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WATER ETHICS IN THE LOWER MEKONG REGION

WHAT ARE THE FACTORS LIMITING OR DELIMITING THE EFFECTIVENESS OF CONTESTATION PRACTICES AND METHODS AIMED AT PRODUCING ETHICAL OUTCOMES?

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Abstract

This paper examines the factors that limit or delimit the effectiveness of contestation practices aimed at promoting ethical processes in hydroelectric construction within the Lower Mekong Region (LMR), encompassing Laos PDR, Cambodia, Vietnam, and Thailand. Hydropower development, despite its promise for economic growth and energy security, has elicited significant environmental and socio-economic repercussions, often disproportionately affecting local and indigenous communities.

Utilizing a qualitative research design, this study incorporates thematic analysis of 19 interviews with researchers, civil society organizations (CSOs), and non-governmental organizations (NGOs), alongside extensive literature review. It explores case studies from each LMR country to understand the dynamics and effectiveness of various contestation strategies. The findings serve as the foundation for a typology of contestation ranging from informal grassroots activism to institutionalized legal avenues, and varying in regard to the challenge presented to the de-politized narrative of economic development by raising non-materialistic, spiritual and cultural arguments. Key themes include the impact of transboundary power relations, the role of international donors and financiers, and civil society action. The paper underscores the importance of inclusive, transparent, and culturally sensitive approaches in fostering ethical hydropower development. It calls for a combination of strategies and greater international support to enhance the rights and participation of indigenous communities in decision-making processes.

The study concludes with recommendations to incorporate ethical considerations into hydroelectric development, highlighting the importance of representing indigenous and local knowledge, conducting comprehensive data collection, enhancing gender inclusivity, and strengthening legal frameworks with effective enforcement mechanisms. Additionally, it stresses the need for ongoing international support for local communities in their diverse forms and practices. These measures aim to address the identified gaps and foster a more equitable and sustainable approach to hydropower development in the LMR).

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List of Abbreviations

3SPN	3S River Protection Network
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
CSO	Civil Society Organization
CSRD	Centre for Social Research and Development
EIA	Environmental Impact Assessment
EGAT	Electricity Generating Authority of Thailand
EVN	Electricité du Vietnam
FPIC	Free, Prior, and Informed Consent
FPV	Floating Photovoltaic
GIA	Gender Impact Assessment
GoL	Government of Laos
IHEID	Institut de hautes études internationales et du développement
IIB	International Investment Bank
INGO	International Non-Governmental Organization
IO	International Organization
IUCN	International Union for Conservation of Nature
Lao PDR	Lao People's Democratic Republic
LMC	Lancang-Mekong Cooperation
LMR	Lower Mekong Region
LS2	Lower Sesan 2
MoU	Memorandum of Understanding
MFP	Move Forward Party
MRC	Mekong River Commission
NDC	National Determined Contributions
NEXI	Nippon Export and Investment Insurance
NGO	Non-Governmental Organization
NT2	Nam Theun 2
PPA	Power Purchase Agreement
PRCC	Provincial Resettlement and Compensation Committee
PNCPA	Procedures for Notification, Prior Consultation, and Agreement
UNESCO	United Nations Educational, Scientific and Cultural Organization
VRN	Vietnam Rivers Network
WB	World Bank
WCD	World Commission on Dams
WWF	World Wide Fund for Nature

Introduction

The Lower Mekong Region (hereafter LMR), which encompasses the countries of Lao People's Democratic Republic (hereafter Lao PDR), Cambodia, Vietnam, and Thailand, is one of the most ecologically diverse and abundant parts of the world. Owing to the vast Mekong River, from which it gains its referential name, and the expanse of its tributaries, the region is host to a vast array of plant and animal species, many endogenous, as well as the estimated 200 million people who belong to the riparian countries (Seleznev et al., 2023; World Bank, 2022). The size of this latter population, which has experienced significant growth since the middle of the 20th century, has precipitated the equally remarkable development of the region, specifically in urbanization and energy production. While this trend has certainly led to positive outcomes, it has not been without its deficiencies and detractors.

The predominant issue in this regard has been the utilization of the Mekong through the proliferation of hydropower dams. In one sense heralded by states, developers, and many in the international community as an exemplary model for sustainable development, the region has also cultivated a climate of asymmetric power distribution in which the concerns of affected, often small and rural communities of ethnic minorities, possessing limited means for effectual contestation, are routinely discounted or even outright disregarded when protesting disruptive hydropower projects. While a wealth of academic literature has explored the ecological, hydropolitical, socio-economic, environmental, geographic and geospatial dimensions of the LMR, often critically regarding hydropower development as detrimental, relatively few have analyzed why these communities, despite being characterized by such spatial-temporal abundance of contestation and resistance, have largely been unsuccessful. A review of the relevant literature not only reveals this gap but areas of further contention and fuzziness which may contribute to the aforementioned absence.

Literature Review

Background and Context

Driven by the need to meet the growing urban population and rising energy demand, which is estimated to increase by up to 7 % a year, construction of hydropower dams in the LMR has gained considerable momentum in recent decades (Grumbine et al., 2012, Mekong River Commission, n.d.). As hydropower proponents would state, poverty rates have been reduced, while higher employment, greater food security and economic growth have been achieved (Mekong River Commission, 2020). Its framing as a 'green' and 'clean' source of energy suggests that hydropower is a viable alternative to fossil fuels (Ahlers et al., 2015).

Gains from hydropower development are particularly salient amongst development facilitators, specifically the four LMR governments. Lao PDR, the furthest upstream amongst the riparian states, is especially well disposed to hydroelectric construction as it positions itself to be the region's primary electricity

exporter (Tran & Suhardiman, 2020). Thailand and Vietnam, who host the largest populations in the region, are invested in both domestic production as well as importation (Soukhaphon et al., 2021). Cambodia, whose population is much smaller than that of Thailand and Vietnam, is experiencing sizable increases, along with greater demands of electricity, which has become extraordinarily expensive due to lagging hydropower capture (Chu, 2022). All four governments have benefited greatly from expanding hydropower projects, domestic or in neighboring states, which have attracted foreign investment, supported the growing populations, and facilitated development more broadly.

However, despite constituting a valuable source of electricity, these dams have also generated a multitude of environmental and social ramifications across the region (Soukhaphon, 2021). Some scholarly work suggests that these consequences outweigh the benefits of hydropower (Intralawan et al., 2018). This underscores the ongoing contention between hydropower development, biodiversity protection, and sustainable livelihoods, reflecting diverse societal values and interests.

The Mekong River Commission (MRC) is the primary intergovernmental body involved in various water-related issues in the region, most principally hydropower projects. While the organization has been lauded repeatedly as a model for cooperative management and sustainable development, many scholars have highlighted the MRC's limited power and ineffectiveness in resolving disputes, which underlines a climate of permissibility (Yong, 2023; Dore & Lazarus, 2009; Dore & Lebel, 2010; Lee & Scurrah, 2009; Suhardiman et al., 2012). Although proposals and alterations have been made (The Initiative on Sustainable Hydropower in 2009) to enhance and balance development with the concerns of a broad spectrum of actors, states and development regimes remain to a great degree unhindered in their ambitions.

In the context of the LMR, much of the hydropolitical research has concentrated on cooperation between riparian states, reinforcing a predominantly state-centric approach. Although there has been considerable literature on hydropower in the LMR and its impacts, relatively few studies have delved into contestation practices. For this reason, we take our lead from scholars like Young and Ear (2021) and Sor (2021) who have emphasized the need for a more nuanced analysis of contestation practices in the realm of hydropolitics within the LMR.

Environmental and Socioeconomic Impacts

Water quality in the Lower Mekong Basin has sharply declined due to factors like hydropower development, deforestation, and urbanization, causing altered sediment loads and increased salinization (Chea et al., 2016; Sor et al., 2021). Deforestation in the LMR has been severe, with over 30% of forest cover lost from 1973 to 2009 (Brewer et al., 2020). This loss impacts biodiversity, water quality, and socio-economic stability. Despite some reforestation efforts, ongoing challenges persist, underscoring the need for comprehensive forest conservation measures in the region. Climate change poses a significant threat to the LMR, with rising sea levels, changing weather patterns, and extreme events like droughts and floods impacting food security and socio-economic development (Trisurat et al., 2018; Li & Song, 2020). Limited studies and monitoring hinder understanding and response, highlighting the urgent need for enhanced disaster preparedness

and mitigation measures in the region. The Mekong River, a crucial waterway, supports a diverse ecosystem with over 1,200 fish species (Seleznnev et al., 2023; Mekong River Commission, 2003). However, hydropower development poses a threat, causing population declines and altering habitats as dams disrupt water quality and temperature, impacting aquatic life.

Hydropower development across the LMR has mixed socioeconomic impacts. While it boosts electricity generation and spurs economic growth, it also jeopardizes fisheries, agriculture, and food security (Yoshida et al., 2020; Soukhaphon, 2021; Blake & Barney, 2018; Williams, 2018). Intralawan et al. (2018) conducted a trade-off analysis, revealing that anticipated economic gains are offset by ecological costs, particularly in Vietnam and Cambodia. Local communities, dependent on water resources, bear the brunt of negative impacts, with inadequate compensation exacerbating their plight (Suhardiman et al., 2014). Ethnic minorities, especially women, face disproportionate adversity, often excluded from decision-making processes (Lebel et al., 2019). Forced displacement disrupts indigenous practices and cultural ties to water (Hill et al., 2017). Moreover, hydropower-related water quality deterioration poses health risks, exemplified by illnesses near the Yali Falls dam in Vietnam (Soukhaphon et al., 2021). Dam contestation movements reflect public discontent, though success varies due to political regimes and transnational dynamics (Sneddon & Fox, 2006; Fox & Sneddon, 2019). Understanding these complexities necessitates further research to inform policy decisions and promote sustainable development in the LMR (Williams, 2020; Soukhaphon et al., 2021).

Ethical processes

Given the environmental and social impacts of hydropower dams, contestation is a key element in ensuring ethical development. Contestation is the social practice of objecting to norms by refusing to comply, which often means protesting, creating an epistemic community, addressing a court, or other actions within international regimes and organizations. It can also be proactive as a mode of critique of the norms in discursive practices (Wiener, 2017). Studying such practices allows researchers to access the fundamental conflicts of values as they are perceived by all the actors involved in hydropower construction in the LMR. Contestation practices provide us with proxies to study the fairness of the process, because norms and rules need to be contested to work properly and be legitimate (Wiener, 2017).

A strand of literature on norm research moves from the Habermasian assumption that norms are negotiated facts so the impact of contestation depends on the context and its typology (Niemann and Schillinger, 2017). Within this framework, a fundamental criterion is “norm ownership”, or the ability of all the stakeholders involved to contribute to norm generation or reform, which has as a necessary condition the accessibility of contestation practices (Wiener, 2017). The key element of norm ownership is that not every stakeholder has the same access to validation practices, hence contestation should lead to an ethical process where all the stakeholders involved take part in norm generation and validation. Wiener (2017) found that access and legitimacy are strictly related, which means that less conflict and more ethical outcomes are positively correlated with a more inclusive norm application process for dam construction. Girardin (2019) explored water management negotiations and discovered that the most “effective, relevant, and efficient” are those in which the

needs and interests of all the potentially affected actors are considered, linking also accessibility to economic efficiency.

Based on the principles of water ethics: "human dignity, participation, solidarity, human equality, common good, stewardship, transparency, inclusiveness, and empowerment" (Groenfeldt, 2019, p. 11), and on 19 interviews with researchers, Civil Society Organizations (CSOs), and Non-governmental Organizations (NGOs) we have outlined the guidelines for ethical dam construction. This helps in understanding people's quest for an ethical process and the factors limiting their success, by defining the fundamental principles. Four principles determine the fairness of the process: *transparency, solidarity, inclusivity, and the rule of law.*

- *Transparency* implies the full and timely disclosure of impact analysis, accessible reports of meetings among governments and developers, and the availability of primary data to conduct independent studies.
- *Solidarity* implies that financiers, developers, governments, and non-directly affected people act to prevent damages as if they would be directly affected by them.
- *Inclusivity* implies that different forms of knowledge are included, and non-economic considerations based on the cultural and spiritual value of the river receive adequate attention. This is possible only if local communities and CSOs are empowered to participate meaningfully in all the project stages.
- *Rule of law* is a fundamental aspect that should guarantee that the formal procedures, for example, the Procedures for Notification, Prior Consultation, and Agreement (PNCPA) of the MRC, are fully respected, equal access to justice for all, and that the governments are accountable to their citizens.

