Towards Sustainable Hydropower: Policy Implementation and Livelihood Transformation in the Sekong Basin, Laos

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Declaration

I hereby confirm that this thesis is my original work under a designated supervisory board committee. The materials presented in this thesis have not been used by any other, except where otherwise explicitly credited and referenced in this thesis. I offer my consent that the final thesis can be made publicly available when it is deposited in the ANU's Degital Repository.

Signed:

Kanya Souksakoun

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Abstract

Hydropower development is a pressing issue for water governance in the Mekong Basin—the world's top hydropower development location. Mainstream hydropower discourses in the Mekong Region, especially in Laos, overestimate the economic and renewable potentials of hydropower development with inadequate attention to sustainability, especially social impacts. Numerous studies have debated such impacts, especially the changes of resettlers' livelihoods due to dam resettlement. Yet, there remains a need to critically analyse how the multiple policies of national and sub-national governments and their unequal power relations in resettlement processes significantly shape resettlers' livelihoods, and outcomes of vulnerability or precarity. In addition, there is an inadequate debate on how ineffective governance of hydropower can entail economic risks at the national level.

This thesis takes political ecology as a broad theoretical framework and mobilises three main supporting concepts—the political economy of powersheds; governance and scale; and livelihoods and vulnerability—to examine the politics of hydropower development and governance in the region, with a focus on Laos, the regional export-based hydropower hub. It uses a mixed methods approach, including policy interviews, case studies of the state-owned enterprise (SOE) and regional independent power producer (IPP) models, household surveys, and ethnographic analysis. I develop a multi-scalar analysis and a relational approach to understand the complexities of Laos' hydropower governance regime. I hierarchically trace how Mekong regional power sector trends interact with Lao national hydropower development discourses and regulatory institutions, which critically shape local resettlement process and outcomes.

I argue that the current rapid-paced hydropower development with weak governance not only marginalises the livelihoods of local communities, but also exposes new risks to the national economy. These problems are sliding Laos out of a sustainable hydropower pathway. At the regional level, the hydropower boom in Laos has benefited the energy security of the Mekong Region. However, there has been increasing evidence of pitfalls in Laos—significant oversupply of domestic electricity capacity, a sovereign debt crisis, and privatization of national strategic assets—even though decision makers in Laos view hydropower as a key driver for economic growth. At the national level, I show a series of structural regulatory and institutional disconnects that bedevil sustainable hydropower governance in Laos, across and

within key state agencies, both due to and resulting in ineffective hydropower governance. At the local scale in two case study communities, I present the multiple political, social, and environmental objectives that are mobilised in state-led hydropower resettlement, extending existing scholarly literature on dams, towards an understanding of what I call "multi-purpose resettlement." Of surveyed HHs involved in multi-purpose resettlement under the State-owned Enterprise model and a regional Independent Power Producer model, 75% and 45% respectively, identified significant difficulties with regaining their pre-resettlement livelihood standards. Such resettlement also exposes them to new livelihood vulnerability and precarity. This is primarily because the different objectives of multi-purpose resettlement are largely in conflict with each other, and changes in access to agricultural land and natural resources are undercompensated or uncompensated.

The ongoing hydropower development paradigm and the evidence of drawbacks in Laos—livelihood vulnerability at the community level, financial risk at the national level, and the collapse of four dams—is in contrast with the country's sustainable hydropower discourse. The evidence assembled in this thesis aims to support decision makers and energy regulators, to review the country's energy development policy, especially in relation to hydropower investment.

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List of Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asia
BOO	Build-own-operate
BOT	Build-own-transfer
CA	Concession Agreement
CIPSC	Central Investment Promotion Steering Committee
DAFO	District Agriculture and Forestry Office
DEB	Department of Energy Business
DEM	Department of Energy Management,
DEPP	Department of Energy Policy and Planning
DOEM	District Office of Energy and Mines
DOF	Department of Forestry
DONRE	District of Natural Resources and Environment
DRC	District Resettlement Committee
DWG	District Working Group
ECC	Environmental Compliance Certificate
ECI	Electricity Construction and Installation
EdL	Electricity du Laos
EdL-Gen	Electricity du Laos-Generation Public Company
EdL-T	Electricity du Laos-Transmission
EPC	Engineering-Procurement-Construction
EPL	Environmental Protection Law
ESCO	Energy Service Companies
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EVN	Vietnam Electricity Group
FGD	Focus group discussion
GDP	Gross Domestic Product
GMS	Greater Mekong Sub-region
GoL	Government of Laos
GW	Gigawatt
HH	Household
HLG	Houay Lamphan Gnai
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IPP	Independent Power Producer
IREP	Institute of Renewable Energy Promotion
kWh	Kilowatt-hour
LFNC	Lao Front for National Construction
LHSE	Lao Holding State Enterprise
LPRYU	Lao People’s Revolutionary Youth Union
LRO	Law on Resettlement and Occupation
LPRP	Lao People’s Revolutionary Party
LWU	Lao Women’s Union
MAF	Ministry of Agriculture and Forestry
MDB	Multilateral Development Bank
MEM	Ministry of Energy and Mines

MoF	Ministry of Finance
MoNRE	Ministry of Natural Resources and Environment
MOU	Memorandum of Understanding
MW	Megawatt
NLMA	National Land Management Authority
NREMO	Natural Resources and Environment Monitoring Office
MPI	Ministry of Planning and Investment
MSL	Mean sea level
NGO	Non-government organisation
NTFP	Non-timber forest product
NT2	Nam Theun 2
PAFO	Provincial Agricultural and Forestry Office
PDA	Project Development Agreement
PDEM	Provincial Department of Energy and Mines
PDP	Power Development Plan
PIPSC	Provincial Investment Promotion Steering Committee
PMO	Prime Minister Office
PONRE	Provincial Office of Natural Resources and Environment
PPA	Power Purchase Agreement
PPP	Public Private Partnership
PRC	Provincial Resettlement Committee
PSHD	Policy on Sustainable Hydropower Development
RMU	Resettlement Management Unit
SESO	Standard for Environmental and Social Obligations
SOE	State-owned Enterprise
SPP	Small Power Producer
UNDP	United Nations Development Programme
VDC	Village Development Committee
WB	World Bank

Chapter 1 Introduction

"Sustainable hydropower entails hope for progress and the imagination of disaster." (Whitington 2018, p. 10)

1.0 Introduction

While the river systems in the Mekong Basin have a crucial role in the sustainable livelihoods of many millions of people, regional hydropower proponents see hydropower as an important driving force for economic development opportunities. As in other parts of the world, water resources development proponents in the region optimistically perceive that hydropower can be developed in a socially and environmentally sustainable manner, and point to its potential as clean and renewable energy to tackle climate change. Importantly, rather than merely for domestic electricity demand, multilateral agencies and regional governments in the Mekong have also promoted hydropower development in transboundary power trade, through discourses of regional power interconnection. Hydropower proponents further underscore hydropower development as an important driver for modernity and poverty reduction (Porter & Shivakumar 2011; Sparkes 2014a). They are also optimistic that dam resettlement can help resettlers have better livelihoods after resettlement. These perceptions have significantly shaped, enabled, and supported a recent hydropower boom in the Mekong Region, with Laos becoming one of the world's top hydropower investment destinations (Moran et al. 2018).

However, this rapid dam building program in the Mekong Region and Laos has resulted in pressing differences and conflicts over sustainable water resources development, water governance, and especially for hydropower. Like elsewhere, the concept of sustainable hydropower has been widely debated in the Mekong Region. The concept is incorporated into the Initiative on Sustainable Hydropower (ISH) of the Mekong River Commission (MRC 2010). The ISH and the MRC's previous hydropower development strategies forward hydropower as a renewable natural resource, by considering trade-offs with development of other sectors, with equal balancing of environmental, social and cultural, and economic values. In Laos, by following international and regional trend of sustainable hydropower discourse, the National Policy on Sustainable Hydropower Development, NPSHD, (2015) defines a similar generic approach to those of the ISH and Hydropower Sustainability Assessment Protocol (HSAP) (IHA 2018, 2020). NPSHD broadly states that hydropower

sustainability needs to place equal importance on social, economic, environmental, and technical pillars. To ensure such equity, NPSHD briefly and loosely discusses some policy directions, including social and environmental assessment, public consultations, information disclosures, and benefit sharing. However, the NPSHD neither defines how the livelihoods of affected people can be improved or at least restored, nor indicates practical strategies or legal measures to ensure how ecological effects can be effectively mitigated or reduced. Besides, the policy lacks regulatory support for its effective implementation, and few practical strategies and approaches to support a hydropower sustainability discourse. Rather, it is formulated on the assumption of hydropower as renewable and sustainable. More critically, it can be seen as an instrument to legitimise governments' hydropower development and deflect criticism on its hydropower expansion. In this thesis, the concept of 'sustainable hydropower' refers to one of the 2018 HSAP's (IHA 2018, p. 6) definition:

> Sustainable [hydropower] development embodies reducing poverty, respecting human rights, changing unsustainable patterns of production and consumption, long-term economic viability, protecting and managing the natural resource base, and responsible environmental management.

It is also important to incorporate and assess the MRC's ISH idea of "protection of livelihoods and land and water access rights and entitlements" to the sustainable hydropower concept in this thesis.

The Mekong Basin is characterised by multiple water resource users, and its transboundary context in which water is shared by six member states (China, Myanmar, Laos, Thailand, Cambodia, and Vietnam) (Eyler 2019). Rather than actual sustainable outcomes and economic advancement, some scholars argue that the discourse of sustainable hydropower has been used as a political strategy to promote hydropower development agenda by dam proponents, even as the region's dam development program has not met sustainability standards (Whitington 2018, 2020). Increasing evidence of significant and cumulative adverse social-ecological impacts, arising from hundreds of hydraulic infrastructure projects in the lower Mekong Basin, especially in Laos where the most of regional hydropower projects are currently being built, indicates that the discourse of 'sustainable hydropower' is largely unpractised and perhaps unachievable. Particularly with respect to the social pillars of sustainability, key global studies indicate that most dam resettlement programs worsen resettlers' livelihoods (Cernea & Mathur 2008; Kirchherr et al. 2019; Scudder 2005; WCD 2000a). The disparity between the discourse and outcomes in hydraulic infrastructure in the

Mekong Region and in Laos largely results from ineffective governance, particularly the weakness of institutions and limited adherence to laws and regulations (Ascher 2021; Suhardiman et al. 2012). This issue invokes the "policy-practice divide", which has been identified in Laos and the wider Lower Mekong Region (Singh 2012, p. 8). The pronounced gap between well written laws and implementation, in other words, "strong on paper but weak in practice" (Lawrence 2008, p. 16) can characterise such a divide.

Given the contested viewpoints above, in this thesis I argue that despite its potential to drive economic growth in a sustainable manner in Laos, overly optimistic hydropower developers and proponents, coupled with weak domestic governance, not only entail social-ecological disruptions at the community level, but also new economic vulnerabilities at the national level. In other words, in the case of Laos it is not simply a matter of comparing the economic gains of dams with the social and environmental costs, as poorly coordinated and overly ambitious dam building programs can also produce negative economic outcomes and new financial debt burdens on a national scale. This means that the paradigm of "sustainable hydropower" in Laos, including its multi-scaled and inter-related social, environmental, and economic components, should be placed under a more comprehensive re-examination. A political ecology concept can be useful to examine the complexities of political economy of hydropower development and consequent social and ecological disruptions (Baird & Barney 2017; Kakonen 2020; Matthews 2013), and ongoing hydropower-induced economic vulnerability in Laos.

To support this main argument, in this introductory chapter I provide an overview of three interconnected hydropower governance issues that emerge at multiple scales (local, sub-national, national, and regional). These are: first, the narrative of the 'Battery of Asia' and the current hydropower development discourse in Laos and the region; second, I examine the institutional structures and regulatory instruments for hydropower governance; and third, dam resettlement challenges for sustainable livelihoods in Laos. Tracing these issues across scales and levels can improve our understanding of the complexities of the current political ecology and political economy of hydropower projects at regional and national levels, accounting for the livelihood transformations of local people and communities and ecological changes at local scales. Such a critical perspective presents a significant challenge to a dominant sustainable hydropower discourse used to legitimise many projects. Dam proponents, especially political leaders and officials in Laos, seek to construct legitimising narratives,

such as hydropower development for poverty reduction, as a main source of national revenue, as an economic backbone, as nation building, and as a source of renewable energy for climate change mitigation, to support their hydropower development agendas. Meanwhile, they also delegitimise critics from dam critics on such narratives and minimise acknowledgement of adverse social and ecological effects (Geheb et al. 2015). Such exercises of narration and delegitimation invokes Roe's (1994) broader conception of how policy makers construct narratives to control and manage common resources and delegitimise critics.

1.1 Making the Battery of Asia: the politics of hydropower in the Mekong Basin

The current dynamics of hydropower development in the Mekong Basin have presented increasing challenges for water governance in the riparian states. The contestations result not only from the nature of different geographical locations, and political and economic interests by regional actors, but also from the political and economic powers of outsiders. The current discourse of hydropower development in Laos and the wider Mekong Basin antecedents the geopolitical and hydro-political context that emerged during the Cold War era in the Mekong Region (Hirsch 1999, 2016; Sneddon & Fox 2006). During the late 1950s and into the mid-1970s, the USA and its allies, including Western multilateral agencies, dominated hydraulic infrastructure planning and development for multiple purposes such as hydropower, irrigation, and flood control in the region (Sneddon & Fox 2006, Sneddon 2015). The Nam Ngum 1 dam with an installed capacity of 155 Megawatt (MW) in Laos, commissioned 1971, is arguably the most significant Mekong hydro-electric project constructed during the Cold War era.[1] The USA and its allies such as Japan, and multilateral agencies, including the World Bank (WB), and Asian Development Bank (ADB), provided supporting finance for the then Royal Lao Government to develop this dam[2]. The project has a particular characteristic in that it was the first project to engage in cross-border electricity trades in the Lower Mekong Basin. Electricity export earnings from the Nam Ngum 1 project represented most of Laos' export earnings in its early years of operation (ADB 2002; Jacobs 1996) before timber and wood products took over between 1987 and the early 1990s (Savada 1994). This indicates not only the early significance of hydropower electricity exports to the war-time and post-war Lao

[1] Another major regional hydraulic installation of the era, also completed in 1971, is Thailand's Sirindhorn dam in Ubon Ratchathani province.
[2] A Japanese company received the construction contract to build the Nam Ngum 1 dam.

national economy, but also the country's limited alternative export products—only electricity, timber products, and to a lesser extent, coffee, at the time (Savada 1994).

