People’s Republic of China for urging and facilitating their investors to come take projects in Cambodia. The PRC not only urge them to come in words but also allow fund[s] for them too. This is a marvelous style of the Chinese. If the Chinese government supports the project you proposed, they would urge their investors to come with their banks’ financial support too. (CNV, 2011)

The speeches and the accompanying images in the press releases project both the Cambodian and Chinese states as homogeneous and unified agents that can execute infrastructural plans and projects effectively, supplying the Cambodian and Chinese state authorities (as well as the BRI) with an aura of coherent potency. The main effect of the speeches, however, is to tie the out-contracted projects to the narrative of a ruling regime strong enough to get the Chinese to build development projects that others would not; yet they also reflect a strong domestic willingness to promote projects with questionable economic viability.

The state’s role in getting the projects built and operating smoothly is also reflected in how affected people perceived them: the Cardamom dams were at times discussed as ‘Chinese dams’ but the ‘Chinese’ label was less used in the case of LS2,

possibly because its more extensive (while insufficient) resettlement and compensation schemes have been intensively mediated by the state authorities. Moreover, the state authorities have strongly and publicly pushed the project through amidst setbacks such as the withdrawals of the ADB and Vietnam Electricity.

Entanglements with Logging Tycoons

Despite the disentanglements that result in features of economic enclavism, and the relative insignificance of the revenue streams offered by the out-contracted and tax-exempted dams in official fiscal terms, indirect avenues for domestic wealth and power accumulation are supplied by spill-over effects. One source is the informal payment system for securing contracts. While there is no clear evidence of this, reports from different parts of the world suggest that 5-20% of the contract value is commonly added (Rogelja, 2020). A less speculative overflow relates to the significant opportunities for timber extraction provided by dam projects. The roads that accompany dams, together with reservoir-related salvage logging, have triggered timber extraction in vast, previously inaccessible areas from which rents are captured through elite patronage relations and channeled into consolidating the powers of the ruling party.

Two Cambodian-run companies with close ties to the country's ruling elite were authorized to carry out the reservoir clearance for the Cardamom dams: MDS for Atay, and Timbergreen for Tatay and Russei Chrum. Salvage logging contracts granted an appearance of legality even for selective logging of high-value timber carried out well beyond the reservoir boundaries and inside protected forests (Käkönen & Thuon, 2019; Milne, 2015). The LS2 dam company has been even more directly entangled with similar 'timber laundering' because the clearance contract was granted to a company called Ang & Associates Lawyer Co., Ltd., which is a subsidiary of the Royal Group, the Cambodian partner in the dam consortium (Environmental Investigation Agency [EIA], 2018; Mahanty, 2021). Signs of timber laundering have also been witnessed near the new Cardamom dam, Tatay Leu, which is now under construction; here, the logging contract remains murky, with the suspicion that the dam company, a subsidiary of the Chinese China Heavy National Machinery (CHNM), might even be undertaking the logging itself (Flynn, 2023).

In return for logging contracts amended by rule bending, lax oversight, and intervention inefficiencies by state authorities over reported illegalities (Global Witness, 2015; EIA, 2018), logging tycoons have been reported to pay part of the logging rents to an unofficial state budget controlled by the ruling party, which uses these funds for rural infrastructure projects, schools, pagodas, administrative facilities, and even army battalions (Global Witness, 2015; Milne, 2015; Verver & Dahles, 2015). Dam-related logging affairs are thus entangled with both elite and state patronage, and even with the assembling of the state's sovereign powers.

This is not something with which the Chinese concessionaires are directly involved (except possibly in the Tatai Leu case), but the pragmatic, accommodating approach they have developed towards situated patronage-based politics (Nyíri, 2017; Verver, 2019; Young, 2020) could be interpreted as, if not facilitative, then at least non-inhibitive for these kinds of practices. What such illegal and semi-legal logging most importantly demonstrate is how the ruling party authorities and business

tycoons in Cambodia are able and ready to make use of concessionary hydropower projects for their own purposes.