To be truly ethical, processes should be designed in such a way as to favor the outcome that is fair in the distribution of costs and benefits, prioritizing the improvement of the conditions of the least well-off in compensation schemes that should be based on the polluter pays principle, and that balances development needs with respect of the no harm and precautionary principles in environmental protection. What is just is at least partially context-dependent, hence this normative dimension should be based on shared understanding among all the actors impacted by the decision using as a floor the general principles of international environmental law.

Methodology

Research Design

This study employs a qualitative research design to analyze the impact of hydropower development in the LMR and the factors limiting contestation to these projects. The qualitative component includes semi-structured interviews to gain deeper insights into contextualized experiences and understandings, while

desk research provides both background and substantive material for the paper. We employed an interpretivist and inductive method in our study.

Data Collection Methods

Informed through a review of relevant literature, we conducted a broad, initial round of interviews, which was followed by snowball sampling through referrals. Semi-structured interviews were conducted with both international and regional participants, representing the four major case studies, Europe, Japan, and the United States. A total of 19 interviews were conducted, primarily with local NGOs and CSOs. The interview protocol included questions about challenges faced, benefits perceived, and suggestions for improvement. Each interview lasted approximately one hour and was conducted via video conferencing tools.

Data Analysis

The interview transcripts were analyzed using thematic analysis. The process involved several steps:

1. Familiarization: Reading and re-reading transcripts to become immersed in the data.
2. Generating Themes: Collating codes into potential themes and gathering all data relevant to each theme.
3. Reviewing Themes: Checking if the themes work with the coded extracts and the entire data set.
4. Defining and Naming Themes: Refining the specifics of each theme and generating clear definitions and names for each theme.
5. Writing Up: Integrating the qualitative findings with quantitative results to provide a more nuanced and grounded understanding of hydropower dams and their impacts in the region.

Ethical Considerations

The methodology and schema for data collection and interviews were approved by our academic supervisor at IHEID, as well as Globethics. Informed consent was obtained from all participants before data collection, ensuring that they were aware of the study's purpose, procedures, and their rights. Participants were assured of the confidentiality and anonymity of their responses. All data were stored securely and only accessible to the research team. We have chosen to anonymize all of our sources.

Limitations

While we initially sought the opinions of local communities and ethnic minorities affected by hydropower development, time and distance constraints did not permit us to do so. We regrettably, therefore, are unable to include their voices in our research. Our mitigation strategy for this was to reprioritize local NGOs and CSOs who work with these communities and engage them on questions related to community perspectives.

Case Studies

Subsequently, we focus on the four LMR countries—Lao PDR, Cambodia, Vietnam, and Thailand—and present four hydropower projects for each. In these examples, particular themes from relevant literature will be drawn out, and through them a general portrait of hydropower development in the LMR is sketched. While each context is spatially, politically, and socially specific—an acknowledgment that some matters should not be thought of as universal—the intention here is to generate a broad understanding of how these issues bear out on local populations and how they in turn are able (or unable) to contest.

Lao PDR

In many ways, Lao PDR lies at the heart of the development transformation taking place in the LMR. Specifically in the arena of hydropower, the country's domestic efforts far exceed those of its neighbors, boasting the largest number of dams in all stages: in operation, under construction, and planned (Ang et al., 2023). This is not an altogether presumable bit of information, for Lao PDR has the lowest population density in the LMR, nor is it without its political explanation, the country possessing one of the world's most discouraging levels of press freedom and lowest measures of democracy, as well as being one of the least developed globally (Robichaud & Shoemaker, 2018). As will be explained, it is largely because—not despite—these factors that the country has become the regional epicenter of hydropower development..

To explore the features of hydropower development in Lao PDR most relevant to contestation, along with its limiting and delimiting factors, this case study section will chart a course across four dam sites: Nam Theun 2 (NT2), Don Sahong, Pak Beng, and Luang Prabang.

1. The New Model for Hydropower Development – NT2

While hydropower dams in the LMR have a history stretching back to the 1950s, more recent decades have witnessed a marked expansion in the rate of planning and construction (Moelle, 2009). A key marker on this timeline was the NT2 dam, from its planning stage in the 1990s to its official approval in 2005 and commercial operation in 2010 (Robichaud & Shoemaker, 2018). Typical of immense and complicated dam projects, NT2's progress was fraught with technical, financial, and logistical complications. For Lao PDR, and the region more broadly, NT2 signaled an important shift in how future projects would be organized, specifically

through how a consortium of regional and international actors could be brought together to manage the many complexities (Singh, 2009).

In their programs to usher in greater private-sector-led development, the World Bank (WB) and the Asian Development Bank (ADB) have played a central role as financial intermediaries, bringing together donors, construction companies, and consultants (Robichaud & Shoemaker, 2018). Particularly for the WB, NT2 was a model for both public-private partnerships and greater consultative mechanisms for social-environmental impact mitigation. This confluence of actors was lauded as a way for local populations to make their voices heard, helping make development schemes more responsive to social concerns. The reality, however, has arguably made contestation more difficult for disaffected populations (Anonymous participants 14, personal communication, April 3, 2024). Firstly, the expansion of potential development partners, both regional and international, has not only altered the pace of development by attracting greater investment opportunities but also dispersed and complexified the field of responsibility, increasing problems with transparency (Robichaud & Shoemaker, 2018). Secondly, although the involvement of these international investment banks (IIBs) came with environmental and social protection policies, in practice, these mechanisms largely fell short of mitigating the negative impacts. As will be explored in the following sections, there persists a significant gap between the aspirations of consultations, environmental impact studies, compensation schemes, and other mitigation articulations and how they are carried out in practice (Robichaud & Shoemaker, 2018).

2. The Costs of Development – Don Sahong

Setting aside more general environmental concerns, the discussion now turns to examining specific ways in which social and environmental impact mitigation measures are carried out in practice. The Don Sahong dam, the second to be built on the Mekong mainstream of the LMR, became commercially operational in 2022 despite intense criticism both regionally and internationally (Baird, 2024). As is often the case, some of the primary concerns were the dam's impact on the movement of migratory fish and sediment load (International Rivers, 2015). In June 2014, per the Mekong Agreement, the Government of Laos (GoL) agreed to start the PNCPA, which provided for the formal consultation of neighboring Cambodia, Thailand, and Vietnam (Baird, 2024). However, arguably a mere formality, the GoL ignored the consultation's results and approved the dam.

Regarding domestic concerns over fish migration, the dam's developers adopted a two-pronged approach to mitigation (Baird, 2024). The first was to improve fish passage upstream by opening up new channels, the second was to "ban all large trap use" in the area (Baird, 2024). While both of these measures have likely increased fish passage upstream, they have come at a greater cost to both the environment and the local populations. On the latter specifically, the developers and the GoL scapegoated villagers by making trap fishing the problem and not the dam itself. Coupled with this, many locals were forced to resettle with their losses not adequately compensated and their livelihoods not effectively restored. Thus, although mitigation measures exist formally, in practice, these mechanisms all too often serve the interest of dam proponents, coming at the direct cost of local populations and disregarding the concerns of neighboring countries.

3. The "Specter of Change" – Pak Beng

The concentration of negative impacts borne by predominantly local and rural populations in Lao PDR, along with the ecological devastation, largely stem from power asymmetries within the top-down approach to the country's hydropower development (Suhardimann & Rigg, 2021). Temporally, it is important to understand that these alterations, especially those impacting local communities, begin before a dam is constructed and have the potential to continue long after. To understand how power relations reshape local livelihoods, the discussion now turns to resettlement and compensation issues in the context of another mainstream dam, this one not yet built—Pak Beng.

Stalled by issues related to the power purchase agreement, Pak Beng, a co-venture between the GoL and China Datang International Power Generation Company, is still in the planning stage of development (Suhardimann & Rigg, 2021). Despite this, local villages have already undergone dramatic change in terms of livelihood and resettlement . The company along with the Provincial Resettlement and Compensation Committee (PRCC) has effectively excluded local communities and village authorities from involvement, instead defining rules and procedures in ways that fit their own interests over those affected.

One way this occurred was through compensation for farming. Villagers were instructed to cease cultivation because the company was unwilling to compensate for lost harvest (Suhardimann & Rigg, 2021). Left in a state of limbo, farmers were forced to either cultivate despite the warning and risk substantial losses or heed the instruction for an indefinite period in which livelihoods could be severely impacted. An additional impact was the transition many took from cropping to livestock raising. Lacking information or guidance from the company or PRCC, local villages were forced to make decisions that directly impacted their long-term futures, decisions that posed new risks and unknown challenges. Consultation, although present in form, was obstinately "cursory and one-way", favoring those already benefiting from such drastic power asymmetries (Suhardimann & Rigg, 2021). "Local livelihoods were in thrall to the dam; the dam to Laos' development strategy; and the development strategy to the country's ambition to transition from Least Developed Country status" (Suhardimann & Rigg, 2021).

4. The Constitutive Nature of Dams – Luang Prabang

Hydropower dams can be conceptualized as nodes or points through which currents of power and influence come together, in collaboration and competition. This is certainly the case in Lao PDR, where the social and political conditions cultivate an environment in which the government along with international and regional developers exert an excessive amount of influence (Whitington, 2018; Robichaud & Shoemaker, 2018. That power, however, should not be so hastily considered hegemonic: International Organizations (IOs) and NGOs also hold sway in the country.

One case that exemplifies this is the Luang Prabang dam, currently under construction near the ancient Lao capital of the same name. Considered one of the best preserved historical-cultural sites in Southeast Asia, the city of Luang Prabang attracts nearly a million tourists on an annual average, in some part due to the

international recognition tied to its UNESCO World Heritage status (Laotian Times, 2024). In recent years, though, in light of dam construction, that status has become a spot of tension, as the government and locals grapple with the potential loss of its UNESCO title with the prospect of Luang Prabang dam contributing to an already changed landscape.

These changes have not only occurred in terms of the natural environment but in other forms of development and social impacts. Increasingly, investment interest in the city has spurned Chinese-backed developments in hotels and restaurants (Radio Free Asia, 2024). Relatedly, the impacts on Luang Prabang residents are already being felt as in the case of nearby Don Xai Mongkhon island, a place of cultural and emotional importance, which was lost due to the downstream Xayaburi dam (Bangkok Post, 2024).

The confluence of actors surrounding Luang Prabang is exemplary of the complexity through which power and influence interact: from the dam's developers, Thailand's CH Karmchang PCL and AFRY (Finnish Pöyry & Sweden's AF), Chinese companies, to UNESCO, WWF, tourists, activists in Thailand, and locals (Fawthrop, 2021). Whether these latter actors will be capable of contesting construction successfully remains to be seen. Luang Prabang also encapsulates the state's priorities of hydropower development over environmental and social concerns, as well as the risk to cultural heritage and other sources of revenue generation. While local communities remain limited in their ability to directly contest the construction of hydropower dams, there are other channels through which influence may also be exerted, some of which will be explored in the coming sections.

Cambodia

Despite Cambodia's authoritarian regime and decreasing respect for human rights, its civil society remains active and continues to challenge government-led hydropower development projects, which aim to reduce reliance on electricity imports and lower the country's exceptionally high electricity costs (Barter & Sar, 2023). However, Cambodia's dependence on foreign aid, the donors of which prioritize political stability over good governance, decreased transparency and democratic accountability, alongside marginalizing critical voices and limiting civil space (Anonymous participants 18, personal communication, April 11, 2024). These negative effects on democratic standards are further exacerbated by the majority of funds coming from China, as discussed below (Ear, 2012).

Civil society in Cambodia emerged in the 1990s after the first elections following the Khmer Rouge regime's fall (Barter & Sar, 2023). Foreign donors funded NGOs to deliver public services and act as government watchdogs instilling good governance and rooting out corruption (Norman, 2014). Increased demands for accountability to ensure effective use of aid money, pushed NGOs to appear professional and fundable in a competitive aid market. The World Bank (2004) drove this shift by urging NGOs to transition from "shouting," or traditional activism, to "counting," emphasizing a culture of audits. This prioritization of technical NGOs reduced their capacity for real social change and marginalized other civil society actors (Norman, 2014). This led to NGOs being less connected to the population and more influenced by international agendas, hindering their ability to confront the state and address beneficiaries' needs (Ou, 2013; Hughes, 2007).

However, Barter and Sar (2023) argue that the Cambodian government also cultivated compliant NGOs to maintain its hegemony, thus NGOs emergence cannot only be attributed to international actors. It has also been noted due to Cambodia's development over recent decades, international money flow has been decreasing, despite large parts of Cambodia's population remaining poor (Anonymous participants 9, personal communication, March 31, 2024). Further, over recent years, the Cambodian government has increasingly restricted civil space (Anonymous participants 16, personal communication, April 5, 2024) and the number of NGOs has decreased (Anonymous participants 9, personal communication, March 31, 2024), shifting scholarly focus to how civil society defends natural resources against state and corporate interests (Barter & Sar, 2023). Additionally, informal grassroots activism, which has often been overlooked, persists and interacts with more formal NGOs, warranting greater attention.