It was not until the early 1990s, after the end of the Cold War, that major planned hydropower projects in Laos and the wider Lower Mekong Basin were actively resumed (Jacobs 1996; Soukhaphon et al. 2021). The resumption could have benefited Laos to expand its hydropower capacity, mainly for exports. At the same time, Thailand was interested to import more cheap electricity to support its booming economy. Their mutual interests resulted in the first memorandum of understanding (MOU) between Laos and Thailand in 1993, for cross-border power transmission of 1,500 MW (Lamphayphan et al. 2015).

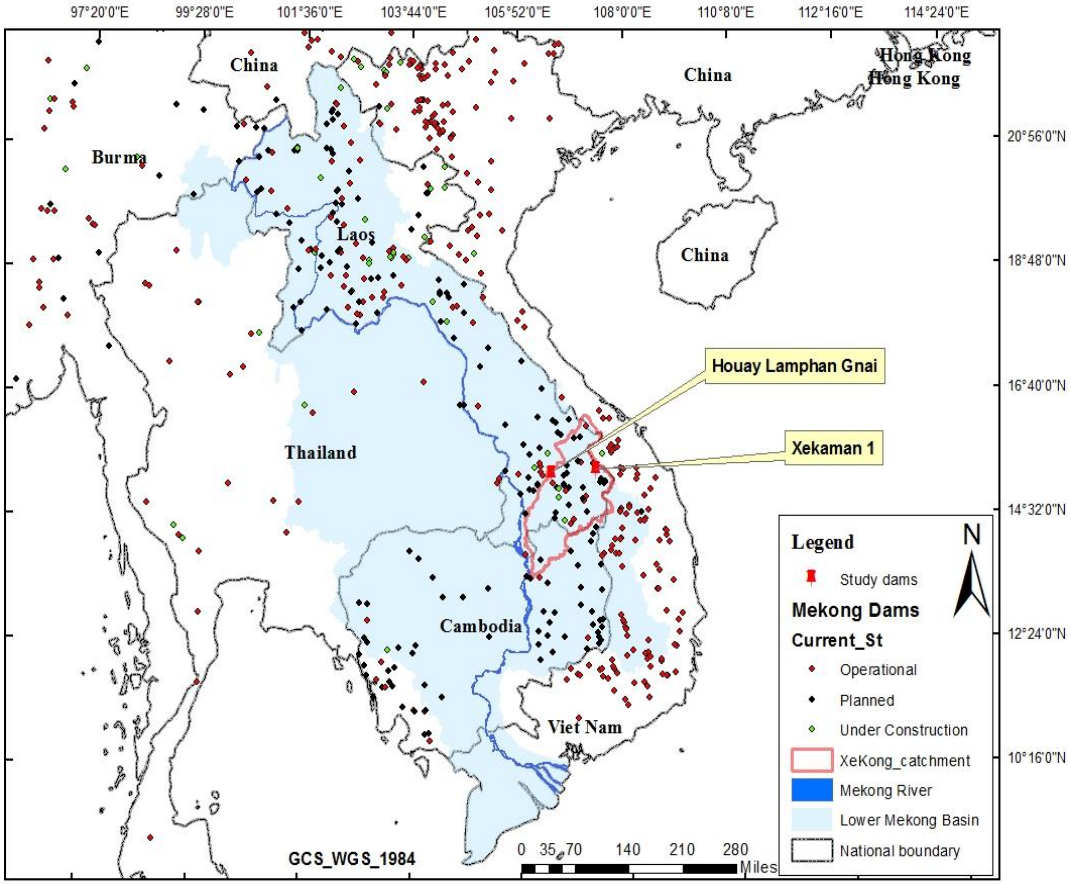
The MOUs attracted international actors and their money and expertise to build dams in Laos, with a focus on electricity exports. The early hydropower investors in Laos were mainly from Norway, the US, Australia, Thailand, and Korea, together with multilateral development banks (MDBs), such as ADB and the WB as key hydropower lending arms (Jacob 1996). Souvannaseng (2019) classifies these actors as 'first wave' investors. To operationalise regional power interconnection, the ADB-initiated Greater Mekong Sub-Region (GMS) program, including the regional power interconnection plan, was established in 1992 (ADB 2002). MDBs also introduced liberalisation mechanisms into the financing of infrastructure projects in the Mekong Region during the 1990s (Middleton et al. 2014; Souvannaseng 2019). These liberalization reforms shifted from Bretton Woods-era public financing to state utilities for state-led hydropower and electricity infrastructure projects, towards new lending mechanisms such as public-private partnerships (PPPs) in the hydropower sector (Souvannaseng 2019). These PPPs are regulated through independent power producers (IPPs), which are arranged through different modalities such as built-owned-transferred (BOT) and built-operated-owned (BOO) models (Middleton et al. 2014). The ADB-backed Theun-Hinboun project commissioned in 1998 is the first IPP and BOT dam project alongside the Houay Ho project commission in 1999, operationalising the GMS.

In addition, ADB and WB advocated to the Government of Laos (GoL) that (sustainable) hydropower development, especially for electricity export, was one of the few possible alternatives that Laos has for its economic growth and poverty reduction (ADB 2005a, 2019; Porter & Shivakumar 2011; WB 2009). The banks drew justification for this view based on the untapped hydropower potential of about 23,000 MW (ADB 2019), and the significant

contribution from the Nam Ngum 1 dam to the Lao national economy since the 1970s. The financial contribution of the Theun-Hinboun hydropower project helped to cement this perspective for Lao decision makers (Blake & Barney 2018). The Theun Hinboun project alone was predicted to increase Lao GDP by a total of 7 percentage points over the six years following commissioning (Gill 1997).

From these different starting points and influences, today Laos has become a major hydropower development hub, and a main powerhouse for the GMS electricity interconnection, especially for the Lower Mekong countries. The country's hydropower boom has attracted foreign investors and their capital and expertise into Laos for their interests in the political economy of lucrative hydropower, dominating the Lao hydropower sector. Since the 2000s, dam building in Laos has increasingly engaged more investors and developers from the Mekong Region, expanding from traditional off-taker markets in Thailand to new power markets in Vietnam, Cambodia, and Malaysia. The boom has resulted in the rapid expansion of planning and development of hundreds of hydropower projects in Laos, on both the tributaries and, increasingly, on the mainstream of the Mekong River (see Figure 1). About 240 of projects have installed capacity of less than 15 MW, while another 155 are projects with installed capacity above 15 MW (MEM 2016). In 2021, about 80 projects of different scales were in operation. The figure also shows that most hydropower projects, especially the ones under construction and planning stages, in the Lower Mekong Basin are located in Laos.

Figure 1 **Hydropower dams in the Lower Mekong Basin (**including the Xekong or Sekong Basin and the main sites of field research)



Source: Author (May 2021)

Given the hydropower development potential in Laos for export, the 2005 Prime Minister of Thailand—prominent and net importing country of Laos' hydroelectricity—Thaksin Shinawatra, named Laos as "Battery of Asia" [3], (Associated Press 2005, as cited in Greacen & Palettu 2007, p. 103). This phrase indicated that Laos would develop its hydropower potential for export and fulfilling the GMS's effort for regional power interconnection. However, the speed at which hydropower development was expanded in Laos has challenged effective planning and coordinated policy implementation of hydropower governance in Laos, resulting in significant oversupply of domestic electricity capacity and Laos' debt burden, as detailed in Chapter 4. These implications may not have emerged if the development was slower and more prudent.

[3] A historical google search indicates that the "Battery of Asia" term was circulating before Thaksin used it in the early 2000s. However, Thaksin's speech seems to have popularised it.

1.2 Hydropower as the 'economic backbone' of Laos

This thesis argues that the current course of rapid dam building, coupled with ongoing rent-seeking practices, has resulted in, structural institutional and regulatory disconnects, which have challenged narratives of sustainable hydropower governance in Laos. The GoL has positioned hydropower as a political and 'economic backbone' (*kadouk sanlang settakit* in Lao) for the country's economy (Boungnong & Phonekeo 2013). Hydropower has become a main driver of national gross domestic product (GDP) growth, especially since the late 1990s (Barma & Oksen 2014; WB 2019a). Indeed, Laos has been one of the fastest-growing developing countries over the last 15 years. Annual GDP growth in Laos has averaged over 6% between 2000 and 2020 (Trading Economics 2021). This growth has resulted in a significant reduction in the national poverty rate, although the country remains under the United Nations' Least Development Country listing (Chowdhury 2021; UN 2020). The GoL is attempting to graduate from the listing by 2024, after extending its original target set for 2020 (GoL 2020). The country's resource sectors, particularly hydropower and mining, have been the major contributors to economic growth and poverty reduction (GoL 2016; WB 2020). While the mining sector's contribution has declined in recent years due to major projects passing maturity, hydropower, through electricity exports, has become an increasingly important sector to push the country's economic growth (GoL 2020; WB 2020).

However, despite rapid expansion of hydropower and increasing power export, the overall state revenues from hydropower development appears to have been limited. In 2017 the World Bank (WB 21017e) indicated that the contribution from hydropower to fiscal revenues was very small (about US$ 130 million, representing only 1.1 percent of Lao GDP) in 2014-2015. Besides, despite 55% of total approved investment between 2005-2015 in hydropower and mining sectors, the job opportunities in these sectors were very low, and most employed people were from non-poor households (WB 2017e; WB 2021) and such opportunities are mostly available only during the construction period. While overall poverty levels have indeed been reduced following overall GDP expansion from 2005-2020 in Laos, hydropower has also contributed to a situation of "jobless growth", in which rural poverty remains strong and persistent (WB, 2022). Overall, we can see significant uneven-ness and gaps in the role that hydropower has played in poverty reduction of the broader population, which is in contrast to though the GoL's expansionist narrative.

Hydropower has also had a pivotal significance for the Lao political arena and political stability. The hydropower sector, especially through its state electricity utility Electricity du Laos (EdL), has been an essential instrument for the Lao People's Revolutionary Party (LPRP) and the GoL. The sector has a critical role in revenue earnings, countrywide electricity supply, industrialisation, modernisation, nation-building, and the creation of improved livelihoods for Lao people and poverty reduction, helping increase the LPRP's credibility (Barma and Oksen 2014). Scholars have argued that the party-state in Laos uses these narratives of hydropower as instruments, helping maintain the political legitimacy of the LPRP, thereby stabilising state power in the country (Barma & Oksen 2014; Creak & Barney, forthcoming). The political and economic significance of hydropower to the country can be seen from how hydropower is depicted in the Lao national emblem. Hydropower dams also appear in current Lao banknotes from the current government of the LPRP in the 50-, 2,000-, and 20,000-kip notes depicting the Nam Ngum 1 Xeset 1, and Theun-Hinboun dams (see Figure 2). The current GoL also underscores hydropower as a crucial element in the country's development policies, including prominent references in the National Growth and Poverty Eradication Strategy, and the five-year National Socioeconomic Development Plans. Supported by a legitimacy through narratives of hydropower, the GoL has rapidly expanded its hydropower development and consequent resettlement of significant number of rural ethnic communities throughout the country.

Figure 2 **Hydropower dams as a component in the Lao national emblem and banknote**

Sources: https://en.wikipedia.org/wiki/Emblem_of_Laos#/media/File:Emblem_of_Laos.svg (for the Lao national emblem) and author (for the Lao banknotes).

Laos remains one of a few single-party Communist states, with the LPRP dominating the state and government since it came into power in 1975. In the initial post-revolutionary period, the country was governed by Party resolutions. It was only in 1991 that the first post-war national Constitution was endorsed by the Supreme People's Council, and it was amended in 2003 and again in 2015 by the National Assembly (Creak & Barney, forthcoming). The Constitution lays out the overarching fundamental instruments and framework for the governing political regime in Laos (Croissant & Lorenz 2018). This framework helped support the endeavour of the regime to pursue and support regime legitimacy based on the somewhat paradoxical combination of market reforms and socialist ideology (Yamada 2018). This process of building the legal framework is ongoing in Laos, and the GoL aims to establish a "rule of law state" to improve effective implementation of national laws, especially in state agencies (MoJ & UNDP 2015, p. 1; see also Sayalath & Creak 2017). With the national legislative body's focus on passing legislation (MoJ & UNDP 2015), until 2021 the Lao National Assembly already endorsed about 150 national laws. Importantly, multilateral and bilateral donor agencies had a crucial role in many, if not most, of these laws and other regulatory instruments through their financial and technical support. These include the laws and policies related to sustainability issues (see section 4.2.2).