Entanglements with the Larger Complex of Bilateral (Infrastructural) Affairs

While Chinese dams in Cambodia are disentangled from multipurpose basin management schemes such as those fostered by the Mekong River Commission, they share this characteristic with other concessionary projects in the region. Similarly, all such projects are rather *unipurposely* formulated to maximize hydroelectricity sales at the expense of broader river management considerations. However, certain forms of entanglement that make them part of more *multipurpose* affairs set Chinese SOE activity apart.

Despite China's official no-strings-attached rhetoric, often praised by Prime Minister Hun Sen, and in addition to the very direct loan conditionality of using Chinese contractors, there are other, more diffuse ties and debts of obligation attached to projects such as the hydropower dams. While the corporate dam enclaves themselves are neither geopolitically strategic, nor examples of overseas territorialization by the Chinese state, they do entangle with the broader complex of bilateral affairs that indirectly ties them to China's geoeconomic/geopolitical pursuits, which explains their attraction for various Chinese actors.

In geoeconomic terms, large-scale projects that are in strong host-state demand and with questionable economic viability are expected to perform as frontier openers for other types of Chinese investors, services, and goods, thus advancing more fluid globalizing circuits for Chinese capital and expertise, and establishing a more China-centered trading regime (Lyttleton & Nyíri, 2011; Verver, 2019). Geopolitically, while the dams themselves territorialize Chinese corporate rather than state powers, the broader constellation of bilateral affairs carries geopolitical motivations reflecting China's attempts to establish (geo)political ascendancy in Southeast Asia. Cambodia has been providing support in ASEAN and UN contexts for China's territorial claims over Taiwan and in the South China Sea (O'Neill, 2018; Urban et al., 2019). China has also allegedly gained territorial footholds by positioning naval and air bases along the Cambodian coast within strategic military reach of the South China Sea and South Asia, possibly to enable securitization of critical transport routes (Dahles & Pheakday, 2017; Yamada, 2019). Furthermore, while most Chinese dams in Cambodia are off-the-Mekong, they entangle with Mekong transboundary hydropolitical relations because, along with other major infrastructure investments and generous aid, they may have pre-empted Cambodia's criticism of China's upstream dams (Dahles & Pheakday, 2017), which dramatically affect Cambodia's riverine people.

While these multidimensional, bilateral relations constrain diplomatic positions and entail zones of surrendered Cambodian state authority such as dam enclaves, Special Economic Zones, and possibly military bases, they also yield opportunities through which the current regime may strengthen its powers (Loughlin & Grimsditch, 2021). Thus, although the broader complex seems asymmetrically geared to benefit the Chinese, it does accommodate the interests of the political and economic elite in various ways. In the continuing absence of a functional tax system, Cambodia remains dependent on external grants and loans and China has been increasingly

generous in this respect (Ear, 2013; Sato et al., 2011; Yamada, 2019), even supplying military assistance (Dahles & Pheakday, 2017). Ultimately, the leaders of the ruling party prefer the Chinese ‘strings’ to Western conditionalities, as they better accommodate Cambodian domestic pursuits (Sullivan, 2015; Mohan & Tan-Mullins, 2019) and are not accompanied by pressure to alter or conceal authoritarian and neopatrimonial modes of governing. Chinese infrastructural engagement in Cambodia does not involve external fiscal oversight and, even when neoliberal governing techniques such as BOT contracts are adopted, they can be applied without the exigencies of rule-of-law and ‘good governance’ reforms. Importantly, increased Chinese assistance and investments offer new opportunities and resources for state patronage in both elite and mass patronage forms (Nyíri, 2017; Verver, 2019; Young, 2020), which continue to be important in the efforts of the ruling regime to consolidate its power.