1. De-politization of Contestation - NGOs and Government Pressure - LS2

Completed in 2018, the Chinese-financed Lower Sesan 2 (LS2) dam, Cambodia's largest, has been labeled a "disaster" (Human Rights Watch, 2021). The NGO umbrella group NGO Rivers Coalition in Cambodia (RCC) and its affiliate, the Culture and Environment Preservation Association (CEPA), focused on compensation and relocation, rather than advocating for villagers' demands to halt dam construction (Baird, 2016). This followed the RCC's decision in 2010 to cease opposing large dams within Cambodia, opting to highlight negative impacts or suggest construction delays. While other NGOs such as 3S River Protection Network (3SPN), a local network representing 64,000 people living along the Sesan and Srepok rivers in Cambodia, continued to support villager's opposition to the LS2, the NGOs with more moderate demands likely feared government repression, especially with the impending restrictive 'NGO law' potentially targeting critical of the government organizations[1].

This contestation approach has been criticized as depoliticized, technocratic, and aligned with the state's economic development narrative, failing to raise solidarity among wider society (Barter & Sar, 2023). Interviews echoed that international attention is more effectively raised through traditional and more confrontational activist actions like public protests (Anonymous participants 3, personal communication, March 24, 2024). Critically, the mentioned NGOs also discouraged locals' protests out of a sense of responsibility for their actions (Baird, 2016). In this case, NGOs evidently did not respect the villagers' opinions or represent their demands, neglecting inclusivity in ethical terms. While our interviews did not explicitly confirm this, there was a noticeable preference to collaborate closely with the government and utilize its platforms rather than oppose it (Anonymous participants 4, personal communication, March 25, 2024). Such strategies were justified by the belief that organizations cannot exert the same influence if they work alone (Anonymous participants 12, personal communication, April 3, 2024) and that gathering robust evidence of negative impacts can create opportunities for dialogue with government officials (Anonymous participants 14, personal communication, April 3, 2024).

[1] While at that point in time, the law had not been in place, it was eventually passed in 2015 (Library of Congress, 2015).

Conversely, members of ethnic minorities took direct action, organizing peaceful protests and refusing to leave their homes even as they were flooded by the dam gates' closure (Barter & Sar, 2023). They emphasized their spiritual and cultural connection to nature, rejecting its purely economic valuation. Two hold-out communities at the LS2 continue to claim their ancestral land, challenging the state's capitalist discourse that lost land can be compensated materially (Anonymous participants 14, personal communication, April 3, 2024). Unfortunately, these communities have received little national and international attention. Similarly, as discussed in an interview, mental health impacts on communities are also often neglected (Anonymous participants 14, personal communication, April 3, 2024). This resonates with a paper by Mahanty et al. (2024) which discusses the emotions and their effects of communities experiencing the disruptions of LS2. Their profound emotional impact is evident as communities experience layered historical trauma, anxiety, sadness, and social friction due to the loss of their homes, cultural lands, and traditional spaces.

2. Transboundary Power Struggles - Yali Falls

Civil society action's effectiveness is further shaped by power dynamics among the riparian countries. Their uneven bargaining power may inhibit comprehensive transboundary impact assessments and through that, early interventions in hydropower projects (Baird et al., 2021). The 1993 Environmental Impact Assessment (EIA) of the Yali Falls dam in Vietnam analyzed impacts up to 6 km downstream of the dam excluding the Sesan Basin in Cambodia (Wyatt & Baird, 2007). The MRC assumed no responsibility for this flaw based on the excuse that the assessment had been conducted under its predecessor organisation. In addition to lacking the political will to oppose its neighbor, Cambodia's limited financial and technical capacity, along with its lack of scientific evidence, hindered its influence in the decision-making process led by Vietnam. Vietnam, unwilling to accept Cambodia as an equal party, dominated the MRC proceedings and evaded critical reviews by citing insufficient evidence (Wyatt & Baird, 2007). Also, Cambodian Sesan communities lamented their lack of evidence to confront the Vietnamese government. This highlights the importance of sound data collection for fostering discussions, as emphasized by several NGOs that provide training in villages to develop these skills (Anonymous participants 1, personal communication, March 20, 2024; Anonymous participants 4, personal communication, March 25, 2024; Anonymous participants 9, personal communication, March 31, 2024). Moreover, the Mekong Agreement does not mandate considering indigenous local communities in hydropower development, limiting riparian community participation in negotiations (Baird et al., 2021). The Yali Falls dam case thus demonstrates the MRC's deficiencies in resolving conflicts among member states and involving affected communities.

Despite Vietnam's later agreement to conduct a transboundary impact assessment and conceding to certain requests, the impacts have been devastating, with uncontrolled flooding causing fatalities among indigenous people and leading to the loss of livelihoods and income, thereby posing risks to food security (Baird et al., 2021; Chu, 2017; Wyatt & Baird, 2007). The essentiality of local knowledge in studying these impacts has been recognized by certain scholars (Baird & Mean, 2005). Also, health impacts such as diarrhoea arising from water pollution on Cambodians have been devastating (Chu, 2017). Negative impacts have affected women disproportionately, increasing their dependence on men (Chu, 2017), and underscoring the importance of

capacity building and workshops targeting women (Anonymous participants 9, personal communication, March 31, 2024; Anonymous participants 5, personal communication, March 26, 2024). Similarly, an interview highlighted a radio program in Kratié province where women and youth discuss their experiences to raise awareness for their affectedness. Lastly, the sharing of benefits among Cambodians in terms of the distribution of the purchased electricity has been inadequate and unequal without reaching the dam-affected households (Chu, 2017).

To contest Vietnam's dominant stance in hydropower decisions affecting the Sesan River, Cambodian villagers attended meetings held by local NGOs, especially 3SPN (Chu, 2017). The Vietnamese government, however, ignored most requests formulated by riparian communities. Nevertheless, affected villagers are continuing their resistance and keep holding meetings to discuss the dam impacts and report their observations to NGOs such as 3SPN and communal authorities. Thus, village gatherings are seen as promoting activism, despite the limited resonance they may achieve with officials.

3. The China Factor - Sambor

While it is not party to the Mekong Agreement, China is highly involved in dam financing and construction in the LMR (Phan, 2019). As Cambodia's most significant bilateral donor, it had financed six hydropower dams in Cambodia by 2016 (Elten, 2018). To conduct its infrastructure developments, China established the Lancang-Mekong Commission (LMC) in 2016 to foster economic development and greater regional integration among the riparian states (Sovachana & Murg, 2019). Stripped of MRC-style guidelines, it functions as a back-door opportunity to finance and construct dams without strings attached (Phan, 2019). Due to this unconditionality, Chinese finance has been described as unethical (Ear, 2012). The 2600 MW Sambor Dam, the largest dam on the Lower Mekong, was proposed by a Chinese state-owned company (Phan, 2019). An American company, the National Heritage Institute, was commissioned to conduct an EIA, which recommended adopting a no-dam solution. Ultimately, in 2020, the plans were suspended, while in the same year, a 10-year suspension of mainstream dam construction was announced (Thul, 2020).

It has been mentioned that China's construction of the Sambor dam would have violated substantive and procedural customary international law (Phan, 2019). Therefore, if Cambodia had proceeded with the dam's construction, it could have set a dangerous precedent, suggesting that China can bypass the MRC constructing dams through the LMC without prior notification or consultation, and breaching international law. Though the LMC has the potential to marginalize the MRC (Zaręba, 2020), the MRC's efforts to strengthen collaboration with China to build trust and increase data sharing have been mentioned in an interview (Anonymous participants 17, personal communication, April 9, 2024). As it is unlikely that China will join the MRC, the Mekong states may try to build stronger diplomatic ties to dissuade China from further dam construction (Phan, 2019). Even though Cambodia's leadership is closely aligned with and backs China (Chheat, 2022), the suspension of the Sambor dam may constitute a continuation of the China's reputational damage, which had occurred before in other cases as discussed below, and which may indicate China's decreasing influence in terms of hydropower construction in Cambodia. .

As mentioned by an interviewee (Anonymous participants 18, personal communication, April 11, 2024), , the suspension of the Sambor dam likely represents a strategic recalibration by the Cambodian government concerning its energy policy and transboundary relations, bolstered by civil society action. The halting may imply a switch to more sustainable solutions, potentially promoting Cambodia's energy independence. This independence could enable it to more freely express concerns about transboundary water management and the impacts of dam construction in other countries as Cambodia would be less reliant on importing electricity from other countries' dams as well as on other countries' approval for dam construction within its jurisdiction (Anonymous participants 18, personal communication, April 11, 2024). Such a situation characterized by less restrictions for the government, may open up space for civil society allowing for more inclusivity and solidarity. This outcome, however, is dependent on numerous contextual factors, such that the future could also unfold differently.

4. A Model Victory on a Different Front - Stung Chhay Areng

The Stung Chhay Areng dam, backed by Sinohydro, a Chinese state-owned company, and to be built in the river valley of the same name, is an example of successful dam contestation beyond the Mekong river (Chheat, 2022). Starting in 2012, civil society led by the NGO Mother Nature Cambodia (MNC), established by locals for environmental protection against the dam, creatively used social media to reach the public, especially younger generations. This strategy gave anti-dam protesters political space outside the government-controlled arena and attracted international attention, crucial given Cambodia's democratic deficiencies. Interviews confirmed the importance of social media for advocacy (Anonymous participants 1, personal communication, March 20, 2024; Anonymous participants 10, personal communication, April 1, 2024). Unlike many instances in the LS2 case, affected locals closely collaborated with NGOs, receiving vital technical and legal assistance (Chheat, 2022). Such collaboration may also be beneficial as riparian communities in Cambodia remain poor and cannot afford to advocate the entire day instead of pursuing livelihood activities (Anonymous participants 4, personal communication, March 25, 2024).

This was coupled with a diverse array of resistance strategies synergistically employed and ranging from institutionalized channels for resistance, including meetings with government departments, to more direct action, such as roadblocks (Barter & Sar, 2023). Importantly, approaches that challenged the government's official narrative of progress and development were applied. As a result, these approaches were often labeled as "anti-development" and "too radical. Their passionate messaging has been described as "counter-hegemonic" (Barter & Sar, 2023) and unlike less successful efforts, they discussed wider impacts beyond the reservoir area. Despite state attempts to suppress the protest, including imprisoning activists, the movement persisted (Chheat, 2022). Notably, protestors were able to side with the parliamentary opposition party, such that the government eventually had to concede to the demands to repair its crumbling image and uphold its last bits of legitimacy, after an unexpectedly narrow election victory in 2013. This highlights the potential power of contextual factors and the importance of using them strategically.

China remained silent and passive despite significant stakes in the project (Chheat, 2022). Not only in the case at hand but also in general, it does not offer any protection for those affected by its actions abroad thereby undermining the ethical principles of solidarity and the rule of law. This underscores the importance of contesting outside government-controlled and international legal avenues as success of these measures hinges on the political will of the states involved, which in the case of China, is non-existent (Anonymous participants 18, personal communication, April 11, 2024). In these situations, informal actions raising the awareness of a wide variety of actors are likely to be more successful. In any case, the Areng dam case resulted in a setback and reputational damage for China among Cambodian civil society (Chheat, 2022), heightening negative sentiments among the Cambodian public, who largely oppose China (Scott, 2022). This growing opposition may have influenced the outcome of the Sambor dam project discussed above and could continue to affect future projects.

Vietnam

Vietnam's rapid economic growth and state-led development agenda have led to the approval of over 1,000 hydropower projects in the past two decades, making hydropower a key element of its strategy for economic growth and energy security (Lamb & Dao, 2017). However, these projects often proceed without substantive discussions on their social and environmental costs (Soukhaphon et al., 2021).

Restrictions on civil society and media further limit large-scale mobilizations around these issues (Lamb & Dao, 2017; Ty, 2015). This was confirmed by our interviews, which revealed that activists face state repression and political risks, complicating advocacy efforts and mobilization around hydropower projects (Anonymous participants 1, personal communication, March 20, 2024; Anonymous participants 16, personal communication, April 5, 2024). These constraints highlight the need for a comprehensive approach into the dynamics of development, ethics, and justice.