However, despite the Lao party-state's optimism, the ineffective governance of rapid development of hydropower in Laos has recently had significant adverse economic, social, and ecological implications at local and national levels in Laos. Like many other countries in the Mekong Region, in this thesis I demonstrate how the enforcement of laws has largely remained ineffective, especially in natural resources governance. In Laos this relates to how hydropower development also involves logics beyond energy development, to include the state-building interests, and rent seeking opportunities for business elites and political leaders. State actors, both at policy making and implementing levels, and dam developers in Laos have demonstrated limited commitments to effectively implementing legal instruments and standards in the processes of dam planning and development (Middleton et al. 2009). The ineffectiveness is due to various challenges, including weak political commitments of top political leaders and limited law enforcement in various levels of bureaucrats (see also WB 2016a, 2017b). The 'policy orders' from the Party leadership are often more effective than laws, with further flexibility in implementation, as outlined in Chapter 5. Such policy order-styled decision making at different levels often emerges in the current hydropower governance and approval in Laos, particularly in relation to dam resettlement. Meanwhile

both state and private agencies often overestimate economic gains while underestimating adverse and avoidable social and environmental costs, especially at local levels. But, as a result of over expansion of hydropower infrastructure and weak governance, a significant financial disaster is now unfolding with significant national implications. In some instances, hydropower developers and designated state actors have not followed adequate supervision and proper due diligence on engineering standards in dam building, resulting in four dam collapses over the past five years. These include the 2018 Xe Pian-Xe Namnoy disaster that involved dozens of fatalities and ongoing social, ecological, and economic impacts.

From these instances, Whitington's (2018, p. 10) keen observation (seemingly written before the Xe Pian-Xe Namnoy dam collapse of July 2018) that "sustainable hydropower entails hope for progress and the imagination of disaster", helps to frame the current pressing challenges for sustainable hydropower development discourse in Laos. In most cases, if not all, disasters come at the costs of local communities, especially dam resettlers, and the harms for ecological changes, as discussed below.

1.3 Sustainable hydropower or precarious livelihoods?

In Laos, hydropower development has proceeded at a very rapid pace. Yet, ineffective governance at key levels of state agencies, especially through ill-planned and ineffectively implemented resettlement, can worsen pre-resettlement poverty levels, while also producing new forms of poverty for many dam resettlers. For the analysis of hydropower governance at the community or project level, this thesis draws on broader livelihood literature (Scoones 1998, 2015; Scudder 2005; Vanclay 2017), insights on the multiple logics of state-led resettlement (Rogers & Wilmsen 2020) and ideas of precarity and vulnerability (Rigg et al. 2016). At the community scale of analysis, I investigate how dam resettlement, especially under the government's multiple (political, social, environmental) purposes, can improve or worsen resettlers' post-resettlement livelihoods.

In Laos, poverty reduction, especially for rural communities, is one of the primary justifications for the GoL's hydropower development policy (GoL 2020; see also ADB 2005a; Porter & Shivakumar 2011; WB 2009). From the Nam Ngum 1 project in the early 1970s up to 2019, hydropower development in Laos has induced displacement and resettlement of more than 60,000 people from over 200 villages (Vientiane Times 2019). Most of the resettlers

identify as ethnic minority groups. As in other parts of the Global South (Cernea 1998), the income level of most resettlers in Laos was already below the national poverty line, even before resettlement. Although Cernea's (1998) argument was made more than two decades ago, it still characterises the current situation in most dam resettlement sites. In Laos, even without resettlement or external forces, the income levels of rural populations, mainly minority groups, are just above the poverty line[4], and they are very vulnerable to falling back into poverty (WB 2017a). As such, the possibility to fall back to or even beyond their pre-project level of poverty, and to suffer new forms of precarity, is high for many dam-resettled populations, including in the two study villages in this thesis (see Chapter 6).

As in many other countries (Kirchherr et al. 2016, 2019; Scudder 2005; WCD 2000a), livelihoods of many resettlers in Laos have been impoverished or reduced, compared to the pre-project levels, though there is some improvement in housing and community infrastructure and public services (Baird 2013; Blake & Barney 2018; Delang & Toro 2011). Their reduced livelihoods primarily result from losing their pre-project, diverse livelihood strategies. These include agricultural activities, collection of forest and river products, both for household consumption and cash income, and the limited extent of off-farm employment; in short, "occupational multiplicity or pluriactivity" (Rigg 2005, p 166). The loss of their occupational pluriactivity is due primarily to insufficient land for agricultural production and restricted access to forest and living aquatic products and other livelihood capitals, to sustain livelihoods (Scoones 1998, 2015).

In many cases, the Lao resettlers' limited access to different livelihood capitals and constraints is an outcome of the multiple purposes and objectives applied to dam resettlement. These include access to public services and poverty reduction programs, environmental conservation, socio-cultural integration, as well as catchment forest protection and better reservoir management (see Chapter 2). To serve these different purposes, governments and project developers often create highly-concentrated resettlement areas or resettlement concentration (see Liu et al. 2018; Tan & Li 2013 for China) or focal site developments (see Baird & Shoemaker 2007 for internal resettlement in Laos). In this thesis, I refer to this as '*multi-purpose resettlement'* (in a juxtaposition with the term 'multi-purpose dams').

[4] The ratio of population below the poverty line based on purchasing power parity of US$1.09/day remained at 22.7% in 2018, while the population living below the poverty line is 23.2% (ADB 2018).

However, rather than in alignment, the different objectives of multi-purpose resettlement can be in conflict with each other in complex ways, thereby undermining resettlers' livelihoods, while also exposing them to a higher level of precarity or new forms of poverty. I analyse these complexities by examining how multi-purpose resettlement can proliferate constraints and increase competition between host communities and within a resettlement site, in access to land for agricultural production and natural resources products, which are crucial components for resettlers' livelihoods. The highly constrained and competed access to these can significantly expose resettlers to a deeper poverty and economic vulnerability than before resettlement (see Chapter 6). From these complex dynamics of multi-purpose resettlement mentioned above, the people resettled under multi-purpose resettlement can be subject to more economic hardship (despite the genuine intentions of most state actors) than the people resettled to make a way for reservoir impoundment.

1.4 Research questions of the thesis

The existing scholarly literature on dam resettlement and livelihood changes in the Mekong Region often focuses either on the local or regional scales. However, the complexities of social-ecological costs, especially for local livelihoods, induced by a hydropower project need to be understood through multi-scalar, multi-dimensional, and multi-actor analysis (Vanclay 2017). This thesis analyses hydropower governance with a focus on dam resettlement and resettlers' livelihoods through a multi-scalar (local, sub-national, national, and regional/international) analytical and relational approach. The analysis aims to answer an overarching research question: *How are key political-economic forces and actors across political-administrative levels driving the Lao hydropower boom, creating and reproducing contestations in hydropower governance, and transforming the local livelihoods of resettled populations in Laos?* The approach is useful for examining how the cross-agency interactions, and multi-scalar disconnects and power interplays, at sub-national, national, and regional levels, cumulatively marginalise post-resettlement livelihoods of resettlers.

To address the overarching question, this thesis raises three main inter-related research questions on hydropower governance issues, especially related to social sustainability, at different scales, as below:

1. What are the driving forces and key actors that have pushed the hydropower surge in Laos and the wider Lower Mekong Region, thereby producing new energy-scapes?
2. How have key state agencies in Laos, and their differing roles and interests in hydropower development, shaped hydropower governance, especially in terms of social sustainability?
3. How are the Lao government's multi-purpose resettlement schemes, coupled with institutional disconnects, transforming livelihoods of dam-resettled communities?

To address these questions, I employ a mix of qualitative and quantitative methods. The first and second research questions partly rely on first-hand information derived from interviews with key informants from state and non-state organisations at national and sub-national levels, and secondary data. Meanwhile, I use the information from a mixture of household surveys, semi-structured interviews, focus group discussions, and participant observations to address the third question. I engaged a total of 97 research informants from state and non-state agencies at national, provincial, district, and village levels for semi-structured interviews and more than 200 household surveys in the two study villages. The primary data were collected during August–December 2018 and complemented with follow-up field visits during October–December 2019 (see Chapter 3).

1.5 Key contributions of the thesis

Hydropower proponents use the discourses of national economic development, climate change mitigation, renewable energy, and poverty reduction to justify hydropower development. While these justifications may recognise the adverse impacts on ecosystems and livelihoods of people at the local level, there is inadequate attention on economic vulnerability at the national level, arising from ineffective hydropower governance. This thesis addresses this gap in several ways.

Methodologically, I employ a multi-scalar, multi-level, and relational approach to examine hydropower governance at local, sub-national, and national levels in Laos. I analyse how the scalar forces and drivers in hydropower development interact and co-produce with each other in a relational manner. This helps to examine the consequences of the changing hydropower development and governance regime in Laos, informed by my analysis of impacts at different political-administrative levels.

Conceptually, I contribute four key areas to the existing debate on hydropower governance, with a focus on the Mekong Region. First, I demonstrate how the manipulation of overestimated energy demand and interests, especially by second and third waves of hydropower actors, in the political economy of construction profits from dam projects, has driven the Lao hydropower boom, thereby creating a new, regionally embedded, Lao and Mekong energy-scape. The profit-driven interventions of dam developers, despite the uncertainties of domestic and regional energy markets, have been aided by limited responsible hydropower development and ineffective hydropower governance in Laos. To the middle of 2021, the results of this situation have been significant domestic energy market oversupply in Laos, the potential for a Lao sovereign debt crisis, and an emergency privatisation of a key state energy sector utility and two state owned banks. The insights of these undesired consequences at the national levels can shed more light on the political ecology of hydropower development in the Mekong Region, which has largely focused on the impacts on ecosystems and the livelihoods of the local population, especially dam resettlers, at the local level. The analysis of such pitfalls from imprudent hydropower development that emerged at the national level is useful because some developing countries such as Laos, which heavily rely on few resources sectors for economic growth, coupled with existing economic vulnerability, can be exposed to economic risks. These risks may help inform better policy and draw more attention for better hydropower governance from decision makers who often see the adverse impacts of hydropower development as matters at the local level.

Second, the existing discussion and scholarship on hydropolitics and water governance in the region, especially in Laos, have tended to focus on the influence of foreign investors and external developers as key players. Key studies have referred to the role of Western-and MDB-led investors (Kaisti & Kakonen 2012; Middleton et al. 2009; Souvannaseng 2019). These older, or ‘first-wave’ actors were then replaced by newer entrants, mainly from the Mekong Region countries including China, in a second hydropower investment wave. However, these studies have not yet analysed another new group of private investors in Lao dams, drawn from Laos’ nascent private industrial groupings. This thesis finds that these *domestic private* hydropower investors, or ‘third wave’ actors, have played an increasingly crucial role in hydropower projects both for domestic supply and exports to Thailand and Vietnam. This thesis also indicates how the third wave grouping has again restructured state hydropower regulations and reshaped the governance regime in Laos, by moving away from a

traditional PPP investment modality to a fully private regulation mechanism. The rise of the third wave holds certain positive aspects for the GoL, in the sense that this helps reduce the influence of foreign actors in the Lao hydropower sector and potentially, supports domestic private sector 'industrial champions'. Nevertheless, I show that a main effect of the third wave actors to date has been to downplay even further the second wave's limited commitments and practices of transparency and accountability in hydropower decisions and regulation, especially related to social and environmental safeguard issues. I document how the rise of this third wave of investors is again reshaping the Lao hydropower governance regime, and presents new challenges for hydropower governance, especially in terms of social and environmental sustainability discourses both in Laos and the wider Mekong Basin.

Third, this thesis builds on the insights of Suhardiman et al. 2012 and a broader idea of the politics of scales and levels in water governance (e.g., Daniell & Barreteau 2014; Dore & Lebel 2010) by shifting from regional (Mekong Region) and national analysis, to understanding the national-provincial-district relational contexts both in horizontal and vertical dimensions within Laos. Such multiple-scaled analysis is significant in that each agency or actor at scalar levels of bureaucracies have certain political power and autonomy to protect their economic interests in decision making related to resources governance, as highlighted in Chapter 5. Rather than effective coordination, national and sub-national governance system of hydropower is characterised by structurally institutional and regulatory disconnects. These dynamics of power interplays of state actors at multiple levels can help improve understanding complexities and challenges of current hydropower and water governance in Laos and the Mekong Region.

Fourth, there have been numerous studies on dam-induced resettlement and impoverished livelihoods of dam resettlers. Yet, there are fewer nuanced and systematic studies of how governments' multiple governmental and environmental purposes or policies are applied in practice in dam resettlement (what I call in short, 'multi-purpose resettlement'), and how this can complicate dam resettlement processes, worsening the livelihood vulnerability of dam resettlers. Based on the empirical evidence from the study villages in this thesis, 'multi-purpose resettlement' appears to benefit the GoL's interests such as focal site development, access to public services, and forest conservation. However, based on the two study villages in this thesis, and previous studies on the Houay Ho project in Laos (see Baird 2013; Delang & Toro 2011; Khamin 2000) and elsewhere (see e.g., Heming & Rees 2000 for the Three

Gorges Dam in China), multi-purpose resettlement schemes can worsen the livelihood vulnerability of most dam resettlers, especially by increasing food insecurity and decreasing economic opportunities. In my two study field sites, villagers enrolled into multi-purpose resettlement schemes are physically relocated far from their former productive lands and resource assets, and lose access to natural capital, including land, fundamental for food security and income opportunities. The thesis contributes to the existing literature on resettlement livelihoods through a critical analysis of precarity and vulnerability to understand resettlers' old and new forms of poverty, based on Jonathan Rigg's (2005) and Rigg et al.'s (2016) characterisation of "old poverty" and "new poverty", in rural communities.

1.6 Thesis structure

Chapter 2 outlines the theoretical framework for this thesis by taking political ecology as an overarching concept, situating the political economy of hydropower and local social-ecological effects, and challenging hydropower sustainability. For specific conceptual analysis, the chapter first employs Magee's (2006) powershed concept to highlight how water within spatially demarcated watersheds in the Mekong Basin is commodified to generate hydroelectricity, mainly for electricity demand outside the watershed boundaries. Then, following this, the chapter discusses institutional interaction and disconnect between actors across sectors and scalar levels in the Mekong hydropower governance. The discussion draws on the broader politics of scale (Smith 1980), specifically a multi-level water governance concept (Daniell & Barreteau 2014; Dore & Lebel 2010) and scalar disconnect (Suhardiman et al. 2012). The concept of livelihoods is framed with a focus on Rigg's (2005) old and new poverty characterisation to understand the livelihood vulnerability and poverty risk of dam-resettled communities. Livelihood analysis is largely framed through the multiple logic of development-induced resettlement (Rogers & Wilmsen 2020).