CONCLUSION

The article has analyzed the damming of rivers in Cambodia and showed how it has evolved through a post-neoliberal concessionary governing mode that materializes in SOE enclaves, characterized by heightened corporate authority as well as overflows and connections that exceed project confinement. These entanglements are partly generated by the regulatory insulation provided by Cambodian authorities that facilitate highly intensive forms of extraction and include undercompensated and devalued negative effects. In other words, disentanglements create entanglements (Appel 2012). While the Chinese dam projects in Cambodia have a distinctively disentangled mode of entry and are enclaved and networked in similar ways, the dynamics of dis/entanglement are not specifically of ‘Chinese design.’ They are, rather, the result of the concessionary BOT template of building dams, which pre-dates the entry of Chinese actors into Cambodia’s hydropower sector, and the additional regulatory exemptions provided by the Cambodian state authorities due to the political will to facilitate not very economically viable projects. The entanglements – both overflows and involvement with local political and economic elites – are mostly produced by the interplay of the dam assemblage parties of which the Cambodian authorities play an important role. It must also be noted that the approach of Chinese banks and SOEs, which is more pragmatic and accommodating to situated modes of governing and patronage-based relations than the approaches of their Western/global counterparts, is relevant in this interplay.

While disentanglement features undermine state regulatory authority over the dammed rivers and inhibit the formation of hydraulic state capacities, many of the observed entanglements strengthen other aspects of state power. Cambodian political and economic elites have been able to gear the projects to support their own ends, which gives a certain substance to the official Chinese win-win rhetoric, although its claims are hollow for displaced communities, dispossessed fishers, and farmers with flood-damaged harvests. Yet, again, the dispossessive effects of the dis/entangled dam infrastructures should not be regarded as ‘a Chinese way of doing things’ for a number of reasons: firstly, the effects tend to be in-built to dam materialities regardless of the types of developers; secondly, they partly stem from the BOT model of dam operations, which is not of Chinese origin; thirdly, they also result from the state avoidance facilitated by the Cambodian state authorities; and fourthly, the forces

of climate-changed rivers augment some of the overflowing harms that BOT dams, geared for profit-maximization, intensify rather than mitigate. However, it would be incorrect to suggest that Chinese financiers and SOEs are not complicit in these harms. They certainly share responsibility and, to some extent, they are also more able to respond than many of the other constituent parties in the dam assemblage. Their logic of encompassing accumulation also invites speculation about whether they could be persuaded to operate the dams in less profit-oriented and more multipurpose ways if there were enough public pressure, especially from the state authorities. This is particularly pertinent given that a key effect of the logic of Chinese companies, which are not entirely profit oriented, is that even the more marginally viable projects are getting built. Therefore, the entry of Chinese actors has boosted the Mekong dam rush in ways that have drastic cumulative effects.

Overall, the study demonstrates that entangled enclaves do not derive from any singular logic but are the work of multiple interacting actors with rationales ranging from neoliberal investor-friendliness (the ADB and World Bank-guided BOT), through the Chinese SOE logic of encompassing accumulation and the geoeconomic and geopolitical rationales of Chinese state actors, to the authoritarian and neopatrimonial governing modes of Cambodian elites. The concept of entangled enclaves and analysis of the dynamics of dis/entanglement allows better understanding of the multidimensional socio-spatial formations that result from this interplay. On the one hand, the dam projects form territorially fixed, bounded spaces of governing, while, on the other, they are globally networked and constitutive of spatially diffuse circuits of capital and power. And, while disentanglements from the surrounding society strengthen corporate powers and facilitate frictionless flows of (Chinese state) capital, their entanglements nest them in state space and tie them to situated processes of state formation and efforts by Chinese state actors to extend their global influence. In more concrete terms, the analysis contributes to reaching an understanding of the ways that concessionary infrastructure projects may simultaneously undermine and strengthen state power, and, despite their enclavism, form part of broader multidimensional bilateral relations. This also contributes new insights to the multidimensional geography of enclavism in mainland Southeast Asia more broadly.



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