1. Governance Challenges - Srepok 4A

The Srepok 4A exemplifies governance challenges related to legal compliance, community consultation, and accountability in Vietnam's hydropower projects. Funded by Sumitomo Mitsui Banking Corporation (SMBC) under Japan's Non-binding Foreign Credit Insurance Program, this project was facilitated through a USD64.2 million loan and supported by the Vietnamese government (Ministry of Construction of Vietnam, 2012), reflecting Vietnam's efforts to secure international investment for its energy sector. However, such endeavors have had significant repercussions, disrupting sediment flow essential for soil fertility, reducing freshwater flow, causing seawater intrusion, and impeding fish migration (Nguyen et al., 2017), ultimately affecting agricultural productivity, food security, and livelihoods (Huy et al., 2021; Soukhaphon et al., 2021).

In Vietnam, the Environmental Protection Law of 2005 (art. 18) mandates EIAs for projects of national importance or those having potential risks or adverse impacts on the environment. Although not including "social impact" as a distinct category, the art. 20 requires that assessments contain opinions of the municipal-level People's Committees and representatives of communities in the place where the project is

located, including unfavorable opinions. The art. 21 also stipulates that before making conclusions or decisions, EIA appraisal councils must consider petitions or recommendations sent in by organizations, population communities, and individuals (Socialist Republic of Vietnam, 2005). Additionally, Government Decrees 69/2009/ND-CP and 197/2004/ND-CP frame the role of local administrations in stabilizing the life of affected people based on local realities (Socialist Republic of Vietnam, 2004; Socialist Republic of Vietnam, 2009). Despite adherence to Vietnamese and international norms, the actual outcomes of the Srepok 4A Project have deviated from planned impacts (Ha-Duong et al., 2016).

Substandard infrastructure led to public protests when these collapsed during heavy rains, flooding land used for cultivation (Ha-Duong et al., 2016). The inadequacies in project implementation have been further exacerbated by inadequate compensation for property damage and pollution (Ha-Duong et al., 2016). Moreover, concerns were raised regarding the downstream impacts on Cambodia, underscoring again the transboundary implications of such ventures. The 3SPN requested Nippon Export and Investment Insurance (NEXI) to reevaluate its decision "*to provide insurance for this project if the project is found to have not complied with international best practice requiring transparency, consultation and accountability with all people impacted by the project, in both, Vietnam and Cambodia*". They claimed that affected Cambodian communities were not adequately informed or consulted, like in the Yali Falls dam case, and after advocating about these issues to the Cambodian and Vietnamese government, the situation did not change (*3S Rivers Protection Network, 2012*, n.d.).

The Srepok 4A has also severely impacted another pathway of development, namely local tourism. In Buon Don village, the project's water diversion has resulted in upstream shortages, causing waterfalls and rivers, key attractions in the area, to dry up (Ha-Duong et al., 2016). Le Thi Thanh Ha, Director of Ban Don Tourism site, reported an 80% drop in revenue and blamed the situation for the construction of the Srepok 4A (DTiNews, 2014). Moreover, the organizers of the annual elephant swimming contest, a significant cultural event, requesting additional water from the hydropower company to maintain the event (Wangkiat, 2016), underscored the unsustainable nature of this project, and its profound impact on local cultural and economic activities.

Despite these challenges, the Srepok 4A has increased awareness among affected people about their property rights, leading to a rise in social advocacy (Ha-Duong et al., 2016). Legal aid initiatives have empowered individuals to seek fair compensation for their losses, marking a shift towards greater social justice. However, the absence of meaningful consultation, information-sharing, and accountability from the Vietnamese side left affected communities in Cambodia unprepared for and unable to mitigate the impacts on their livelihoods and environment. Engaging international organizations and leveraging global advocacy networks helped bring attention to the consequences faced by affected communities, both in Vietnam and Cambodia.

2. Challenges of Resettlement and Compensation - Song Bung 4

The resettlement process, governed by Decision 34/2010/QD-TTg, outlines principles for compensation, support, and resettlement. However, these guidelines frequently encounter implementation gaps.

Local authorities often overlook the principle of Free, Prior, and Informed Consent (FPIC), failing to adequately involve displaced communities in decision-making processes that affect their lives and futures (Ty, 2015). Citizens have expressed discontent staging demonstrations at government offices during key political events. Despite these localized efforts, the scale of resistance has not been sufficient to substantially alter the Vietnamese state's decisions regarding hydropower projects (*Nicol, 2021*, n.d.).

The 'land-for-land' policy implemented since the 1990s often results in resettled individuals receiving land of lesser quantity and quality than what was taken, preventing them from maintaining previous agricultural productivity (Ha-Duong et al., 2016). An estimated 200,000 people, primarily ethnic minorities dependent on forest and agriculture livelihood, have been displaced due to hydroelectric projects in Vietnam (Ha-Duong et al., 2016). Research indicates that over 82% of resettled people are worse off post-resettlement, with higher poverty rates compared to the national average. The lack of sufficient agricultural land, especially paddy fields, leads to persistent poverty and hunger among displaced families (Ty, 2015).

The Song Bung 4 hydropower project, initiated by Electricité du Vietnam (EVN) and supported by a substantial loan from the ADB, necessitated the resettlement of four entire villages (Smits & Middleton, 2014). To address the widespread problem of resettlement houses not meeting the needs of displaced people, compensation was paid directly to those affected, allowing them to build new houses themselves. However, some households spent the compensation on ornate wooden houses, new transportation, or other non-income-generating items, leading to deforestation due to the demand for wooden houses, and compensation packages not being sufficient to ensure that displaced people could restore and improve their livelihoods in the long term (Ha-Duong et al., 2016).

Local CSOs, notably the Vietnam Rivers Network (VRN), have scrutinized the ADB regarding the compensation issue (Smits & Middleton, 2014). They claimed that although initially residents were generally satisfied with their new houses, they faced challenges in cultivating land for food, poor soil quality in the gardens, dry irrigated paddy fields, and insufficient land for traditional upland swidden cultivation. Thus, the positive portrayal of the process, shown by the ADB through online videos and feature stories, did not reflect the on-the-ground realities. Civil society groups challenged these representations by conducting their own research, publishing reports on their websites, and sending letters to developers (Smits & Middleton, 2014). However, the political environment in Vietnam and the ability of developers to control international discourse further limit the power of these organizations to confront projects such as the Song Bung 4.

3. Empowering Women - A Luoi

The challenges faced by women in Vietnam are echoed across the LMR, where CSOs, NGOs, and IOs have been advocating for gender inclusion in hydropower development (Lebel et al., 2019). Despite growing awareness of the social and environmental impacts of hydropower projects, the gender-specific effects have been overlooked by developers and governments. The A Luoi Hydropower Project illustrates the significant challenges faced by women during resettlement. The loss of primary livelihoods forced men into insecure wage labor, leading to diminished confidence in their ability to support their families, and contributing to increased

alcohol consumption and domestic violence. Social norms further restricted women from pursuing alternative livelihood options, exacerbating their financial dependence on men. Moreover, women were frequently excluded from consultation processes during the planning and implementation phases of resettlement, compensation, and livelihood programs, leaving many unaware of the compensation amounts received and vulnerable to misallocation of funds by their husbands (Hill et al., 2017).

The findings from our interviews underscore the importance of transparency and the involvement of all stakeholders, including marginalized groups, in the decision-making process to ensure that all voices are adequately reflected in policy-making (Anonymous participants 2, personal communication, March 22, 2024; Anonymous participants 8, personal communication, March 29, 2024). This call for inclusive and transparent processes is crucial in addressing the overlooked gender-specific impacts and ensuring that the needs and rights of women are recognized and integrated into project planning and implementation.

Recognized as a local NGO, the Centre for Social Research and Development (CSRD) has spearheaded efforts to influence government policy (Lebel et al., 2019; Ty, 2015). Providing legal aid, workshops, and training sessions, they raised awareness of gender issues and hydropower (Ty, 2015). A participant from a CSO noted that the sessions helped her develop a more balanced understanding of the hydropower sector's challenges in addressing gender concerns, which will inform her future research and advocacy work. Additionally, these events provided a platform for women to share their personal experiences, fostering a better understanding of their rights and encouraging them to voice their opinion within their families and communities. For instance, Thanh (a woman from the A Sap resettlement village near the A Luoi dam) reported that the workshops inspired her to confront her husband about his violence and their financial difficulties. She has also become actively involved in her community's efforts to eliminate violence against women (Hill et al., 2017).

IOs and NGOs have played a crucial role in addressing the challenges faced by women in Vietnam. Working within the complex political environment, these organizations effectively advocated for equitable policies and practices. They engaged in dialogue with women in local communities to promote a holistic approach in mitigating conflicts arising due to hydropower projects. CSOs, like the CSRD in Vietnam and similar organizations in Cambodia and Thailand have implemented Gender Impact Assessments (GIA) and conducted awareness-raising campaigns (Lebel et al., 2019; Hill et al., 2017).

Thailand

According to four interviewees (Anonymous participants 16-4-3-10, personal communication) Thailand is the most open country in the region, despite one of them mentioning that military presence is still an important limit (Anonymous participant 16, personal communication, April 5, 2024). It has a "vibrant civil society" (Freedom House, 2024) and a stronger network of international NGOs to oppose dam construction. It is also the country where Cambodian and Laotian activists are trained given the presence of stronger international networks and the need to learn from the more experienced and successful neighbors to work together (Anonymous participants 10, personal communication, April 1, 2024).

New major hydropower projects are unlikely to be successful and the two planned dams on the mainstream Mekong shared by Laos and Thailand, Pak Chom and Ban Khoum, were suspended due to the Thai people's opposition (International Rivers, 2017). The possibility of creating new large-scale hydropower projects was ruled out in assessments of the potential developments from a decade ago due to environmental and social problems (Aroonrat & Wongwises, 2015). This is only partially due to the greater political freedom enjoyed by Thai people *vis a vis* those of other LMR countries. Thailand continues to score an unsatisfactory 36 out of 100 in the Freedom House report (Freedom House, 2024), and a military coup in 2014 seriously undermined political rights and fundamental freedoms. In the 2019 elections, an MP of the Move Forward Party (MFP), an opposition, pro-democracy party, with a critical stance toward Thailand dam development and the quality of the EIA was elected (Yong, 2023). In 2023, the MFP gained the majority of seats in the lower house with a progressive agenda of monarchy reform and environmental policy, but the party has been excluded by design from the possibility of forming a government, which is now constituted of a coalition including the historical pro-democracy opposition party, the Pheu Thai, and several conservative pro-military parties supporting the existing hydropower development strategy (Freedom House, 2024; Kurlantzick, 2023).

This freedom to contest dams is the result of two factors. Thailand experienced incredible economic development becoming an upper middle-income country, and the second-largest economy among Association of Southeast Asian Nations (ASEAN) countries, after Indonesia (World Bank Group, 2016). Hence it has a wider array of strategies that it can follow to match its growing energy demand. Second, it is the country in the LMR with the most operational dams, the majority of which are small, operational since the '80s, and used for irrigation due to the large agricultural output of the Korat Plateau and the low elevation and slope which limit the capacity for energy production (Ang et al., 2024).

1. Internal contestation – Pak Mun

Thai CSOs started contesting dam construction in the 1990s. For example, opposition to the construction of the Pak Mun dam, 5.5 km away from mainstream Mekong, spurred as soon as the project was approved by the government in 1989, led mainly by middle-aged women who, while not successful in blocking dam construction altogether, forced the developers to redesign the dam into a "run-of-the-river project" without a reservoir, avoiding the relocations of villages in the original reservoir area (Green & Baird, 2020). Since 1991, the protests have focused on the negative impacts on fish migration leading to the creation of a fish passage. In 1994, when the dam was completed, 2000 villagers rallied at the Ubon Ratchathani Provincial Hall. After 157 days a consensus on the compensation scheme for the loss of fisheries and livelihoods was reached (Green & Baird, 2020). Successively the contestation movement grew and marches spread throughout the entire country, organized and supported by a national grassroots movement, the Assembly of the Poor (Green & Baird, 2020; International Rivers, 2014). At the beginning of the new millennium, a group of experts from the WB and the International Union for Conservation of nature (IUCN) conducted a study for the World Commission on Dams (WCD), concluding that the fish passage was not working properly. Therefore, the new government agreed to open the gates for one year to allow further research by the Ubon Ratchathani University (Green & Baird, 2020). The dam started to produce electricity in 2002 due to pressure from Thai National Electricity Company

(EGAT) and an improper consideration of the indirect impacts on fisheries. To reduce the impacts on fisheries the gates should remain open at least four months per year, but this often happens too late (in August instead of May) despite the requests of local populations (Anonymous participants 10, personal communication, April 1, 2024). This example of dam contestation in Thailand shows how, despite the only limited success in preventing environmental damage from happening, civil society mobilization and mass protests can be strong enough to gain international attention and affect the impact assessment process, even for a project on a tributary.