Chapter 3 provides the methodology and outlines methods employed in the thesis. The mixed methods include semi-structured interviews, household surveys, focus group discussions, and participant observations, drawing on Doolittle's (2015) discussion of methodological pluralism. This chapter also highlights my practical approach navigating research permissions and field research access in Laos, where research on hydropower, especially concerning ethnic minority resettlement issues, is considered sensitive, and a government 'red stamp' is required.

Chapter 4 examines how the Lao energy sector's strong ambition in electricity export positioning as a powershed state or the Battery of Asia has shaped the country's current rapid-paced hydropower development. The chapter then highlights how this ambition, together with overly projected domestic demand, has created adverse institutional and financial implications for the sector. It also discusses different waves of hydropower actors, with a focus on the emerging role of Lao local investors and developers, shaping Lao hydropower, and influencing social safeguard policies and practice in their projects. In this chapter, I argue that while the political economy of hydropower, largely for export, in Laos has to date had a positive impact on national and regional energy security, ill-planned and overly expanded dam building has recently resulted in significant electricity oversupply capacity, critical debt risks, and privatization of national strategic assets in Laos.

Chapter 5 discusses institutional disconnect both vertically and horizontally, characterising the current contestation of hydropower governance in Laos. Horizontally, the chapter highlights the uneven (political and regulatory) power relationship between key ministries that play important roles in Laos' hydropower regulation for their rent-seeking interests. As regards vertical disconnect, the chapter examines how national ministries try to control political and financial power in hydropower decisions with little decentralisation of such power to their local branch offices. The chapter demonstrates an important contribution to the scholarly literature on hydropower governance, by documenting the vertically and horizontally uncoordinated practice of dam resettlement, through a detailed analysis of the inter-ministerial resettlement committees that were established for the two case study projects. The empirical evidence shows how institutional and regulatory disconnects that are prevalent in Laos present a severe challenge to sustainable hydropower discourse, especially in the social realm.

Chapter 6 provides a comparative analysis, examining livelihood vulnerability and poverty risks of ethnic minority people in two resettlement sites who were resettled from the two case study projects. These are the Vietnamese company-owned IPP Xekaman 1 (XKM1) and the SOE-run Houay Lamphan Gnai (HLG), in the Sekong Basin, southern Laos. The chapter analyses the complexities of the GoL's multi-purpose dam resettlement. The analysis sheds light on existing literature on dam resettlement, which largely pays attention to the dislocation of affected people from reservoir impoundment areas and/or other structures of a dam project.

The chapter also discusses the nature of non-transparent and negotiation-based compensation practices in the study communities, which have signified their post-resettlement poverty risks. The empirical evidence of local livelihood vulnerability and poverty risks in this chapter can help characterise how and to what extent the hydropower sector's current regulation can move towards hydropower sustainability discourse (IHA 2020), especially in social dimensions. Here, I argue that the GoL's multi-purpose resettlement policy, and ineffective resettlement practice, complicates resettlers' capacity to restore their livelihoods, while also exposes them to new risks of poverty or precarity despite the GoL's self-proclaimed poverty eradication of resettled population.

1.7 Conclusion

The main objective of this thesis is to develop a critical political ecology of hydropower resources development, as a means to better understand the challenges for sustainable hydropower discourse through a multi-scalar analytical approach. The political economy of hydropower development in Laos engages the interests of the state and non-state actors both within Laos and other Mekong states such as Thailand and Vietnam (Laos' main power markets) and China. These actors benefit from hydropower development not only for regional and national energy security, but also the profits from dam building. At national and sub-national levels, hydropower development is instrumental as the GoL's political and economic backbone. Yet, dam development also gives opportunities for state actors at various levels and across agencies for rent-seeking and corruption, both reflecting and producing institutional and regulatory disconnects, which challenge effective hydropower governance. Sub-national, national, and regional actors' economic interests in hydropower with limited socially and environmentally responsible development are secured at the social and ecological cost of local communities. The risks and benefits of hydropower expansion remain difficult to unravel. As Whitington (2020, p. 1076-1077) observes: "Debates about how [hydropower] development will proceed and at what cost—sustainability broadly construed—remain highly contentious."

Chapter 2 Literature Review

2.0 Introduction

The complexities of hydropower development and its implications for social and ecological change, especially for local community livelihoods, can be understood through multi-scalar, multi-dimensional, and multi-actor analysis (Vanclay 2017). Some existing studies (see Daniell et al. 2014; Daniell & Barreteau 2014; Dore & Lebel 2010; Matthews 2013; Suhardiman et al. 2012) use a normative approach to conceptualise multi-level and multi-dimensional analytical frameworks for effective water and hydropower governance. Other studies employ empirical methods to examine the implications of hydropower development for changes in social-ecological relations and livelihoods of communities at local or project level.

To understand a full picture of the implications of hydropower development on local livelihoods of dam resettlers, this thesis employs a multi-scalar critical analysis, moving from local, sub-national, national, and regional levels. Such analysis can help improve our understanding of how both policies and practice of hydropower governance at different scalar levels, and the interests of multiple actors, can shape resettlers' livelihoods. The findings from the local level can then help inform policies and the broader context of hydropower governance. For my multi-scalar analysis, in this chapter I employ a geographically informed political ecology as an overarching framework, as a basis for exploring three specific concepts—the political economy of powersheds; governance and scale; and livelihoods and vulnerability. I use this framework to analyse dam-induced resettlement, livelihood vulnerability and poverty risks. I also draw on Roe's (1994) narrative policy analysis approach to understand how hydropower is politically legitimated. To develop this conceptual framework, this chapter is organised as follows.

The first section provides an overview of a political ecology approach to hydropower and water governance issues. This political ecology examines how social, political, economic, and environmental aspects of resource governance are interconnected and shaped by power relations between actors across scalar levels and sectors. In the second section, I analyse how hydropower development for national and regional energy security transforms national and

regional energy-scapes and livelihood change at the community level. The analysis is framed through Magee's (2006) concept of 'powersheds'. A powershed is an analytical framework used to conceptualise how water and rivers within a spatially demarcated watershed are commodified and utilized for hydroelectric generation, mainly for export energy markets or to 'load centers' located external to the watershed (Magee 2006). In section 2.3, I extend an approach to the politics of scale in the Mekong hydropower governance, especially through the multi-level water governance concept, to understand how different actors across sectors and scalar levels (national to local) within the country interact and also 'disconnect' in their governance arrangements. Section 2.4 outlines a critical analysis of livelihood vulnerability and poverty risk through 'multi-purpose' resettlement, which is used as an instrument for governments to achieve multiple agendas and policies. The multi-scalar critical analysis of livelihoods of dam resettlers helps improve our understanding of the complexities of hydropolitics and hydropower governance in Laos, and in the Mekong Region in general.

2.1 Reviewing the political ecology of hydropower

Political ecology is a useful conceptual approach and set of methodologies, which has been increasingly applied in environmental research (Vandergeest & Roth 2016). In the field of water governance, the approach is helpful to understand the political nature of water uses and water infrastructure development, hydropower in particular, and adverse social and environmental consequences, especially at the community level (Bakker 1999; Baird & Barney 2017; Blake & Barney 2018, 2021; Geheb & Suhardiman 2019; Kakonen 2020; Matthews 2013; Sneddon & Fox 2006; Swyngedouw 2009).

Swyngedouw (2009) argues that a political analysis of water needs to understand the interdependence of social, economic, political, and cultural power relations between different actors. Political ecologists recognize that the nature of uneven decision making and political power relations between actors, and unequal cost and benefit sharing has remained a crucial challenge for effective hydropower governance. Bakker (1999) indicated that the uneven power relations of water in the Mekong River and its tributaries have increasingly been controlled and commodified through hydropower development, to generate revenue for governments and small groups of powerful state and private actors, at the costs of local communities and ecosystems. This unequal benefit from hydropower development and narratives related to hydropower development creates a space between winners and losers of

development. Political ecologists understand the material dimensions of water, especially electricity, to be important in these social and political relations, which are formed through commodification of water resources (Blake & Barney 2021; Bakker 1999; Matthews 2012; Middleton & Allouche 2016). Such commodification can be understood through a network approach of political ecology because the commodification can engage actor networks at scalar levels with different formations and divergent political-geographical and economic interests (Boelens et al. 2016; Kakonen 2020).

In addition to regional and national contexts, some researchers (e.g., Baird & Barney 2017; Blake & Barney 2018; Siciliano et al. 2016) have employed political ecology for critical analysis of how hydropower development has adversely transformed social-ecological relations and impacts on livelihoods of people at the community level. This transformation is shaped by a deterioration in natural resources and loss of local people's rights to control and access common natural resources, which are their main food and income sources. Their limited rights and access to such resources can result in the risk of impoverishment and vulnerability for resettlers' livelihoods (Cernea 1997). Occasionally, the transformation is further backed by "state-enforced violence and repression, including intimidation, imprisonment and disappearance for failure to comply with the state resource governance regime" (Blake & Barney 2018, p. 827). This aligns with Bryant and Parnwell's (1996, p. 9) observation that: "Control over resource use has been an important source of political patronage designed to award supporters and punish opponents in the broader struggle for political power." From the inter-dependent nature of political, ecological, and social justice perspectives in political ecology, Forsyth (2008, p. 756) argues that a key contribution of political ecology lies "not only [in] linking environmental knowledge and politics, but also in showing ways that environmental analysis and policy can be reframed towards addressing the problems of socially vulnerable people". For understanding causality, I draw upon Blaikie and Brookfield's (1987)'s concept of the "chains of explanation" in political ecology—tracing how changing social-ecological relations at the local level can be tracked though multiple scales, up to the political-economic driving forces and environmental changes at national, and regional levels.

Political ecology is useful as an overarching concept for my analysis of sustainable hydropower governance, especially relating to sustainable livelihoods of dam-resettled communities in Laos, based on several justifications. Development of a hydropower project

results in adverse social and environmental impacts, due to the changes in social-natural relational landscapes, challenging social and environmental sustainability. The challenges of environmental sustainability are viewed as closely linked to a political economy of natural resources development that serves political and economic interests, especially through corruption of politicians and business elites (Robbins 2000). Second, the development and impacts are largely shaped by economic and political interests of smaller groups of powerful actors within and across basin and national jurisdictional scales, while local communities pay for negative socioeconomic and environmental impacts—producing a characteristically uneven distribution of social and economic costs and benefits. Third, political ecology is well-suited to interdisciplinary approaches, which is especially helpful in the analysis of complex water and hydropower governance issues (Matthews 2013). The thesis therefore logically traces the complexities of hydropower governance discourses and practice through a multi-scalar analytical framework (local, sub-national, national, and regional) through three main concepts—the political economy of powersheds; governance and scale; and livelihoods and vulnerability—which I outline in more detail as follows.

2.2 Powersheds and hydropower development: shaping energy-scapes

This section develops a critical review of the literature on hydropower governance and social-ecological relational changes, especially at the community level, in the Mekong Region. My review contributes to the literature on hydropower governance and livelihood changes of dam-resettled communities in the Mekong Region through the framework of the 'powershed'. The critical review from this section provides a theoretical basis for Chapter 4 to answer the first research question of the thesis, which seeks to investigate how the dynamics of hydropower development in Laos are shaped by the political-economic power of foreign and local private or state actors who commodify the water in Laos' watersheds to generate hydroelectricity, mainly for exports to the load centres outside the watersheds.

2.2.1 Powersheds: beyond watersheds

Different scholarly studies (see Magee 2006; McNally et al. 2009; Middleton & Allouche 2016) have extended a traditional understanding of watersheds, as spatially demarcated boundaries, into a more abstracted interpretation, which incorporates the role of hydraulic infrastructure and networks. The idea of the powershed asks how the water within a particular watershed basin is commodified for hydroelectricity generation for electricity demand,

occurring both within and outside the watershed (Magee 2006). This framing can be usefully applied to contextualise current hydropower development context in the Mekong Region where large hydropower schemes are developed within a particular watershed or basin, largely for power demand or power markets outside the basin or host country. As Bakker (1999, p. 210, emphasis in original) writes: "The Mekong River basin is both naturalising and naturalised, simultaneously an imperative for development and a 'virgin' object to be developed, a potential source of hydroelectricity that will fuel the region's predicted rising energy needs." Bakker adds that hydropower potential and predicted energy demand have driven regional hydropolitics with increasing involvement of transboundary private financial capital, and the politicization of water resources use for hydropower development (Bakker 1999). From this form of development, the Mekong can be understood as an object for "a discourse of regional development and cooperation" (Wong 2010, p 4). Such politicized water use has links to Swyngedouw's (2009, p. 58) argument that "common or public water rights are socially, politically, and economically transformed into exclusive property rights whose access is choreographed though market mechanisms".

The argument above sets out how common resources have been privatised and commodified for benefits of some groups of people while socialising and externalising social, environment, and economic costs of development to wider groups of people. From such dimensions of commodification of the water, water governance needs to be understood through a multi-dimensional approach, considering water as both a common and private commodity at the same time (Paerregaard and Andersen 20-19). While water is extracted and commodified at a certain location, commodification can affect different users of water at upstream and downstream of such a location, and impacts can extend from national jurisdiction to the regional level, especially for a transboundary river.

To extend the understanding of the commodification and politicization of water resources by (both national and foreign) actors, I utilise the concept of the 'powershed', as proposed by Magee (2006). Instead of referring to a specific geographic area or a spatially demarcated (although still socially constructed) watershed boundary, the powershed concept invokes a further spatial abstraction to understand the influence of the drivers and electricity users outside the watershed on hydropower development (see Magee 2006; McNally et al. 2009). With the analogous meaning of powershed to watershed, Magee (2006, p. 26) defines powershed as "a space over which a portable resource (water or electricity) is collected and

concentrated for use, with use frequently occurring far from the site of collection (or in the case of electricity, generation)". The author adds that "new spatial configurations – 'powersheds' – help legitimize electricity transfers and provide a lens for understanding scalar politics of electricity in a dynamic, processual sense" (Magee 2006, p. 25, emphasis in original). Recently Middleton and Allouche (2016, p. 101) have drawn on this idea and applied it to the Mekong Region, presenting a powershed as "a material, institutional and political construct linking electricity generation to load centres," extended for the broader Lancang-Mekong Region, and applied to understand the region's hydropolitics and political economy of hydropower development. These ideas are influenced by networked political ecology in a sense that the development engages actors and spaces across geographical and institutional scales.