Currently, the two main strategies adopted to mobilize against hydropower in Thailand are centered around gaining access at an early stage in the EIA process. First, Thai CSOs present independent research for EIA and sharing the details of the Power Purchase Agreement (PPA), which are not public, on social media, to use information as power for the community to counterbalance the leverage of the elite's interest in the process and to support meaningful participation of the local community in the consultations (Teets et al., 2024). While this first strategy uses the EIA process to gain access to policymaking, the second one represents more of an attempt to create a more ethical process independently from official procedures, by developing "citizen scientists" groups organized by CSOs to integrate the local knowledge in consultations and to "force public disclosure of PPAs" (Teets et al., 2024). This type of networks originated in Thailand and is expanding to the other countries.

Two organizations particularly active in this kind of activity are the Chiang Kong Conservation Group and the Mekong School. With these actions and a strong media presence Thai CSOs have been able to dismantle at least partially the narrative of clean energy used by LMR governments to justify their hydropower development strategies and they are becoming consistently successful in forcing the authorities to negotiate the environmental impacts of new projects and to push for better alternatives. In the last decade, the role of NGOs changed from opposing the government to mediating between the government and the people, making community-based approaches more effective and the situation "is getting better" (Anonymous Participants 10, personal communication, April 1, 2024). In contrast to the Cambodian situation, where, as discussed, certain NGOs are also not directly opposing the government, this case guarantees the representation of locals, thereby fostering inclusivity.

2. Pivot to Laos – Xayabury

Recognizing the challenges to domestic dam development and following the reduction in Western investments in the region after the Asian financial crisis, Thai banks, authorities, and companies became the new dam developers, especially in Laos. Initially, the WB and the ADB were directly involved and developed provisions to guarantee adequate participation and compensation for the local communities, but they have not been able to ensure the enforcement of these measures. After realizing the environmental and social impacts of the first dams (NT2, Nam Ngum 2) these multilateral banks stopped to support dam construction (Middleton, 2009). Thai entities are involved in 60% of the existing power generation in Laos (Weatherby et al., 2021).

The case of the Xayabury dam shows the fundamental flaws of the transboundary governance system. The construction was led by a consortium of Thai companies, EGAT purchases 95% of electricity, and the USD

2.6 billion loans came from 6 Thai banks (Fair Finance Thailand, 2019). As a mainstream dam, it needed to follow the Prior Consultation Process of the MRC, but despite the serious concerns presented and the absence of agreement among LMR governments, the developers pushed forward, and the dam started operation in 2019. The EIA considered only the impacts on the areas flooded to create the reservoir and up to ten kilometres downstream and was not made publicly available for consultations. After strong pressure from Vietnam and Cambodia, the dam has been redesigned, but the benefits are questionable apart from the USD 400 million in extra costs. Lack of transparency and a clear violation of the MRC recommendations, such as the prohibition to use mainstream dams to experiment with new technologies, have been the fil rouge of Xayabury.

Thirty-seven Thai villagers brought the Thai government to court in 2012, claiming that the PPA through which EGAT was buying 95% of the electricity produced by Xayabury was illegal according to the Thai constitution and the Mekong River Agreement (1995) for the absence of consultation and the lack of approval of the transboundary impact assessment before signing the PPA (Fair Finance Thailand, 2019). The case was dismissed by lower courts, but it was admitted in front of the Supreme Administrative Court in 2014, concluding with the loss of activists after a decade of legal battles (Sohsai & Lee, 2022).

3. Stuck between continuity and change – Luang Prabang and Sirindhorn

EGAT signed several long-term PPAs and now Thailand has an electricity surplus of 40% compared to the global average of 15% (Yong, 2023). Therefore, the new PPAs are strongly opposed by CSOs because there is no need for these additional purchases that benefit only the investors (Anonymous participants 10, personal communication, April 1, 2024). On April 7, 2020, the *Thai Mekong People's Network from Eight Provinces* issued a statement to object to the PPA for the Luang Prabang dam asking the government to stop supporting dam development and the reform of the PNCPA (Thai Mekong People's Network from Eight Provinces, 2020). Their request was clear: the PNCPA is not the "collective decision-making process for shared natural resources" that can guarantee the respect of the basic principles of justice recognized by international law, therefore the Luang Prabang dam shall be the last project following this procedure until it will be reformed.

The future of these new PPAs is uncertain, but an alternative pathway is opening for the Thai electricity sector. On Sirindhorn Dam, Floating Photovoltaic platforms (FPV) able to generate 45MW have been installed, one of the biggest hydro-solar power projects in the world (Reuters & World Economic Forum, 2021). To meet the 25% emission reduction target of the National Determined Contributions (NDC) EGAT aims to reach a total installed capacity of 2.7 GW (International Energy Agency, 2023). This technological development opens a new scenario for activists. They can block new dam construction, but they can support the installation of FPV in existing ones both in Thailand and in Laos, which has several benefits:

- lower cost and limit impacts;
- support the aim of Thailand to become a regional electricity trading hub selling power produced in Laos to Malaysia and Singapore;

- allow Thailand to respect its Memorandum of Understanding (MoU) and PPAs with Laos which have take-or-pay clauses will advancing the interests of its people.

Analysis

The dynamics of dam opposition movements are influenced by several elements, such as how open political systems are to civil society involvement, the existence and vigor of global networks, availability of international legal options, and the role of global donors and financial institutions (Anonymous participants 18, personal communication, April 11, 2024). These factors depend on countries' level of economic development, political systems and governance as well as the features of different dam projects. Choices in contestation strategies are not only conditional on the prevailing political and economic structures, but also on the nature of claims, identity categories, and strategic goals. Given diverse circumstances and a variety of actors, contestation takes on various forms, from informal grassroots activism and private resistance to institutionalized contestation through formal structures such as legal avenues. This spectrum of channels from informal to institutionalized constitutes one dimension of our typology of contestation, visible in *Figure 1*.

On another dimension, technical argumentation often depoliticizes dam contestation, reinforcing the state's narrative of economic development potentially yielding improved compensation packages and certain incremental changes, however, oftentimes not fully representing the demands of local communities (Barter & Sar, 2022). Conversely, more confrontational approaches challenge hydropower projects by emphasising the spiritual and cultural significance of lands and waters to indigenous populations, opposing the economic reductionism narrative. Emotive and non-materialistic arguments can potentially lead to the abandonment of dam projects but may also be silenced by state reprisal. This resonates with the analysis by Sneddon and Fox (2019) highlighting epistemological boundaries between what powerful actors perceive as legitimate knowledge, namely technology and engineering knowledge, and local knowledge, which tends to be marginalized, and call for a diversification of knowledge bases. Thus, the second axis of our typology of contestation refers to the contestation's different levels of narrative disruption, from reformist to confrontational, also represented in *Figure 1*.

Informal contestation channels often go against the state's narrative of economic development and put forth arguments based on cultural, spiritual and non-materialistic, such as for example hold-out communities at the LS2 refusing to leave their ancestral lands. More formal contestation avenues such as choosing legal channels hinge on the framework of economic development and technicalities. However, in certain cases informal channels of contestation may reproduce economic narratives, while formal channels can occasionally be used to address issues beyond the state's discursive framework. Exemplary for the former is the Srepok 4A case where informal public protests were held to object against its infrastructural deficiencies, a technical matter, or also the case of the Siringham Dam, which opened opportunities for activists to press for the technical solution of Solar PVs instead of dam construction. The latter is seen when the spiritual and cultural significance

of a site is brought up in legal discussions, which may be possible if as discussed a site is protected by UNESCO such as Luang Prabang. Also regarding the Pak Mun Dam, local and indigenous perspectives, confrontational to state narratives, were included in the EIA process in order to access policy-making. *Figure 1* depicts the contestation forms employed in the case studies discussed above in the two.dimensional typology of contestation that we introduced.

Our case studies have shown that some types of contestation modes are more prone to certain limiting and delimiting factors of an ethical process than others, as visualized in *Figure 2*. Informal resistance avenues may lack recognition and attention, undermining inclusivity and solidarity. This is particularly true for strategies emphasizing spiritual connections to land and water, as well as those highlighting emotional and mental health impacts, which go beyond the state's dominant economic narrative. Both the state, which frequently disregards the spiritual and cultural significance of natural resources, and the international community may overlook forms of resistance conducted in private settings, such as ongoing spiritual practices and the perseverance of hold-out communities. Informal environmentalists engaging in more open confrontation such as road blocks may face arrests and government reprisals as in the case of the Areng dam. Additionally, foreign donors may pressure civil society into adopting more professional and technocratic approaches, limiting grassroots efforts. If technical issues are raised through informal contestation channels, civil society groups and locals may lack the knowledge and understanding related to evidence collection and scientific issues, as has been the case for indigenous Camodians affected by the Yali Falls dam. Also in these cases, protesters may face government repression.

In terms of institutionalized contestation channels, many of our interviews, supported by the literature, noted that while avenues for greater participation may exist, the mechanisms through which they act remain paltry, reduced to often performative, marginalized displays of civil engagement. Within the state’s narrative of argumentation, corruption, administrative complexities, state negligence and political and economic structures constitute limiting factors. Also, not only the state, but other more powerful states may influence the decision to trim such avenues. Further, setbacks to such resistance emerge from the failure of international and regional organizations to establish and enforce legal obligations. This is propelled, since, as discussed in many interviews, the surge of a breadth of actors accounts for complex and inextricable responsibilities. Moreover, these institutionalized avenues may fail to include gender-inclusive and intersectional perspectives leading to worse outcomes in terms of representation for women’s and other minority groups’ demands. Formal contestation is less frequently used to confront the state’s discourse, since for example, legal channels and other formal mechanisms often do not leave much room for cultural and spiritual arguments. The government may exert pressure on NGOs to restrict such protests, viewing them as threats to state hegemony. However, there are instances where indigenous communities have successfully claimed their spiritual and cultural rights in formal settings.

As has been discussed, pursuing a combination of strategies is most likely to yield successful results as a variety of pressure points can be targeted such as for example in the case of the Areng or the Pak Mun dam. The mobilization of various actors can pool different forms of expertise and may be key to enhancing indigenous communities’ rights and cultivating a more ethical process. Yet, in light of state narratives about development and poverty alleviation, international support is waning in much of the region. The number of

actors has dwindled and of those that remain support has fallen in recent years. Without this support, the avenues for contesting within the current power structure, regardless of country, become increasingly difficult. To have a positive impact and contribute to stability and growth in the region, International Non-Governmental Organizations (INGOs) and IOs should support communities in their diverse forms and practices.

Typology of Contestation - Foundations of a Framework

[1] Challenging dams and the state's narratives more prodoundly by stressing the non-materialistic,cultural and spiritual value of nature
[2] Within the state's narrative of economic development - focused on technical matters and data; de-politization of conestation
[3] Grassroots mobilization; Media and social media campaigns; Informal networks and alliances
[4] Formal advocacy and lobbying; legal challenges; public hearings and consultations; regulatory reviews

Figure 1: Typology of contestation

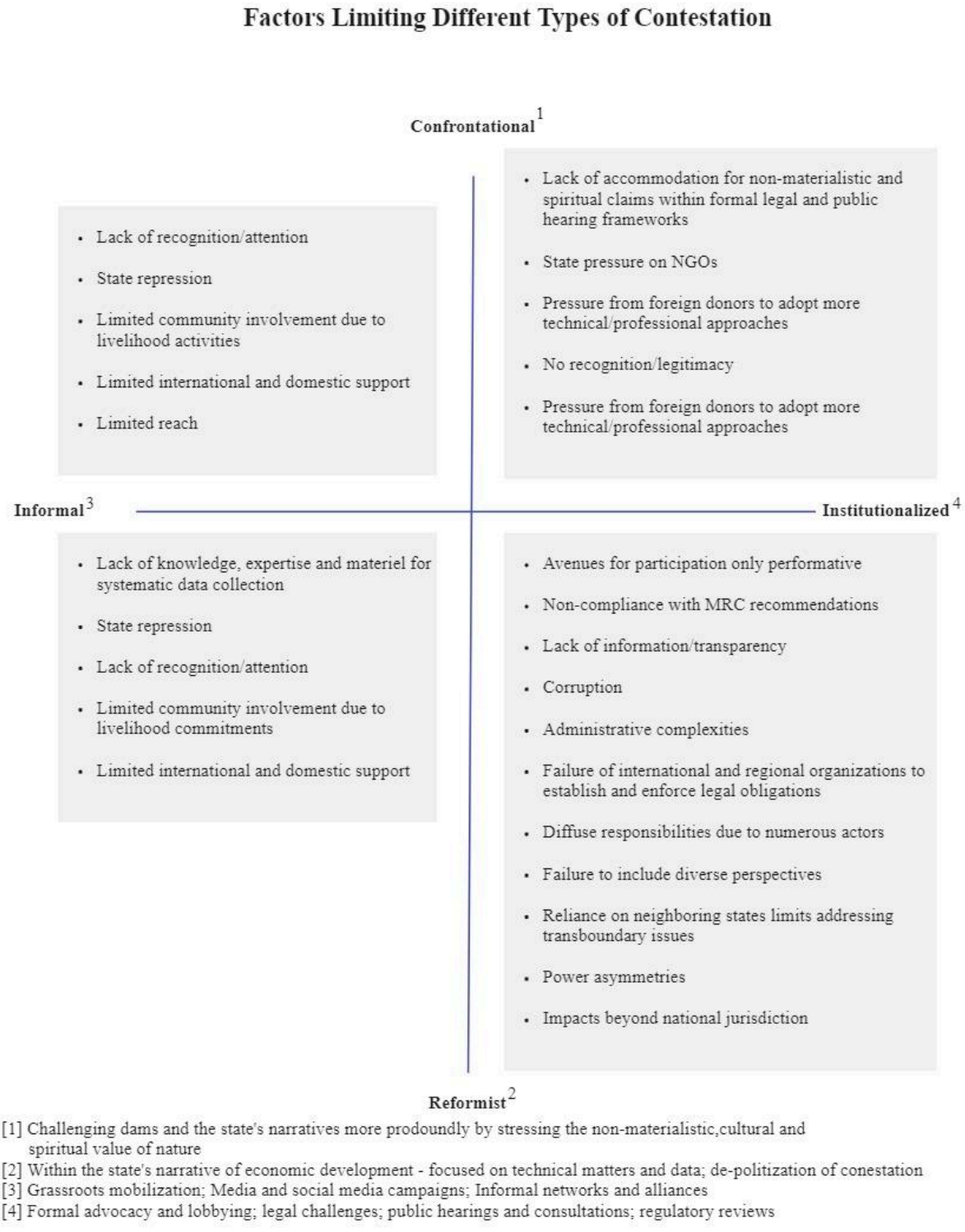

Figure 2: Limiting factors according to type of contestation

Recommendations

The analysis of hydropower projects in the LMR reveals critical factors limiting the effectiveness of contestation practices aimed at producing ethical processes. Drawing from these insights, the following recommendations are proposed to address the identified gaps and integrate ethical considerations into hydroelectric development:

Regional Collaboration and International Influence

1. **Foster Transboundary Cooperation:** Foster robust transboundary collaboration among all riparian countries, including China, to manage water resources effectively. Promote information sharing, joint decision-making, and equitable benefit-sharing arrangements to address shared challenges.
2. **Engagement with International Donors and Financial Institutions:** Advocate for responsible investment practices, adherence to Environmental, Social, and Governance (ESG) criteria, and ethical standards and best practices in project financing and implementation. Prioritize projects with strong environmental and social safeguards and ensure the integration of human rights obligations in global supply chains.
3. **Address Geopolitical Sensitivities**: Recognize geopolitical sensitivities and employ culturally sensitive approaches to advocacy and governance. Work within existing political frameworks to improve transparency and accountability.
4. **Compliance with MRC Recommendations:** Adhere to Mekong River Commission (MRC) recommendations for sustainable and responsible dam development. This includes comprehensive transboundary impact assessments and adherence to environmental and social safeguards.

Governance and Legal Framework

1. **Uphold Democratic Governance:** Uphold democratic principles, freedom of expression, and association to enable civil society engagement. Ensure transparency, accountability, and public participation in dam development decision-making.
2. **Strengthen Legal Frameworks:** Enhance legal frameworks and policies to enforce consultation requirements, project developer accountability, and community rights protection. This involves updating laws to align with international standards and MRC guidelines, while also reviewing regulatory frameworks like EIA procedures, resettlement policies, and benefit-sharing mechanisms to integrate comprehensive assessments of social, cultural, and gender impacts into project planning and evaluation.
3. **Promote Rule of Law and Anti-Corruption Measures:** Enforce robust anti-corruption measures and uphold the rule of law to enhance governance and accountability. Reinforcing oversight mechanisms and promote judicial independence.
4. **Address State Repression and Political Risks:** Acknowledge and address the risks faced by activists and civil society organization's due to state repression. Advocate for the protection of activists and the creation of safe spaces for advocacy and dialogue.

Stakeholder Engagement and Community Empowerment

1. **Prioritize Inclusive Stakeholder Engagement:** Prioritize inclusive engagement processes that incorporate voices of all affected parties, including ethnic minority groups, remote communities, and women.
2. **Support Grassroots Mobilization and Advocacy:** Support grassroots movements and community-based organizations in advocating for their rights and interests.
3. Support for Diverse Contestation Strategies: Recognize and support a variety of contestation strategies, from informal grassroots activism to formal legal avenues. Ensure that support for local NGOs and grassroots movements respects the diversity of approaches and addresses both technical and non-materialistic claims, such as spiritual and cultural significance.
4. **Promote Community Empowerment:** Ensure meaningful participation of local communities in hydropower project decision-making. Support community-led initiatives, capacity building, and legal advocacy to safeguard their rights and interests.
5. **Strengthen Civil Society Empowerment and Capacity-Building:** Enhance capacity of civil society organizations (CSOs) and grassroots movements to engage in effective advocacy and oversight. Provide training and resources to enhance their ability to collect and analyze data, conduct research, and present evidence-based recommendations.
6. **Raise Awareness:** Utilize art exhibitions, storytelling, and other creative methods to raise awareness and advocate for human rights, environmental protection and ethical principles. Encourage communities to share their stories and experiences, fostering a deeper connection and understanding among stakeholders.
7. **Foster Youth and Intersectional Engagement:** Engage youth and promote intersectionality in advocacy efforts.
8. **Facilitate Cross-Border Collaboration:** Strengthen advocacy efforts through cross-border knowledge sharing. Address shared challenges collectively.

Environmental and Social Impact

1. **Prioritize Ecosystem Protection**: Prioritize protection of critical ecosystems and biodiversity through stringent environmental regulations and conservation initiatives. Design and implement dam projects in a manner that minimizes negative impacts on natural habitats and ecological connectivity.
2. **Implement Localized Mitigation Measures:** Tailor mitigation efforts to address specific challenges faced by local communities, such as alternative livelihood programs for fishing-dependent populations.
3. **Adopt Integrated Planning and Comprehensive Assessments:** Adopt integrated planning for water resource management and energy, considering hydropower's cumulative impacts. Conduct comprehensive Environmental and Social Impact Assessments (ESIA), including evaluations of cultural heritage, gender impacts, and community livelihoods. Integrate Gender Impact Assessments (GIA) to ensure gender-responsive planning and implementation.
4. **Diversification of Energy Sources:** Diversify the energy mix by investing in renewable energy sources, such as solar and wind power, to reduce reliance on hydropower.

Project Implementation and Management

1. **Enhance Transparency, Consultation, and Access to Information:** Enhance transparency and accessibility of project documents and data, including translations into local languages and simplified versions for public understanding, to promote transparency in dam development processes. Ensure meaningful consultation with affected communities and stakeholders throughout the project lifecycle.
2. **Establish Independent Accountability Mechanisms**: Monitor social and environmental performance of hydropower projects. Provide avenues for grievances to be addressed transparently.
3. **Provide Long-Term Compensation and Livelihood Support:** Develop comprehensive compensation packages and long-term livelihood support for affected communities. Reform resettlement policies to ensure displaced populations are left in equal or better conditions post-resettlement.
4. **Implement Continuous Improvement:** Use feedback from stakeholders to enhance project outcomes. Implement adaptive management strategies for continuous monitoring and learning.

Conclusion

Our analysis sets forth the foundation of a two-dimensional framework for a typology of contestation. One axis spans from informal to formal avenues of contestation, while the other ranges from contestation within the narratives of economic development and technocracy, which are influenced and reproduced by powerful actors, to contestation challenging such narratives underpinned by minorities' and affected communities' understanding of nature and impacts. Future research may extend this framework to include additional dimensions and finer delineations. Further, these dimensions may be linked more robustly to specific contexts and actors and investigated in respect to their success and failure. Moreover, four different countries imply four completely different stories and contexts complicating the drawing of generalizable conclusions while maintaining specificity and relevance. Thus, future analyses should adopt more country-specific approaches to delve deeper into context-dependent peculiarities and provide better-tailored recommendations. Regarding our methodology, we faced limitations in reaching interview partners in Laos and directly affected individuals more broadly. Consequently, we had to rely more extensively on secondary sources, such as interviews with researchers and existing literature, than initially planned. An intersectional approach might allow future research to investigate concerns over hydropower in contexts that are politically restricted.

As a final point of conclusion, we would like to reiterate the importance of the region's complexity and its implications for organizations, external to the Lower Mekong Basin, that aim to assist and improve local and indigenous rights, environmental protections, and more ethical development processes. Contestation takes varied forms and is inextricably tied to the social, political, and economic milieu in which it resides. For this reason, critical attention must be paid not simply to the needs of affected populations but how they articulate these needs in light of their circumstances. Related to this, organizations with an interest in the region should take their lead not from governments or broad indicators of economic improvement but from the populations themselves. It is thus critical that support continues for local NGOs and CSOs, who continue to carry out work of vital importance and who have intimate knowledge of the communities they serve. In short, when it comes to narratives and sites of knowledge production, we strongly urge the international community to broaden its sense of what qualifies as legitimate and relevant sources of guidance when making decisions related to support.

As we have discussed, developing more ethical hydropower is a difficult endeavor, one in which the technical and economic narratives dominate. However, if the primary goal is to provide for the well-being of people across the region, regardless of place or status, then the normative dimension of dams and their impacts on decision-making must be recentered. To not only establish but safeguard and ensure the procedures and mechanisms for governing development activity should be the focus, and it should start with those who have thus far been denied.

References

Introduction

Seleznev DG, Dinh CN, Hai TB, Karpova EP, Kim Chi DT, Kosolapov DB, Kosolapova NG, Malin MI, Malina IP, Man LQ, Prokin AA, Prusova IYu, Sharov AN, Statkevich SV, Tsvetkov AI, Udodenko YG, Zakonnov VV, Zhdanova SM, Krylov AV, Tiunov AV (2023) Biodiversity of aquatic organisms in the Mekong Delta, Vietnam. Biodiversity Data Journal 11: e105314. https://doi.org/10.3897/BDJ.11.e105314

World Bank, 2022, https://data.worldbank.org/indicator/SP.POP.TOTL

Literature Review

Background and Context

Ahlers, R., Budds, J., Joshi, D., Merme, V., & Zwarteveen, M. (2015). Framing hydropower as green energy: Assessing drivers, risks and tensions in the Eastern Himalayas. Earth System Dynamics, 6(1), 195–204. https://doi.org/10.5194/esd-6-195-2015

Chu, T.-W. (2022). Review of the research on hydropolitics in Cambodia. WIREs Water, 9(6), e1610. https://doi.org/10.1002/wat2.1610

Dore, J., & Lazarus, K. (2009). De-marginalizing the Mekong River commission. In F. Molle, T. Foran, & M. Kakonen (Eds.), Contested waterscapes in the Mekong region: Hydropower, livelihoods and governance (pp. 358–381). Earthscan.