To illustrate the meaning of the powershed, Magee (2006) shows how the hydropower development in watersheds in China's Yunnan province jurisdiction acts as a powershed, to supply energy demand in Guangdong province, with the latter representing an external 'load center'. From positioning Yunnan as a powershed, I contribute to Middleton and Allouche's (2016) conceptually constructed powersheds—southeastern China, Thailand, and Vietnam—by conceptualising Laos as a powershed state for the Lower Mekong Region. My approach is built on the fact that Laos' electricity exports to load centres in Thailand, Vietnam, Cambodia, and to a lesser extent Malaysia, are generated mostly from the Mekong Basin. This framing of Laos as a powershed for the load centres in Thailand, Vietnam, and Cambodia is somewhat different from Middleton and Allouche's (2016) idea of Thailand and Vietnam as powersheds, in that I view these countries as load centres for the hydroelectricity generated from the Mekong watersheds within Laos' territory (see Chapter 4).

The powershed concept is useful for my analysis of hydropower development and governance challenges in Laos and the Lower Mekong Basin, where both the scalar politics of electricity transfers within and across the basin, and involvement of private investment, are highly dynamic and contested. Together, the commodification of water in the Mekong Basin, the role of investors and technologies, and flows of finance and electricity across national and watershed territories, transform national energy-scapes in Laos and the wider Mekong Region. To contribute new knowledge to existing scholarship on the powershed concept and broader hydropower governance, next I highlight the political-economic power relations between private and state agencies involved in hydropower development, and power trades in

Laos and the Mekong Region, through a lens of energy-scapes. My second contribution will thus add further insight to the social and ecological vulnerability dimensions of the powershed concept of McNally et al. (2009).

2.2.2 Powersheds and political-economic power relations in hydropower

The commodification of water for hydropower generation and the flows of electricity and investment capital across national and watershed boundaries have been shaped by the political-economic interests of local, national, regional, and international hydropower actors, in powersheds that export hydropower. This sub-section uses powersheds as a tool to frame the drivers, political economy, and power relations between hydropower actors in the contested Mekong hydropower.

The vast majority of hydroelectricity generated from rivers in a powershed state or region such as Laos has been exported to neighbouring Mekong Region countries (see Bakker 1999; Greacen & Palettu 2007; Magee 2006; Middleton & Allouche 2016; Rieu-Clarke 2015). As Rieu-Clarke (2015, p. 28) notes, "the energy generated by transboundary hydropower projects often feeds demand outside a particular river basin". The predicted energy demand and hydropower surge in the Mekong Region has driven the Mekong Basin towards the world's top hydropower investment locations[5] (Moran et al. 2018). Consequently, hydropower development has created a new form of hydro-politics in the Mekong Region (Middleton & Allouche 2016). There are power relations between multiple hydropower-related actors in pursuit of political and economic (financial) interests, and control over and politicization of water use (Bakker 1999). These actors include key Thai banks and construction companies that have played a crucial role in the Mekong hydropower development since early the 1990s and the significantly growing financial power of Chinese development banks in the past decade.

Economic and financial power of hydropower actors

The economic power of private actors in hydropower projects is a crucial driver influencing hydro-politics and energy-scapes in the Mekong Region. Unlike for the larger economies,

[5] Rather than presenting financial figures, the author refers to the number of new large hydropower dams in the Mekong Basin: mostly in China; with 72 and 50 planned projects in Laos and Cambodia respectively.

including China, Thailand, and Vietnam, hydropower development in the smaller Mekong economies, such as Cambodia, Laos, and Myanmar, heavily relies on foreign direct investment. This reliance is primarily attributed to the limited domestic financial, technical, and technological capacities of the latter (Middleton et al. 2014; Suhardiman et al. 2011). The limited capacities have resulted in flows of finance, technology, generated electricity, and knowledge (Middleton & Allouche 2016). Hydropower development also entails a substantial workforce (skilled and unskilled labour), which moves across the demarcated basin and (national) administrative boundaries due to limits on the knowledge and workforce capacities in the hydropower states.

This foreign investment in hydropower has been driven through the liberalisation and reforms in the power sector in the Mekong Region over the past 20 years (Middleton et al. 2014; Souvannaseng 2019). Hydropower projects in the riparian countries, have been developed through the IPP and PPP arrangements (Middleton et al. 2014; Suhardiman & Giordano 2014). For Laos, these arrangements and rapid hydropower expansion were attractive for hydropower proponents largely because of power exports to its neighbouring countries, mostly Thailand. Yet, the substantial engagement of private actors in hydropower development and electricity trades across spatial and jurisdictional scales are linked not only by financial power, but also political power, which is discussed below.

Political power and relation of state and private actors

The private actors' control over hydropower development and water use rights are closely linked to political power. This can be seen from how the private actors and state-owned utilities and electricity users outside of powersheds largely control and influence power generation, regulation, and demand trends (Baird & Quastel 2015; McNally et al. 2009). The current pattern of hydropower development and political-economic power dynamics in Laos, where hydropower development is dominated by actors outside the country, showcases such dynamics. For example, the power production of the Nam Theun 2 (NT2) dam in Laos is mediated by the fluctuating energy consumption patterns of customers (especially shopping malls) in Bangkok (Baird & Quastel 2015). Through the IPP model of hydropower development, private developers and investors seem to gain increasing political power from the Lao government. As Suhardiman and Giordano (2014, p. 982) argue, "[…] the central state [Laos] has used a decoupling strategy that transforms private-sector actors into its

informal agents in hydropower governance … but also positions the MEM [Lao Ministry of Energy and Mines] as the sole decision maker in formal hydropower development with the task and responsibility of promoting rapid hydropower development". These authors elaborate that: "[t]he use of private actors as informal agents is most apparent from the way they are allowed to shape hydropower governance so long as it is in accordance with the central state's single interest in rapid hydropower development and almost entirely disconnected from rules and institutions set up to ensure internationally defined socioenvironmental safeguards." (Suhardiman & Giordano 2014, p. 984)

Unlike prior to the late 1990s, current investment in hydropower project in the Mekong Region mostly engage these new actors, largely from outside powershed states: private developers, investors, and lending agencies from the countries in the Mekong Region such Thailand, China, and Vietnam (Middleton et al. 2009; Souvannaseng 2019). High-level politicians, state enterprises, and business elites from these countries strongly support these new actors; however, with weak commitments to environmental and social standards (Middleton et al. 2009). The powerful politicians in hydropower states also support these actors for not only national but also personal financial interests through corruption and bribery practice.[6] The rise of and reliance on the new developers are not only driven by the limited domestic financial capital and technical capacities of the riparian countries, such as Laos, Cambodia, and Myanmar, but also the declining involvement of other international financial institutions, especially the WB and ADB. This is partly due to their increasing safeguards standards[7], and partly due to the criticisms of past projects in the Mekong Region that these banks have been involved in, such as the Pak Mun, NT2, and Theun-Hinboun (see Foran & Manorom 2009; Lawrence 2008, 2009). In addition, as Braeckman et al. (2020) note that low and middle-income countries have increasingly moved toward alternative financing mechanisms, including bilateral finance, especially from emerging countries such as China, in hydropower investment. Regional and state-backed financial investors have less stringent safeguard requirements and quicker project development processes than the MDBs, which in comparison have slow financial closure, high safeguard requirements, and lengthy and

[6] As Robbins (2000) interestingly argues, evidence of corruption practice through development projects are often not sufficiently debated in political ecology.
[7] ADB tried to become a financial backer of the Nam Ngum 3 project, but their safeguard standards rendered them uncompetitive with the GoL (financiers from China, Thailand, and Laos backed the NN3 in the end). ADB had a similar experience with the Xe Pian-Xe Namnoy dam (Korean and Thai banks were financiers for this project in the end).

complex processes for project approval. Consequently, moving forward with the current hydropower development patterns with weak environmental and social standards in a bid to support regional energy demand can entail social and ecological implications (McNally et al. 2009), transforming existing nature-society relations, as discussed below.

2.2.3 The ecological and social implications of creating Mekong powersheds

Despite the current and anticipated economic benefits from hydropower development and energy regionalisation in the Mekong Region, the benefits come at the expense of significant negative social and ecological impacts and vulnerability. In this sub-section, I shed light on and contribute to the existing conception of McNally et al. (2009) regarding implications of making powersheds for ecological and social vulnerability. The conception is useful to support the broader picture of how hydropower development for the transboundary energy trades in the Mekong Region transform nature-society relations, shaping a new production of nature and new local social-environmental transformations in basins or watersheds at various spatial scales (Baird & Quastel 2015; Middleton & Allouche 2016). My contribution builds upon my experience from Laos where its ambition of becoming powershed state has led to a surge in hydropower development, with ecological, social, and economic implications for the local communities.

Regional and national dam proponents, including governments, in the Mekong Region have actively pushed hydropower projects to gain both economic benefits and political power, but with limited consideration of the adverse social and ecological effects from dams (Matthews 2012). These dam proponents often appear to overestimate the economic benefits and underestimate the hydropower-induced environmental and social costs in pursuit of the cross-border electricity transfers and investments, (McNally et al. 2009; Moran et al. 2018). These costs include blockage of fish passage, decrease of sediment at downstream, saltwater intrusion at the Mekong Delta, broader ecosystem and biodiversity impacts, and decrease of crop production due to decreased nutrients to plains because of decreased sediment load and flood pulse changes (Kuenzer et al. 2012). Fish is a primary protein source for the population of 60 million in the Mekong region, and the decline of fish catch needs to be replaced with non-fish protein or livestock. Such replacement can affect land and forest resources up to about 10,000 km^2 for additional grazing areas for livestock (Orr et al. 2012). Inevitably, expansion of pastureland can lead to increasing deforestation, affecting forest ecosystems.

These ecological losses and costs for social impact mitigation measures can significantly outweigh the benefits from hydropower development in the region (Intralawan et al. 2017). Intralawan and colleagues estimate that ecological losses from hydropower development in the region can have an economic value of at least US$7 billion.

Ecological losses can transform nature-society relations within and beyond watersheds. The costs and benefits of the transformed social-ecological relations from hydropower development are unevenly distributed between actors (Bakker 1999; Matthews 2012). Such distribution of cost and benefits helps characterise the dynamics of political power imbalance between actors across political scalar levels, in which social-ecological effects and increasing vulnerability to such effects go to lower political scales, especially local communities within powershed states (McNally et al. 2009). Evidence of unequal distribution of costs and benefits between actors at local, sub-national, national, and regional levels from the current powersheds in the Lower Mekong Region is more starkly obvious from the tragedies of the 2018 dam collapse of Xe Pian-Xe Namnoy in Laos, which caused substantial downstream loss of human life, injury, loss of livelihoods, damages, and ecological impacts (Baird 2020; Blake & Barney 2021). The evidence of uneven cost and benefit sharing speaks to the idea of winners and losers from water grabbing in the Mekong Region of (Matthews 2012). Rather than national interests, the primary winners are a few politically powerful politicians and economically influential private elites whereas losers are a vast majority of poor and rural people (Kuenzer et al. 2012). Such a delineation of space between winners and losers is linked to dam proponents' narratives of hydropower development for poverty reduction, Laos as the battery of Asia, hydropower as an economic backbone (Geheb et al. 2015) and the use of dams as symbols of modernity (Kaika 2006).

Overall, I find the idea of a 'powershed' to be a quite unique analytical framework to conceptualise the political economy of export-oriented hydropower development mainly for distant power demand outside a spatially demarcated watershed with consequent adverse social-ecological changes. The powershed also usefully characterises how local communities in project areas can become less resilient to the changes, resulting in their livelihood vulnerability. The powershed concept is employed to answer my first research question, which examines how the GoL's strong ambition to become the battery for the Lower Mekong countries and beyond has shaped the current contested and rapid hydropower development paradigm in Laos (see Chapter 4). The concept also supports my third research question of

how the country's rapid export-oriented hydropower development results in new forms of livelihood vulnerability of dam-resettled communities (see Chapter 6). I note that the power of powershed can also be supportive for broader hydro-politics and hydropower governance analytical frameworks.

Moreover, powershed is a useful concept for my analysis of a second theoretical framework that of scale. I note that there is a strong connection between the powershed concept and the scalar literature in key dimensions. First, the powershed is a political-economic and social construct drawn from the idea of a watershed, which is a unit of analysis for the hydrological scale for water governance. The idea of powershed combines a watershed with flows and networks of finance and capital, technology, produced energy, and expertise (Middleton & Allouche 2016) within and across fixed spatial (administrative, hydrological, institutional) scales. Hence, I find it is useful to understand and unfold the complexities of powersheds in Laos through a lens of the politics of scale, which are detailed next.

2.3 The politics of scale and multi-level hydropower governance

In this section, I contribute to a critical review of the literature on the politics of scale for broader water and hydropower governance in the Mekong Basin (Dore & Lebel 2010; Lebel et al. 2005; Suhardiman et al. 2012). This critical review helps me to analyse the power relations of different actors and institutions across sectors and (national-local) scalar levels, and the implications of such relations for sustainable hydropower development, especially livelihoods of local people, in Laos. After explaining my approach to scale, I then utilize the decentralisation/recentralisation concept to outline the vertical scalar interactions between national and local administrative levels that shape hydropower governance in Laos. Then, cross-sectoral and multi-level interaction and institutional disconnects are discussed. The analysis in this section helps me to answer the second research question of how different institutional levels of state agencies both interact and disconnect, creating challenges for effective hydropower governance, especially on dam resettlement and livelihoods of dam-resettled communities, in the Sekong Basin of southern Laos.