Dore, J., & Lebel, L. (2010). Deliberation and scale in Mekong region water governance. Environmental Management, 46(1), 60–80. https://doi.org/10.1007/s00267-010-9527-x

Grumbine, R. E., Dore, J., & Xu, J. (2012). Mekong hydropower: Drivers of change and governance challenges. Frontiers in Ecology and the Environment, 10(2), 91–98. https://doi.org/10.1890/110146

Intralawan, A., Wood, D., Frankel, R., Costanza, R., & Kubiszewski, I. (2018). Tradeoff analysis between electricity generation and ecosystem services in the Lower Mekong Basin. Ecosystem Services, 30, 27–35. https://doi.org/10.1016/j.ecoser.2018.01.007

Lee, G., & Scurrah, N. (2009). Power and responsibility: The Mekong River Commission and Lower Mekong mainstream dams. http://sydney.edu.au/mekong/documents/power_and_responsibility_fullreport_2009.p df

Mekong River Commission. (2020). Basin Development Strategy for the Mekong River Basin, 2021-2030. https://www.mrcmekong.org/assets/RSF9/Day-2/Draft-BDS-2021-2030-and-SP-2021
-2025-5-Mar-2020-for-distribution_clean.pdf

Mekong River Commission. (n.d.). Hydropower. Retrieved December 17, 2023, from https://www.mrcmekong.org/our-work/topics/hydropower/

Sor, R., Ngor, P. B., Soum, S., Chandra, S., Hogan, Z. S., & Null, S. E. (2021). Water Quality Degradation in the Lower Mekong Basin. Water, 13(11), 1555. https://doi.org/10.3390/w13111555

Soukhaphon, A., Baird, I. G., & Hogan, Z. S. (2021). The Impacts of Hydropower Dams in the Mekong River Basin: A Review. Water, 13(3), Article 3. https://doi.org/10.3390/w13030265

Suhardiman, D., Giordano, M., & Molle, F. (2012). Scalar disconnect: The logic of transboundary water governance in the Mekong. Society & Natural Resources, 25(6), 572–586. https://doi.org/10.1080/08941920.2011.604398

Tran, T.A. and Suhardiman, D. (2020), Laos' hydropower development and cross-border power trade in the Lower Mekong Basin: A discourse analysis. Asia Pac. Viewp., 61: 219-235. https://doi.org/10.1111/apv.12269

Yong, M. L. (2023). Hybrid governance, environmental justice, and hydropower development in the Mekong transboundary commons. WIREs Water, 10(5), e1665. https://doi.org/10.1002/wat2.1665

Young, S., & Ear, S. (2021). Transnational political economic structures: Explaining transnational environmental movements against dams in the lower Mekong region. Third World Quarterly, 42(12), 2993–3011

Environmental and Socioeconomic Impacts

Blake, D. J. H., & Barney, K. (2018). Structural Injustice, Slow Violence? The Political Ecology of a "Best Practice" Hydropower Dam in Lao PDR. Journal of Contemporary Asia, 48(5), 808–834. https://doi.org/10.1080/00472336.2018.1482560

Brewer, J., Langston, J. D., Ferretti-Gallon, K., Innes, J. L., Xin, S., Zhai, H., & Wang, G. (2020). Alleviating forest degradation in the Lancang-Mekong Region requires closing management—measurement gaps. Journal of Forestry Research, 31(6), 2033–2051. https://doi.org/10.1007/s11676-020-01111-z

Chea, R., Grenouillet, G., & Lek, S. (2016). Evidence of Water Quality Degradation in Lower Mekong Basin Revealed by Self-Organizing Map. PloS One, 11(1), e0145527–e0145527. https://doi.org/10.1371/journal.pone.0145527

Fox, C. A., & Sneddon, C.S. (2019). Political Borders, Epistemological Boundaries, and Contested Knowledges: Constructing Dams and Narratives in the Mekong River Basin. Water, 11(3), Article 3.

Grumbine, R. E., Dore, J., & Xu, J. (2012). Mekong hydropower: Drivers of change and governance challenges. Frontiers in Ecology and the Environment, 10(2), 91–98. https://doi.org/10.1890/110146

Hill, C., Thuy, P. T. N., Storey, J., & Vongphosy, S. (2017). Lessons learnt from gender impact assessments of hydropower projects in Laos and Vietnam. Gender & Development, 25(3), 455–470. https://doi.org/10.1080/13552074.2017.1379777

Intralawan, A., Wood, D., Frankel, R., Costanza, R., & Kubiszewski, I. (2018). Tradeoff analysis between electricity generation and ecosystem services in the Lower Mekong Basin. Ecosystem Services, 30, 27–35. https://doi.org/10.1016/j.ecoser.2018.01.007

Lebel, P., Lebel, L., Singphonphrai, D., Duangsuwan, C., & Zhou, Y. (2019). Making space for women: Civil society organizations, gender and hydropower development in the Mekong region. International Journal of Water Resources Development, 35(2), 305–325. https://doi.org/10.1080/07900627.2018.1425133

Li, H., & Song, W. (2020). Characteristics of Climate Change in the Lancang-Mekong Sub-Region. Climate (Basel), 8(10), 115-. https://doi.org/10.3390/cli8100115

Mekong River Commission, Biodiversities and Fisheries in the Mekong River Basin, Mekong Development Series No. 2 (June 2003), http://www.mrcmekong.org/assets/Publications/report-managementdevelop/Mek-Dev-No2-Mek-River-Biodiversityfisheries-in.pdf

Mekong River Commission. (n.d.). Hydropower. Retrieved December 17, 2023, from https://www.mrcmekong.org/our-work/topics/hydropower/

Seleznev, D., Dinh, C. N., Hai, T. B., Karpova, E., Kim Chi, D. T., Kosolapov, D., Kosolapova, N., Malin, M., Malina, I., Man, L. Q., Prokin, A., Prusova, I., Sharov, A., Statkevich, S., Tsvetkov, A., Udodenko, Y., Zakonnov, V., Zhdanova, S., Krylov, A., & Tiunov, A. V. (2023). Biodiversity of aquatic organisms in the Mekong Delta, Vietnam. Biodiversity Data Journal, 11, 171–19. https://doi.org/10.3897/BDJ.11.e105314

Sneddon, C. & Fox, C. (2006). Rethinking transboundary waters: A critical hydropolitics of the Mekong basin, Political Geography, Volume 25, Issue 2, 2006, Pages 181-202, ISSN 0962-6298, https://doi.org/10.1016/j.polgeo.2005.11.002.

Sor, R., Ngor, P. B., Soum, S., Chandra, S., Hogan, Z. S., & Null, S. E. (2021). Water Quality Degradation in the Lower Mekong Basin. Water, 13(11), 1555. https://doi.org/10.3390/w13111555

Soukhaphon, A., Baird, I. G., & Hogan, Z. S. (2021). The Impacts of Hydropower Dams in the Mekong River Basin: A Review. Water, 13(3), Article 3. https://doi.org/10.3390/w13030265

Soukhaphon, A., Baird, I. G., & Hogan, Z. S. (2021). The Impacts of Hydropower Dams in the Mekong River Basin: A Review. Water, 13(3), Article 3. https://doi.org/10.3390/w13030265

Suhardiman, D., Wichelns, D., Lebel, L., & Sellamuttu, S. S. (2014). Benefit sharing in Mekong Region hydropower: Whose benefits count? Water Resources and Rural Development, 4, 3–11. https://doi.org/10.1016/j.wrr.2014.10.008

Trisurat, Y., Aekakkararungroj, A., Ma, H.-o. and Johnston, J.M. (2018), Basin-wide impacts of climate change on ecosystem services in the Lower Mekong Basin. Ecol. Res., 33: 73-86. https://doi.org/10.1007/s11284-017-1510-z

Williams, J. M. (2020). The hydropower myth. Environmental Science and Pollution Research, 27(12), 12882–12888. https://doi.org/10.1007/s11356-019-04657-6

Yoshida, Y., Lee, H. S., Trung, B. H., Tran, H.-D., Lall, M. K., Kakar, K., & Xuan, T. D. (2020). Impacts of Mainstream Hydropower Dams on Fisheries and Agriculture in Lower Mekong Basin. Sustainability, 12(6), Article 6. https://doi.org/10.3390/su12062408

Young, S., & Ear, S. (2021). Transnational political economic structures: Explaining transnational environmental movements against dams in the lower Mekong region. Third World Quarterly, 42(12), 2993–3011.

Ethical processes

Brewer, J., Langston, J. D., Ferretti-Gallon, K., Innes, J. L., Xin, S., Zhai, H., & Wang, G. (2020). Alleviating forest degradation in the Lancang-Mekong Region requires closing management—measurement gaps. Journal of Forestry Research, 31(6), 2033–2051. https://doi.org/10.1007/s11676-020-01111-z

Girardin, B. (2019). Water Governance: An Ethical And Multi-Stakeholders' Process. In B. Girardin & E. Fiechter-Widemann (Eds.), Blue Ethics: Ethical Perspectives on Sustainable, Fair Water Resources Use and Management (pp. 165-179). Globethics.net.

Groenfeldt, D. (2019). Water ethics: A values approach to solving the water crisis (Second edition). Routledge is an imprint of the Taylor & Francis Group, an Informa Business.

Niemann, H. and Schillinger, H. (2017) 'Contestation "all the way down"? The grammar of contestation in norm research', Review of International Studies, 43(1), pp. 29–49.

Wiener, A. (2017). *A Theory of Contestation*—A Concise Summary of Its Argument and Concepts. *Polity*, *49*(1), 109–125. https://doi.org/10.1086/690100

Case Studies

Laos

Ang, W. J., Park, E., Pokhrel, Y., Tran, D. D., & Loc, H. H. (2024). Dams in the Mekong: a comprehensive database, spatiotemporal distribution, and hydropower potentials. *Earth System Science Data*, *16*(3), 1209–1228. https://doi.org/10.5194/essd-16-1209-2024

Baird, I. G. (2024). The Don Sahong Dam in Laos: Political Ecology, Infrastructure, and the Changing Spatialities of Impacts on Fish and People. *Pacific Affairs*, *97*(2), 365–390. https://doi.org/10.5509/2024972-art1

Fawthrop, T. (2021, December 10). In Laos, a 'very dangerous dam' threatens an ancient world heritage site. Mongabay. https://news.mongabay.com/2021/12/in-laos-a-very-dangerous-dam-threatens-an-ancient-world-heritage-site/

International Rivers. (2015). Dam Safety and Hydropower Fact Sheet [PDF]. Retrieved from https://archive.internationalrivers.org/sites/default/files/attached-files/dsh_factsheet_2015_-_english.pdf

Luang Prabang targets 1.7 million tourists amid heritage preservation concerns. (2024, January 17). LaoTian Times. Retrieved from https://laotiantimes.com/2024/01/17/luang-prabang-targets-1-7-million-tourists-amid-heritage-preservation-concerns/

Molle, F. (2009). *Contested waterscapes in the Mekong Region : hydropower, livelihoods and governance*. Earthscan.

Robichaud, W., & Shoemaker, B. (2018). Dead in the water: Global lessons from the World Bank's model hydropower project in Laos. The University of Wisconsin Press.

Singh, S. (2009). World Bank-directed Development? Negotiating Participation in the Nam Theun 2 Hydropower Project in Laos. *Development and Change*, *40*(3), 487–507. https://doi.org/10.1111/j.1467-7660.2009.01562.x

Suhardiman, D., & Rigg, J. (2021). Aspirations undone: hydropower and the (re)shaping of livelihood pathways in Northern Laos. Agriculture and Human Values, 38(4), 963–973. https://doi.org/10.1007/s10460-021-10203-3

The day dams silenced Luang Prabang. (2024, February 2). Bangkok Post. Retrieved from https://www.bangkokpost.com/life/social-and-lifestyle/2744464/the-day-dams-silenced-luang-prabang

Whitington, J. (2018). *Anthropogenic rivers : the production of uncertainty in Lao hydropower*. Cornell University Press.

World heritage status and dam concerns in Laos. (2024, February 2). Radio Free Asia. Retrieved from https://www.rfa.org/english/news/laos/world-hertiage-status-02022024170302.html

Cambodia

Baird, I. G. (2016). Non-government Organizations, Villagers, Political Culture and the Lower Sesan 2 Dam in Northeastern Cambodia. *Critical Asian Studies*, *48*(2), 257–277. https://doi.org/10.1080/14672715.2016.1157958

Baird, I. G., & Mean, M. (2005). Sesan River Fisheries Monitoring in Ratanakiri Province, Northeast Cambodia. *Before and after the Construction of the Yali Falls Dam in the Central Highlands of Vietnam. S*, *3*.

Baird, I. G., Silvano, R. A. M., Parlee, B., Poesch, M., Maclean, B., Napoleon, A., Lepine, M., & Hallwass, G. (2021). The Downstream Impacts of Hydropower Dams and Indigenous and Local Knowledge: Examples from the Peace–Athabasca, Mekong, and Amazon. *Environmental Management*, *67*(4), 682–696. https://doi.org/10.1007/s00267-020-01418-x

Barter, D., & Sar, M. (2023). Hydropower Hegemony: Examining Civil Society Opposition to Dams in Cambodia. *The Journal of Development Studies*, *59*(7), 961–979. https://doi.org/10.1080/00220388.2023.2188110

Chheat, S. (2022). Contesting China-funded projects in Cambodia: The case of Stung Chhay Areng hydropower. *Asian Studies Review*, *46*(1), 19–35.

Chu, T.-W. (2017). Riparians versus the state in Southeast Asia: Human security and hydropower struggles along the Mekong's Sesan tributary. *Asian Survey*, *57*(6), 1086–1109.

Ear, S. (2012). *Aid Dependence in Cambodia: How foreign assistance undermines democracy in Cambodia*. Columbia University Press.