2.3.1 The politics of scale

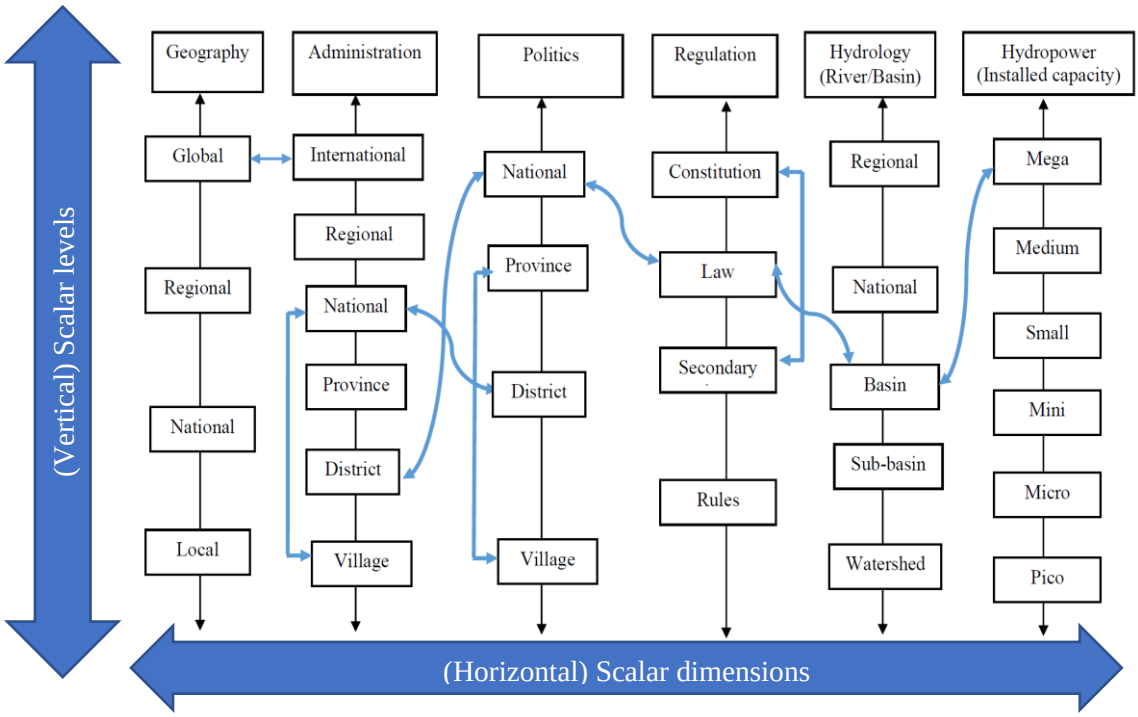
Although scales are at times viewed as an outcome of bio-physical processes in physical geography, scale in human geography is considered to be socially constructed through political processes (Brenner 2001; Bulkeley 2005; Marston et al. 2005; Smith 1980). Scalar theory has shifted from traditional conceptions of Euclidian geographical scale, understood as fixed containers with self-enclosed boundaries, to unfixed and unbound notions involving more dynamic processes of politics and contestation (Brenner 2001; see also Karkkainen 2004). There are multiple notions and constructs of scale, thus, no common consensus regarding the meaning and adoption of scale has been reached (Marston et al. 2005). The multiple constructs of scales explain the phase of a 'politics of scale' of Neil Smith (1980). Smith interpreted scale as a social construct that can change over time through socio-political processes, with shifts in focus possible from one scale to another, depending on the frame and objective of analysis, and its politics. In addition, scalar interactions can move "multi-directionally and simultaneously" and "between and within" scales (Marston et al. 2005, p. 419). Some scholars further specifically refer to scale in relation to state or non-state actors, institutions or organisations and their interaction in natural resources governance (see Adger et al. 2005; Berkes 2002; Sneddon 2003; Young 2002).

2.3.2 Scalar dimensions and levels in hydropower governance

Multiple perspectives on scale are evident in the fields of water governance and hydrology. In these fields, scholars have linked the idea of scale to what Gibson et al. (2000, p. 219) refer to as "the spatial, temporal, quantitative, or analytical dimensions used by scientists to measure and study objects and processes". Given these dimensions, some scholars have constructed scales as analytical frameworks for the purposes of water governance in the vertical and horizontal directions. Dore and Lebel (2010, p. 62) have defined various spatial (administrative, economic, ecological, hydrological) and temporal scales. Similarly, Daniell and Barreteau (2014, p. 2369) have proposed multiple scales and levels, covering spatial, temporal, administrative, institutional, management, networks, information, and issue dimensions. For the context of hydropower, this thesis further adds two other scalar dimensions—namely hydropower scales, and political scales (see Figure 3). To avoid confusion between scale and level used in this thesis, I draw on Moss and Newig's (2010, p. 3) distinction between 'scalar dimension', which refers to time, administration, regulation,

hydrology, hydropower, and politics, and 'scalar level', which refers to level(s) on a defined scalar dimension (see Figure 3 below). The details of the key scalar dimensions are discussed in separate subheadings below.

Figure 3 **The politics of scale in water governance**



Source: Adapted by the author from Daniell and Barreteau (2014, p. 2369) and Dore and Lebel (2010, p. 62)

Administrative scale

In the administrative scale, different administrative levels are hierarchically established, ranging from local, provincial, national, regional, and international levels, with their own specific geographical areas and jurisdictions (Daniell & Barreteau 2014). Such multi-level hierarchical structure has been conceptualised as 'multi-level water governance' (Moss & Newig 2010) and forwarded as an approach to solve water-related issues, including hydropower development. Rather than being limited to vertical interactions between levels, moving from international organization to village levels, within an administrative scale, multi-level water governance also involves horizontal interactions across scalar dimensions and sectors, as shown in Figure 3 above. As Danniell et al. (2014, p. 2417) suggest: "Authority [of water governance] is not only dispersed vertically between levels of administration, but also horizontally across different sectors of interest and spheres of influence, including non-governmental actors, markets and civil society."

Political scale

In parallel with administrative scalar levels, the idea of political influence is significant in multi-level water governance, especially related to hydropower development, in many countries. I therefore extend the significant influence of political party structures in each administrative scale, drawing upon the constructed and parallel 'state-party' (*phak-lat*) system for functioning of governance system (Creak & Barney 2018; Baird 2018). For example, in Laos, as with China and Vietnam, there is a close overlap between the government and the LPRP (Stuart-Fox 2006). The party's power is hierarchically arranged in parallel with each state's administrative level, including at village administration (see Creak & Barney 2018). As Suhardiman and Giordano (2014, p. 975) argue, "all branches of government being its direct subordinates and with the Politburo as the Party's highest authority […] implementation of Politburo resolutions takes precedence over strategies and plans produced at the ministerial level". Through the party-state system, the government can consolidate and control power and authority in Laos (Creak & Barney 2018). Meanwhile, "[d]ivision [between party and state] is seen as generally bad by the party and state, unity is almost always good" (Baird 2018, p. 743). Thus, analysis of the political dimensions of scale is useful for understanding the water and hydropower governance context in some countries, in which the implicit or explicit political power of the party is institutionalised at all levels of bureaucratic structures. The substantive power of political party across political scales on hydropower governance is presented in Chapter 5.

In some cases, political power moves beyond a particular scale. Sneddon (2003) analyses how the then Thai government exercised its political power, trying to convince and negotiate with local, national, and regional (governments of Mekong riparian states) actors to develop the proposed Khong-Chi-Mun inter-basin water transfer project in northeast Thailand, largely for political gains, despite social and environmental concerns and critics from different local societies, NGOs, and academics. As Sneddon (2003, p. 2242) notes, "[the] project has indeed won strong backing from members of parliament hailing from the northeast, who perceive the massive construction expenditures as means of solidifying the allegiance of village and district officials, whose assistance is critical in gaining (or buying) northeastern votes during parliamentary elections".

Regulatory scale

Each level of regulatory scale has crucial implications for hydropower governance. The levels of regulatory scale can range from international treaties and standards, and national constitutions, laws and policies, to operating rules within a state (Daniell & Barreteau 2014). However, their impacts on hydropower governance largely depend on how different levels of regulations are formulated and to what extent they are effectively implemented. In some countries, rather than deliberative processes with participation of institutions at multiple levels, only a small group of people at the national level play an important role in the formulation process. In many cases, the formulated regulations serve the interests and policies of a political party. As Stuart-Fox (2006, p. 66) notes for the case of Laos, "[v]ery often legal decisions were made on the basis of interpretations of Party policy, not legal statutes". This author also adds "there is no distinction between the Party and the judiciary" in Laos (Stuart-Fox 2006, p. 70). The political influence on the judiciary and justice systems has certain implications on transparent, accountable, and inclusive policy planning and decision making on hydropower governance, and this influence presents challenges for multi-level and cross-sectoral water and hydropower governance. Such influence can weaken implementation of regulations, challenging effective hydropower governance. This way of analysing multi-level regulations is very useful for my multi-scalar analysis of how different levels of bureaucracies in Laos implement legal instruments, and how the LPRP's power interacts with these instruments.

Hydrological scale

Despite the usefulness of a multi-level water governance approach administrative scale, water governance is often organised and administered through hydrological scales such as basin, sub-basin, and watershed (Hirsch 2006). The adoption of a hydrological scale-based governance approach can be attributed to the distinctive biophysical characteristics of rivers and basins that extend beyond national administrative or jurisdictional territories. As Dore and Lebel (2010, p. 2368) note, "some actors push for hydrological scales with levels that correspond to manageable units in the models or infrastructure they operate. Others promote conventional, area-based administrative hierarchies, arguing that this is where capacity, accountability, and legitimacy already exist". Given such characteristics, as with other parts of the world, governance of water and water resources in the Mekong Region is administered

through hydrological scale—a basin-/watershed-based water governance approach—through inter-government agency, the Mekong River Commission (MRC), rather than any administrative jurisdictional boundary.

Within a national administrative boundary, water governance is further organised through a sub-basin- and watershed-based governance approach with a management authority or committee (Hirsch 2006). Yet, in many circumstances, I note that the hydrological-based governance approach can prove to be ineffective. At the national level, ineffective water governance can be seen from the case of establishment and dissolution of the river basin management authorities and committees for the Nam Ngum and Theun-Kading rivers (interview CG2, September 2018). At the region level, ineffective hydrological-based management approach can be evident from hydropower development on the Mekong Mainstream, in the context of administrative and jurisdictional boundaries of the riparian states. Regardless of the nature of transboundaries of a river, these states often claim to have full ownership and rights over water resources and development within their boundaries, given their different geographical positions and places on the river (Lebel et al. 2005). While many individuals and institutions criticised the MRC's limited power regarding the move of hydropower development, especially on the Mekong Mainstream, its own role is described as a coordinating agency to facilitate member countries and other stakeholders to discuss water-related issues for possible resolutions through water diplomacy (Kittikhoun & Staubli 2018).

Hydropower scale (generation capacity)

Like other constructed scalar dimensions, hydropower scale has distinctive units of analysis. I refer to these units as the sizes of power generation capacity of individual hydropower projects, which can range from pico-hydro to a mega-project[8] (IRENA 2012) (see Figure 3). The differentiation of hydropower scale is useful for hydropower governance analysis because different levels of hydropower scale can engage different scalar levels of administrations, institutions (or organizations), and regulations. In general, hydropower projects of larger scales, especially involving international transboundary rivers/basins such as the Mekong,

[8] A large-scale dam has installed capacity ≥ 100 MW; medium scale: 20–100 MW; small scale 1–20 MW; mini scale: 100 kW–1 MW; micro-level scale: 5–100 kW; and pico-hydro: a few hundred watts up to 5 kW (IRENA 2012, p. 11).

tend to engage more vertical administrative levels and wider sectors/actors, both from state and non-state agencies, than small-scale projects on a sub-basin or tributary level.

In addition, hydropower scale is important for hydropower governance in terms of impacts and contestation. Hydropower projects with larger scales, such as the Xayabury and Don Sahong, as well as planned projects on the Mekong Mainstream often involve greater biophysical and social effects and political contestation than the smaller ones, such as the XKM1 and HLG projects (see Chapter 6). As a result, larger projects tend to draw more attention from wider stakeholders because the water governance is subject to both spatial and political scales. As Moss and Newig (2010, p. 2) argue, "[n]ot only does water work across multiple spatial scales in its ecological dimensions, from the individual organism to the global climate, but the governance of water is currently undergoing substantive change as competencies and terrains of political intervention simultaneously shift upwards toward the national or supranational and downwards toward the regional (and provincial level in the Lao context) or local scale". In some cases, the level of stakeholder engagements and contestation are attributed to financing arrangement between multilateral development banks and national banks regardless of hydropower scales. The projects, including the NT2 in Laos and the Pak Mun in Thailand, which engage multilateral development banks with international best practice policies, tend to draw more attention from wider stakeholders, including NGOs and civil society groups, and are more contested than national banks-funding projects because of more transparent inclusive processes of MDB-backed projects.

2.3.3 The politics of administrative scale: decentralisation of hydropower governance

Decentralisation as a concept is broadly shaped by three fundamental components—fiscal, political, and administrative decentralisation—devolving decision-making power from (vertical) central-local administrative levels, including communities (Isufaj 2014; WB 2010). The decentralisation concept has been widely applied in the field of natural resources governance, including water resources (see Witthayāphak & Vandergeest 2010). For the water governance-specific context, some scholars have applied decentralisation for water-related governance issues, especially for the Mekong Region, such as watershed management (see Jusi 2013), flood disaster management (see Marks & Lebel 2016), and irrigation system management (see Jusi 2013; Sok et al. 2014). There are also some studies that can link the decentralisation to normative approaches, such as public participation (Sneddon & Fox 2007),

multi-stakeholder platform analysis (Dore 2010), and scalar problems (Dore & Lebel 2010; Grumbine et al. 2012; Hirsch 2006; Lebel et al. 2005; Sneddon et al. 2002; Suhardiman et al. 2012).