Elten, H. (2018, August 15). Cambodia's Chinese dam conundrum. *East Asia Forum*. https://eastasiaforum.org/2018/08/15/cambodias-chinese-dam-conundrum/

Hughes, C. (2007). Transnational networks, international organizations and political participation in Cambodia: Human rights, labour rights and common rights. *Democratization*, *14*(5), 834–852.

Human Rights Watch. (2021, August 10). *Cambodia: China's 'Belt and Road' Dam is a Rights Disaster*. Human Rights Watch. https://www.hrw.org/news/2021/08/10/cambodia-chinas-belt-and-road-dam-rights-disaster

Library of Congress. (2015, July 15). *Cambodia: Law on NGOs Passed* [Web page]. Library of Congress, Washington, D.C. 20540 USA. https://www.loc.gov/item/global-legal-monitor/2015-07-15/cambodia-law-on-ngos-passed/

Mahanty, S., Chann, S., & Suong, S. (2024). The emotional life of rupture at Cambodia's Lower Sesan 2 hydropower dam. *Environment and Planning E: Nature and Space*, *7*(1), 330–352.

Norman, D. J. (2014). From shouting to counting: Civil society and good governance reform in Cambodia. *The Pacific Review*, *27*(2), 241–264.

Ou, S. (2013). NGOs and the illusion of a Cambodian civil society. In *Southeast Asia and the Civil Society Gaze* (pp. 187–202). Routledge.

Phan, L. (2019). The Sambor Dam: How China's Breach of Customary International Law Will Affect the Future of the Mekong River Basin. *Geo. Envtl. L. Rev.*, *32*, 105.

Scott, L. (2022, August 12). China's destructive development in Cambodia celebrated by state media. *Coda Story*. https://www.codastory.com/newsletters/china-cambodia-environment/

Sovachana, P., & Murg, B. J. (2019). *The Lancang-Mekong Cooperation Mechanism: Confronting New Realities in Cambodia and the Greater Mekong Subregion* (CSCAP REGIONAL SECURITY OUTLOOK + ARF - The next 25 Years 2019, pp. 48–51). Council for Security Cooperation in the Asia Pacific. https://www.jstor.org/stable/resrep22260.16

Thul, P. C. (2020, March 10). *Cambodia halts mainstream Mekong River dam plans for 10 years, official says | Reuters*. Reuters. https://www.reuters.com/article/idUSKBN215186/

World Bank. (2004). *From shouting to counting: A new frontier in social development* (World Development Report).

Wyatt, A. B., & Baird, I. G. (2007). Transboundary impact assessment in the Sesan River Basin: The case of the Yali Falls Dam. *Water Resources Development*, *23*(3), 427–442.

Zaręba, M. (2021). *The role of the Mekong River Commission in regional transboundary water governance: Prospects and challenges*.

Vietnam

3S Rivers Protection Network, 2012. (n.d.). Retrieved June 12, 2024, from http://www.mekongwatch.org/PDF/20121105_3SPN.pdf

DTiNews. (2014). *Hydropower project kills river in the Central Highlands | DTiNews—Dan Tri International, the news gateway of Vietnam*. https://dtinews.dantri.com.vn/en/news/021/33673/hydropower-project-kills-river-in-the-central-highlands.html

Ha-Duong, M., Nguyễn, L. A., Strange, T., & Truong, A. H. (2016). Social acceptability of large infrastructure projects in Vietnam. *Field Actions Science Reports. The Journal of Field Actions*, *Special Issue 14*, Article Special Issue 14. https://journals.openedition.org/factsreports/4081

Hill, C., Thuy, P. T. N., Storey, J., & Vongphosy, S. (2017). Lessons learnt from gender impact assessments of hydropower projects in Laos and Vietnam. *Gender & Development*, *25*(3), 455–470. https://doi.org/10.1080/13552074.2017.1379777

Huy, B. L., Xuan, H. N., Van, N. T., & Le, Hh. (2021). The dangers of the construction of hydroelectric dams upstream of the Mekong River adversely effect on the ecosystems and livelihoods of people in the Mekong Delta, Viet Nam. *Environmental Challenges*, *5*, 100349. https://doi.org/10.1016/j.envc.2021.100349

Lamb, V., & Dao, N. (2017). Perceptions and practices of investment: China's hydropower investments in Vietnam and Myanmar. *Canadian Journal of Development Studies / Revue Canadienne d'études Du Développement*, *38*(3), 395–413. https://doi.org/10.1080/02255189.2017.1298519

Lebel, P., Lebel, L., Singphonphrai, D., Duangsuwan, C., & Zhou, Y. (2019). Making space for women: Civil society organizations, gender and hydropower development in the Mekong region. *International Journal of Water Resources Development*, *35*(2), 305–325. https://doi.org/10.1080/07900627.2018.1425133

Ministry of Construction of Vietnam. (2012). *Japanese bank funds hydropower plant project in Dak Lak*. https://moc.gov.vn/vn/tin-tuc/1273/46500/japanese-bank-funds-hydropower-plant-project-in-dak-lak.aspx

Nguyen, H., Pham, T., & Lobry de Bruyn, L. (2017). Impact of Hydroelectric Dam Development and Resettlement on the Natural and Social Capital of Rural Livelihoods in Bo Hon Village in Central Vietnam. *Sustainability (Basel, Switzerland)*, *9*(8), 1422-. https://doi.org/10.3390/su9081422

Nicol, 2021. (n.d.). Retrieved June 13, 2024, from https://geography.dartmouth.edu/sites/department_geography.prod/files/department_geography/wysiwyg/mekong_research_paper_final.pdf

Smits, M., & Middleton, C. (2014). New arenas of engagement at the water governance-climate finance nexus? An analysis of the boom and bust of hydropower CDM projects in Vietnam. *Water Alternatives*, *7*(3), 561–583.

Socialist Republic of Vietnam. (2004). Decree No. 197/2004/ND-CP on Compensation, support and resettlement when land is recovered by the State. https://faolex.fao.org/docs/pdf/vie50330.pdf

Socialist Republic of Vietnam. (2005). Law on Protection of the Environment. https://haiduong.eregulations.org/media/Law%20on%20Enviroment.pdf.

Socialist Republic of Vietnam. (2009). Decree No. 69/2009/ND-CP additionally providing for land use planning, land prices, land recovery, compensation, support and resettlement. https://faolex.fao.org/docs/pdf/vie94788.pdf

Soukhaphon, A., Baird, I. G., & Hogan, Z. S. (2021). The Impacts of Hydropower Dams in the Mekong River Basin: A Review. *Water*, *13*(3), NA-NA. https://doi.org/10.3390/w13030265

Ty, P. (2015). *Dilemmas of hydropower development in Vietnam: Between dam-induced displacement and sustainable development*.

Wangkiat, P. (2016, November 30). Darkness along the banks of “The river of light.” *Mekong Eye*. https://www.mekongeye.com/2016/11/30/darkness-along-the-banks-of-the-river-of-light/eye-originals/

Thailand

Ang, W. J., Park, E., Pokhrel, Y., Tran, D. D., & Loc, H. H. (2024). Dams in the Mekong: A comprehensive database, spatiotemporal distribution, and hydropower potentials. *Earth System Science Data*, *16*(3), 1209–1228. https://doi.org/10.5194/essd-16-1209-2024

Aroonrat, K., & Wongwises, S. (2015). Current status and potential of hydro energy in Thailand: A review. *Renewable and Sustainable Energy Reviews*, *46*, 70–78. https://doi.org/10.1016/j.rser.2015.02.010

Fair Finance Thailand. (2019). *Challenges of Dam Financing for Thai Banks. The Case of Xayaburi and XPXN Projects*. Fair Finance Thailand.

Freedom House. (2024). *Thailand: Freedom in the World 2024 Country Report*. Freedom House. https://freedomhouse.org/country/thailand/freedom-world/2024

Green, W. N., & Baird, I. G. (2020). The contentious politics of hydropower dam impact assessments in the Mekong River basin. *Political Geography*, *83*, 102272. https://doi.org/10.1016/j.polgeo.2020.102272

International Energy Agency. (2023). *Thailand’s Clean Electricity Transition: How accelerated deployment of renewables can help achieve Thailand’s climate targets*. OECD. https://doi.org/10.1787/5827ebd0-en

International Rivers. (2014, December). *Pak Mun Dam: A struggle of fishers, an epic of river protection*. International Rivers. https://archive.internationalrivers.org/resources/8483

International Rivers. (2017). *A Dangerous Trajectory for the Mekong River: Update on the status of Mekong mainstream dams.* https://www.internationalrivers.org/wp-content/uploads/sites/86/2020/06/mekongmainstreamdamsupdatejune2017_english.pdf

Kurlantzick, J. (2023, August 31). *Thailand’s Turbulence: Implications for the Region and the World | Council on Foreign Relations*. https://www.cfr.org/in-brief/thailands-turbulence-implications-region-and-world

Middleton, C. (2009). *Thailand’s Commercial Banks’ Role in Financing Dams in Laos and the Case for Sustainable Banking*. *International Rivers*.

Reuters, & World Economic Forum. (2021, May 18). *Thailand’s hybrid hydro solar power venture is world’s largest*. World Economic Forum. https://www.weforum.org/agenda/2021/05/hybrid-hydro-solar-power-venture-could-shape-the-future-of-thailand/

Sohsai, P., & Lee, G. (2022, August 18). *Court dismissal of Xayaburi dam lawsuit highlights the need to strengthen accountability of cross-border investments*. International Rivers.

https://www.internationalrivers.org/news/court-dismissal-of-xayaburi-dam-lawsuit-highlights-the-need-to-strengthen-accountability-of-cross-border-investments/

Teets, J. C., Adam, A., Ayuthaya, R. K. N., & Liang, W. (2024). *Mobilizing Against Thai Hydropower: Information is Power - Foreign Policy Research Institute*. https://www.fpri.org/article/2024/04/mobilizing-against-thai-hydropower-information-is-power/

Thai Mekong People's Network from Eight Provinces. (2020). *Public Statement – Don't buy power from Luang Prabang dam: Mekong dams are unnecessary for Thailand's power sector—My Mekong*. https://www.mymekong.org/document/public-statement-dont-buy-power-from-luang-prabang-dam-mekong-dams-are-unnecessary-for-thailands-power-sector/#

Weatherby, C., Intralawan, A., Junlakarn, S., Kittner, N., Kokchang, P., & Schmitt, R. (2021). *Alternative Development Pathways for Thailand's Sustainable Electricity Trade with Laos*. Stimson Center.

World Bank Group. (2016). *Getting back on track: Reviving growth and securing prosperity for all. Thailand systematic country diagnostic*.https://documents1.worldbank.org/curated/en/855161479736248522/pdf/110396-REVISED-v1-4-26-WB-TH-SCD-REPORT-BOOKLET-159PAGE-RevisedApr26.pdf

Yong, M. L. (2023, August). *Thai investment in Laos hydropower reveals dire disconnect in the Mekong | Opinion | Eco-Business | Asia Pacific*. Eco-Business. https://www.eco-business.com/opinion/thai-investment-in-laos-hydropower-reveals-dire-disconnect-in-the-mekong/

Analysis

Barter, D., & Sar, M. (2023). Hydropower Hegemony: Examining Civil Society Opposition to Dams in Cambodia. *The Journal of Development Studies*, *59*(7), 961–979. https://doi.org/10.1080/00220388.2023.2188110

Fox, C. A., & Sneddon, C. S. (2019). Political borders, epistemological boundaries, and contested knowledges: Constructing dams and narratives in the Mekong River Basin. *Water*, *11*(3), 413.

Interviews

Anonymous participants 1, personal communication, March 20, 2024

Anonymous participants 2, personal communication, March 22, 2024

Anonymous participants 3, personal communication, March 24, 2024

Anonymous participants 4, personal communication, March 25, 2024

Anonymous participants 5, personal communication, March 26, 2024

Anonymous participants 6, personal communication, March 28, 2024

Anonymous participants 7, personal communication, March 29, 2024

Anonymous participants 8, personal communication, March 29, 2024

Anonymous participants 9, personal communication, March 31, 2024

Anonymous participants 10, personal communication, April 1, 2024

Anonymous participants 11, personal communication, April 2, 2024

Anonymous participants 12, personal communication, April 3, 2024

Anonymous participants 13, personal communication, April 3, 2024

Anonymous participants 14, personal communication, April 3, 2024

Anonymous participants 15, personal communication, April 4, 2024

Anonymous participants 16, personal communication, April 5, 2024

Anonymous participants 17, personal communication, April 9, 2024

Anonymous participants 18, personal communication, April 11, 2024

Anonymous participants 19, personal communication, April 24, 2024