Yet, analysis of the politics of scale in water governance through the lens of decentralisation has remained under-studied, especially in the context of hydropower. Drawing on existing studies (see Goldthau 2014; Marks & Lebel 2016), this sub-section aims to fill such a gap, and contributes to and complements existing literature on scalar politics in water governance in the Mekong Region, by incorporating a multi-scale decentralisation approach in relation to the specific context of hydropower in Laos.

As with a broader context of natural resources governance (see Ribot 2004), decentralisation in water governance aims to ensure efficient use, equitable distribution, and access to water resources. Decentralisation advocates argue that proper implementation of decentralisation reforms can improve the effectiveness, justice, and accountability of public services, and promote improved natural resource governance (Ribot 2004; Agrawal & Ribot 1999). However, the concept itself is ambiguous and not usually defined clearly, thus, there can be dark sides or dangers to decentralisation, which have been noted in many countries (Andersson & Ostrom 2008; Ribot 2004). The dangers of decentralisation are shaped through the fact that decentralisation often involves designation of responsibility to lower levels of authorities, including communities, without devolving political power to make a decision and access to resources (Witthayāphak & Vandergeest 2010). As Marks and Lebel (2016, p. 57) observe for their case studies in Thailand regarding its 2011 flood, "Thailand's decentrali[s]ation has been incomplete due to the retention of power and resources by central bureaucrats and the continued weak capacity of local administrative organi[s]ations."

The retention of decision-making power at upper levels gives evidence of ineffective decentralisation of water governance in the Mekong Region. As Lebel et al. (2005, p. 13) note, "Much has been written about decentralisation trends in the Mekong region. Much remain unread [and unimplemented] by its bureaucracies." Meanwhile, limited capacity of local organisations can be linked to inadequate knowledge sharing or transferring regarding water issues from national to local bureaucracies, largely due to interests in control over resources by upper levels (Van den Brandeler et al. 2014). However, as with broader decentralisation literature, some local officials and bureaucracies can abuse or misconduct

their centralised power by extracting economic rents from local businesses within their jurisdictional territories (see Tang & Huhe 2016). The abuse of power is quite common in some riparian countries, where limited practice of rule of law and corruption are widely evident. This could be the rationale for upper levels of administrative units to devolve only limited power to its lower administrative units. As Andersson and Ostrom (2008, p. 76) argue, no perfect governance exists through "either entirely centralised or entirely decentralised governance systems because the adequacy of a particular governance structure depends on several context-specific attributes," in other words, "incomplete decentralization" (Marks & Lebel 2016, p. 61).

The conceptualised (incomplete) decentralisation of water governance outlined above is useful for my analysis of the contested history of back-and-forth decentralisation and recentralisation in Laos (Gomez et al. 2011; Keuleers & Sibounheuang 1999; Soukamneuth 2006), which has also played out in hydropower governance, and will be examined in Chapter 5. However, rather than focus on vertical multi-level interaction, the dynamics of decentralisation also consider inclusivity to engage cross-scalar stakeholders in decision-making processes (see Goldthau 2014; Ribot 2004). As such, the next section will discuss the interaction of institutions across institutional levels and sectors, in short vertical and horizontal interactions of scalar politics.

2.3.4 Scalar interaction and disconnect: multi-level governance of hydropower

Despite the innovative conceptual approaches to multi-level water governance (see Daniell et al. 2014; Moss & Newig 2010), weak cross-sectoral coordination and engagement of wider stakeholders remain critical challenges for effective water governance, especially hydropower regulation. In this sub-section, I discuss the challenges of current weak coordination between multiple levels within state agencies and between the state agencies and non-state stakeholders, including communities, and limited stakeholder engagement. My discussion draws upon the concept of 'scalar disconnect' of Suhardiman et al. (2012), by downscaling from the regional (Mekong)-national level to national-and local (district) level coordination dynamics that shape the current contested dam regulation in Laos. I also analyse the mismatches or overlaps in the relevant legal frameworks and policies of hydropower-related agencies (Suhardiman & Giordano 2014) for their own sectors' interests that results in the scalar disconnect in hydropower governance.

Like broad water governance, hydropower development and regulation are best administered through involvement of multi-level stakeholders across sectors, including communities in decision-making processes (Suhardiman et al. 2012). Water governance is implemented through policies and regulations, which are institutionalized through the scalar levels of state bureaucracies (Dore 2010; Dore & Lebel 2010). In addition, it is common that the water-related policies of different water-use sectors, including hydropower, agriculture, and environment, are interdependent and their uses and development need to be well coordinated. To promote well-coordinated cross-sector water uses and development, multilateral development banks' policies regarding wider stakeholder engagement and public participation (WB 2018, WCD 2000a) are widely introduced, to help improve better scalar coordination in the processes of hydropower planning, development, and regulation.

However, despite the existence of international best practice standards and national regulations, the coordination between multiple levels across sectors at the Mekong Basin level remains weak. This is problematic especially given the Mekong's status as a transboundary river. It is very complex and difficult to integrate cross-sector political and economic perspectives and interests of the Mekong member countries (Suhardiman et al. 2012). Different member countries at different spatial positions and places on the river hold different political and economic power and interests to contest and promote hydropower development in the Mekong Basin (Lebel et al. 2005; Matthews 2013). Importantly, different riparian countries have their distinctive development potential from the Mekong River within their territory; the hydropower potential for Laos, for instance. Limited multi-stakeholder dialogues can also be seen in the moves of mainstream dam projects at the lower reach of Mekong such as the controversial Xayabury and Don Sahong projects (Dore & Lazarus 2009; Cronin & Weatherby 2015; Yong 2019). Rather than contestation, more riparian countries (i.e., Laos, Thailand, and Vietnam) seem to have promoted mainstream projects, such as the Luang Prabang mainstream dam project, which has been in the advanced stages of mobilization (RFA 2021a; The Diplomat 2020).

In addition to limited stakeholder engagement, the nature of the scalar disconnect in Mekong hydropower can be depicted through how some stakeholders are engaged in public consultations in more performative or tokenistic than robust and meaningful ways. This can be evident from the weak implementation of the Procedures for Notification, Prior

Consultation Agreement (PNPCA). In this PNPCA processes, the interests of different sectors (hydropower and environment) and groups of peoples (state and community) are unevenly considered and treated (Yong 2019). From her extensive examination of public consultations and processes of three projects—the Xayaburi, Don Sahong, and Pak Beng dams—Yong (2019) argues that the public consultations were more favourable for technical discourses of the projects than the social and environmental concerns, especially for local communities. Crucially, decisions on water governance and hydropower development mostly come from smaller groups of powerful actors such as high-level politicians and business elites, which serve narrower economic and political objectives (Grumbine et al. 2012; Matthews 2012).

These ideas exemplify the idea of tokenism in the eight layers of citizen participation, in which participants are consulted but lack power to bargain on particular issues for their interests (Arnstein 1969). I refer to the past and ongoing public consultations at regional and national levels in the Mekong hydropower as "performative or ritualistic of compliance" (Milne & Mahanty 2019, p. 4) to adhere to regional and national regulatory requirements of stakeholder engagement. At the national level in some of the Lower Mekong countries, the political nature of limited free speech (Middleton et al. 2009; Creak & Barney 2018) has shaped such performative compliance, challenging affected communities to raise their concerns. Drawing upon a definition of the term 'ceremonial' as "having no real power or influence[9]", I use the term 'ceremonial public participation' to refer to this kind of limited space for participation. My use of this term also builds on previous research about how state agencies have manipulated local religious rituals and ceremonies for governance purposes (see e.g., Singh 2014). Such token practice sometimes results in "self-exclusion" by some stakeholders, given that their participation legitimises and serves the interests of powerful actors, instead of their own, although in most cases stakeholders are deliberately excluded by consultation organisers (Warner 2006, p. 30). The empirical evidence for the lack of meaningful participation in resettlement, compensation planning, and implementation from the two case study projects discussed in Chapter 6 can support the idea of ceremonial public participation in hydropower governance.

As with the basin level, the weaknesses in multi-level and cross-sectoral coordination for water governance within the Mekong member states are also pronounced. The National

[9] Source: http://www.merriam-webster.com/dictionary/ceremonial

Mekong Committees—coordinate and engage the governments of the member states with the MRCS regarding transboundary Mekong water issues. However, regardless of ideal cross-sectoral and multi-level coordination, different line ministries with riparian countries still drive their own development agendas and seek to sustain or expand their sectoral decision-making powers and competing economic interests (Suhardiman et al. 2012). Importantly, different sectors hold different political and economic powers delegated by national governments in each member country. This can be evident from the current institutional disconnect in hydropower governance in Laos, where the country's hydropower sector is considered a top priority while environmental and social concerns are largely underestimated (see Chapter 5).

The literature review above has provided some critical views of water governance, especially hydropower context through a lens of the politics of scale. Scalar theory is a useful tool that geographers, political ecologists, and water governance scholars use to flexibly analyse the scalar dimensions and scalar levels for different purposes in water governance. So far in this chapter, I have conceptualized the scalar dimension for my analysis of hydropower governance and how political processes in Laos, including the role of the LPRP, influence administrative organizations, as well as regulation and hydropower scales. Furthermore, the multi-level and cross-sectoral water governance concept is useful to help examine how different scalar levels across sectors with their own regulations and policies interact and become disconnected. Overall, this framework that incorporates the politics of scale, the dynamics of scalar interactions, and scalar-institutional disconnects, helps me to consider why the resettlement and livelihood restoration outcomes of many dam projects in Laos are so often mis-managed and unsuccessful in addressing their social and ecological challenges. The next section of this chapter provides relevant conceptual analysis of dam resettlement and livelihoods.

2.4 Scholarly approaches to dam resettlement and livelihood vulnerability

With the above review of the creation of Mekong powersheds of regional energy interconnection and energy-scapes (section 2.2), and the scalar interactions and disconnects of hydropower governance (section 2.3), this section examines the livelihoods of dam resettlers. The examination builds on analytical frameworks: multi-purpose resettlement, compensation, livelihood vulnerability, and poverty risk. While existing scholarly studies on dam

resettlement have widely conceptualised inadequate compensation and insufficient funding for resettlement as the main causes of worse-off livelihoods and impoverishment of dam resettlers, there is little debate on how states' multiple objectives attached to dam resettlement significantly influence such livelihoods and impoverishment. The analysis of the influence of multi-purpose resettlement on resettlers' livelihoods is my main conceptual contribution to the literature on livelihoods of dam resettlement. The conceptual framing in this section supports my third research question of how multi-purpose dam resettlement transforms livelihoods of resettled households (HHs).

2.4.1 Multi-purpose resettlement and governmental discourses

Existing scholarly literature on dam resettlement and post-resettlement resettlers' livelihoods mostly focuses on resettlement induced by dam project infrastructure, particularly from the creation of dam reservoirs. Meanwhile, various states' governmental objectives and policies attached to dam resettlement, which can shape post-resettlement experiences, including impoverishment, are less examined. Given this knowledge gap, this section advances the existing literature by analysing multiple logics of dam resettlement for governmental purposes, including poverty reduction, conservation, and socio-cultural integration, building on research by Rogers and Wilmsen (2020). In this thesis, I refer to dam resettlement for such overlapping aims as 'multi-purpose resettlement'. Political ecologists' close attention to issues of resources tenure and community property rights (see Vandergeest & Roth 2016) is also helpful for my analysis to understand how the change of access to natural resources due to (multi-purpose) resettlement has implications for rural livelihoods and vulnerability.

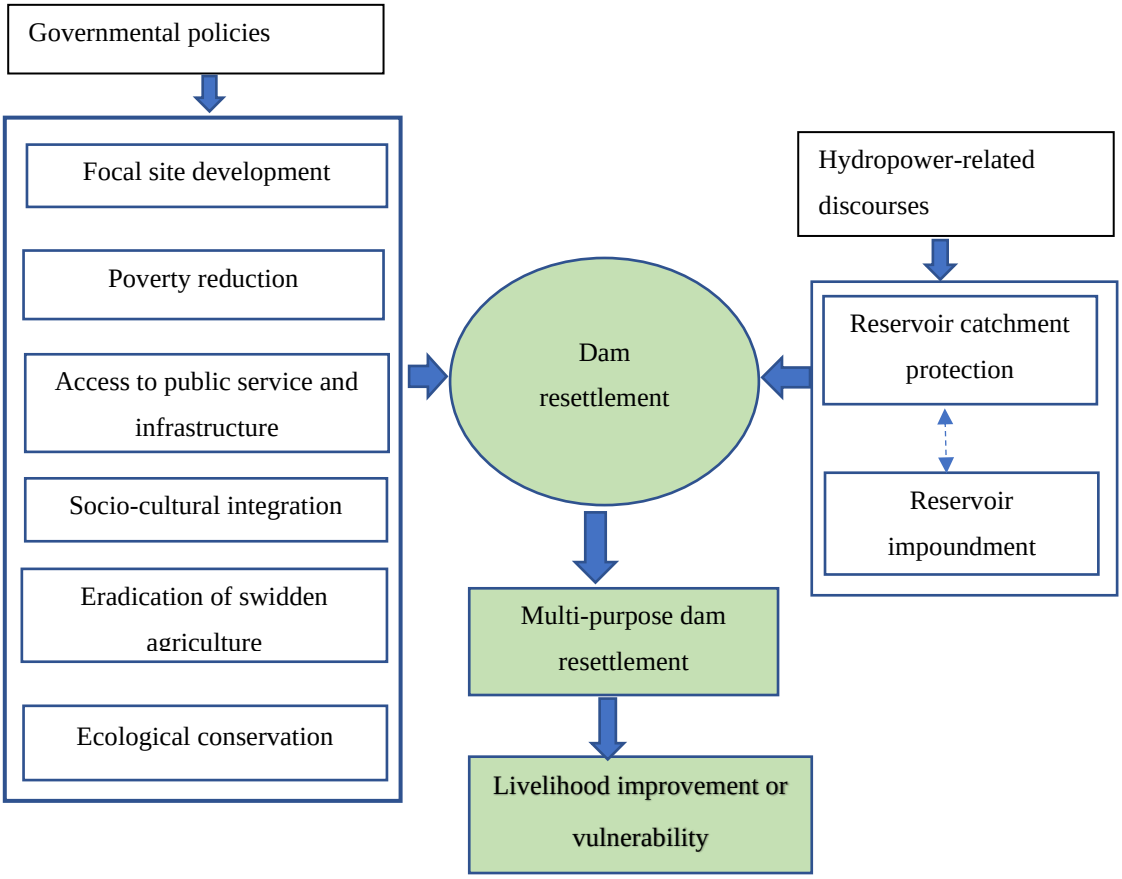
Forced displacement/resettlement is considered one of the most notable adverse impacts from water infrastructure development, especially for hydropower (WCD 2000a, 2000b). To minimize dam resettlement, the international best practice standards, and safeguard policies on involuntary resettlement (see ADB 2009; IFC 2012; IHA 2020; WB 2004; WCD 2000a) recommend that resettlement should be avoided wherever feasible or minimised by exploring alternative project designs and planning. However, rather than minimising harm, many dam resettlements further extend harm to those who dwell outside the project footprints for governments' multiple objectives (Rogers & Wilmsen 2020; Vanclay 2017). In theory, these objectives aim to support broader governmental programs with multiple logics "to render people and space more governable" (Rogers & Wilmsen 2020, p. 258). In Laos, like in other

countries such as China, for a vague objective of poverty reduction, these logics of resettlement are complex and can range from: national security; integration of multi-ethnic groups for unity through village consolidation; access to public infrastructure and services; and reduction of shifting cultivation of ethnic highlanders. These logics have also been used for a more general process of internal upland-lowland resettlement in Laos (see Baird & Shoemaker 2007; Baird et al. 2009; Dywer 2017; Évrard & Baird 2017; Évrard & Goudineau 2004; High 2008; High et al. 2009; Molland 2017; Petit 2008). Such multiple logics of resettlement in Laos also invoke a broader history of nation-building and state-making in the upland Mekong region, a place Van Schendel referred to metaphorically as 'Zomia' (Van Schendel 2002). Such logics and narratives can be also analysed through a narrative policy analysis (Roe 1994).

As with internal resettlement, in Laos these logics and narratives are used for the government to facilitate their hydropower development policy. The Houay Ho is an example that applied such narratives for the resettlement of 11 villages from the project catchment to a new resettlement site even though only one village was actually directly affected and needed to be resettled due to hydropower operations (Baird 2013; Delang and Toro 2011, p. 575; Delang et al. 2013, Khammin 2000). These narratives legitimated government agencies to resettle more population and communities from the project catchment area. Such resettlement seemed to contrast with other dam resettlements, which mostly took place within catchment areas or in proximity to reservoir areas (see Katus et al. 2016; Kura et al. 2017; Souksavath and Maekawa 2013).

Figure 4 shows a general picture of my multi-purpose resettlement framework.

Figure 4 **Different logics of multi-purpose resettlement framework**



Source: Author (January 2020)

In this thesis, my analysis of multiple logics largely focuses on three key aspects—resettlement for poverty reduction, environmental conservation, and settlement concentration or focal site development—to support my case study analysis in Chapter 6. These logics are highlighted below.

Dam resettlement for the discourse of poverty reduction

In many cases, governments have attempted to link dam resettlement to the discourse of poverty reduction. This discourse mainly focuses on increased access to improved public infrastructure and services for resettlers (Baird & Shoemaker 2007; Liu et al. 2018). Vanclay (2017) notes that many governments have inadequate capacity to provide public infrastructure and services for some small and dispersed communities, especially in remote areas. Thus, governments need to relocate more communities for access to such infrastructure and services to meet governments' poverty reduction agenda. The discourse is particularly understandable

and logical for governments in developing countries, including Laos, where investment on public infrastructure and services is very little or limited due to insufficient state budget allocated to such services (Baird & Shoemaker 2007; Évrard & Goudineau 2004).

The implications of conservation discourse on dam resettlement

Many resettlements have been instrumental for governments' and conservation agencies' discourse of environmental conservation; in short, environmental resettlement (Brockington & Igoe 2006; Rogers & Wang 2006; Wang et al. 2018). In this thesis, I conceptualise how such a discourse has also been used as a key rationale for dam resettlement in the case of Laos. Dam proponents and conservation agencies used the discourse of catchment forest protection and better reservoir management as tools to displace people from dam catchment areas (Bakker 1999; Singer & Watanabe 2014; Singh 2012; Tan & Yao 2006; Vandergeest 2003). In Laos, key conservation agencies such as International Union for Conservation of Nature and Wildlife Conservation Society supported the NT2 dam proponents, to move forward with the project to pursue the agencies' interest in the Nakai National Biodiversity Conservation Area despite anticipated forced displacement of about 5,000 ethnic villagers (Bakker 1999; Shoemaker & Robichaud 2018). Through an official discourse, displacement of rural people from dam catchment zones has been linked to governments' restrictions on upland agricultural practice. Government agencies see such practice as deforestation, unsustainable way of livelihoods, and environmental effects despite little empirical evidence to support their claims (see Baird & Shoemaker 2007; Vandergeest 2003). Scholars argue that government agencies intend to increase their control over upland ethnic minorities and valuable forestry and hydropower resources (Baird and Shoemaker 2007; Geheb et al 2015; Lestrelin 2010; Scott 2009). The claim is also coupled with the GoL's focal site development policy to increase access to improved public services, including education, health care, markets, electricity for local affected people although such a policy has proved a little or no success, which will be discussed in Chapter 6.

However, rather than successful operationalisation of forest conservation and catchment protection zones, some studies such as in Vietnam (Singer & Watanabe 2014), in China (Tan & Yao 2006), and in Laos (Delang & Toro 2011; Khamin 2000) suggested that dam-resettled people increasingly return to their old village territories in catchment protection zones for different activities. These include deforestation for swidden agricultural farming and

collection of forest resources due to a lack of allocation of adequate agricultural and forest land for livelihood reconstruction in new resettlement sites (Singer & Watanabe 2014). Two case studies in this thesis, discussed in Chapter 6, provide insights of how environmental conservation discourse was used to support multi-purpose resettlement in Laos (see also, Lestrelin et al. 2012 for the connections betweem between environmental conservation discourse and resettlement of upland villages in Laos).

Dam resettlement for population concentration and socio-cultural integration

Some dam resettlements are further influenced by governments' policy of settlement concentration to merge small and dispersed rural villages into a larger community to support governments' poverty reduction discourse. In China, the policy has been a part of broad rural settlement concentration for poverty reduction programs (Liu et al. 2018; Tan & Li 2013). In Laos, a similar policy has been practised through focal site settlement (*ban chatsan chout soum* in Lao) for internal resettlement (see Baird & Shoemaker 2007). The focal site development or resettlement concentration policy is rationalized for a main objective of poverty reduction because dispersed settlements are difficult for delivery of public services, with limited accessibility, social isolation, and under-development (Liu et al. 2018). Such integration of multiple villages into a larger village through focal site development can help us understand the idea of population management works for state intervention (Dwyer 2017).

Focal site development can also be seen as an instrument for socio-cultural integration of governments in some countries, including in Laos, assimilating minorities and their identities into the dominant mainstream culture and mode of living (Friederichsen & Neef 2010). To a certain extent, combining multiple resettled villages into a single resettlement site can benefit governments and dam developers. While focal site resettlement can help reduce investment cost of a project, making it more attractive for investors, such resettlement policies also benefit government agencies in terms of future administration and allocation of public services. Thus, from a broader context of development-induced resettlement, focal site dam resettlement can be interpreted as "a governmental program with multiple logics, one that seeks to render people and space more governable" (Rogers & Wilmsen 2020, p. 258).

Incorporating governments' multiple objectives and discourses discussed above into a dam resettlement without proper planning and implementation can disrupt resettlers' livelihood

restoration capacity and create vulnerability and impoverishment risk both in immediate and long terms, which are discussed next.

2.4.2 Dam resettlement outcomes: vulnerability and precarity in resettled communities

In principle, dam resettlement should be executed as a form of sustainable development by increasing opportunities to share project benefits, in addition to compensation and livelihood support programs to improve resettlers' livelihoods, at least to restore their pre-resettlement levels (ADB 2009; IHA 2020; WB 2004; WCD 2000a). However, existing studies (see Kirchherr et al. 2019; Scudder 2005; WCD 2000a) find that although there is some improvement in physical infrastructure and services, many dam resettlement programs worldwide have worsened the pre-resettlement levels of livelihoods of many resettled people. This sub-section discusses critical literature on livelihoods of dam resettlers through a lens of vulnerability and precarity (Rigg et al. 2016), and old and new forms of poverty (Rigg 2005).

Critical researchers have argued that ineffective regulation of dam resettlement not only proliferates pre-resettlement levels of poverty of resettlers, but also produces new forms of livelihood vulnerability and precarity. Rigg et al. (2016, p. 63) interestingly defines that: "Poverty is a state of being, usually assessed at the household level according to some money-metric measure, and usually determined according to a poverty 'line'. Vulnerability, on the other hand, has a forward-looking and predictive quality." Although poverty is socially constructed, based on certain criteria and values such as levels of well-being and deprivation, real poverty does exist, and needs to be addressed through policy reforms (Rigg 2005). Meanwhile, livelihood vulnerability of HHs is characterised through limited access to capitals (natural, human, social, financial, physical), marginal positions in political and social arenas, environmental risks, and spatial isolation (Rigg et al. 2016). In this sense, vulnerability, especially limited access to the five capitals, can undermine HHs' efforts to sustain their livelihoods (Scoones 1998, 2015). Rigg (2016) notes how persistent poverty in the Mekong region is an outcome of economic growth-centric development model of governments, leading to growing inequality of social and economic development opportunities between groups of people, due to dispossession, displacement, and social-ecological changes.

Governments and multilateral development agencies seek to intervene in rural poverty and vulnerability issues by improving access to schools, government services, new technologies,

markets, electricity, roads, and new non-farm opportunities (Chamberlain 2007; Rigg 2005). However, the outcome of interventions and development policies can often be contradictory to their intentions, while also escalating vulnerability or old poverty and producing precarity (Rigg et al. 2016). Some characteristics of vulnerability include: ownership of marginal land; poor quality land with limited agricultural productivity; lack of irrigation technologies; agricultural dependency; lack of access to markets; lack of access to credit; and participatory exclusion. Meanwhile, precarity or new poverty can range from: dispossession of land; resettlement on marginal lands; loss of access to natural resources; unsustainable debt; market dependencies; inequality between rich and poor; out-migration; and cultural breakdown (Rigg et al. 2016, p. 66). Rigg (2005, p. 25) argues: "Old poverty is centred on a characterisation of lives and livelihoods that regards people living simple and meagre lives as necessarily poor." The author adds that old poverty is characterised by various problems such as inaccessibility, shifting cultivation, lack of market access, basic food insecurity, lack of government services and amenities, low incomes, high infant mortality rates, adult illiteracy, and minority of the poor. On the contrary, "[t]he *new* poor are being created both mentally and instrumentally" (Rigg 2005, p. 33). The drivers of new poverty are mostly due to the disadvantageous outcomes, modernisation, and market integration, leading to growing insufficiency and dearth (Rigg 2005), in addition to precarities discussed above. Meanwhile, modernisation and market integration also support the economic growth-centred development strategy (Rigg 2016)

In mainstream rural development practice, development intervention measures, mainly through the improvement of physical and human capitals and sustainable access to natural capital, can help reduce many aspects of vulnerability or old poverty. However, in the resettlement-specific context, there is limited possibility for resettled people to regain many aspects of their pre-resettlement old poverty, such as simple and meagre lives, natural resources-based livelihoods, and smallholding agricultural practice (Chamberlain 2007; Rigg 2005). They also encounter various forms of precarity, such as reduction of access to agricultural land, restricted access to natural resources, including healthy forests and aquatic environments, interrupted employment (including self-employment), and consequent loss of livelihood capitals, reducing their resilience to a new livelihood environment in a new resettlement site (Gong et al. 2020). To a certain extent, increasing food insecurity (or poor quality, non-nutritious food), uncertainty of income sources, and growing debt of HHs can also be possibly regarded as new forms of poverty (McCarthy 2020) after resettlement.

Similar characteristics of new poverty are evident in the two study villages of this thesis (see Chapter 6).

In my Lao case study community field sites, post-resettlement precarity mainly arises from the fact that the resettlement sites often take place far away from resettlers' old village territory. This is to facilitate multi-purpose resettlement, such as focal site development and conservation narratives, as discussed in section 2.4.1 above. Inability to retain their pre-resettlement levels of livelihoods and new precarity results in impoverishment risk of resettlers, as conceptualised in the impoverishment risk and reconstruction framework (Cernea 1997). Yet, Vanclay (2017) argues that dam resettlers can face different degrees of livelihood vulnerabilities and resilience because they have different adaptability, capacities, interests, and opportunities (including business operation and employment). However, the opportunities may be limited and benefit only smaller groups of people, while a vast majority of resettlers can be vulnerable to social and economic deprivation. Most dam-resettled villagers lose their pre-resettlement accessibility to tangible and intangible resources, especially natural resources, and cultural relations with their landscapes to regain or maintain their pre-resettlement subsistence and sufficiency (Scudder 2005). Scudder's (2005) study of living standards of resettled communities in 41 out of 50 case projects worldwide, including WB-financed projects and projects in the Mekong Basin, have been worse off and more economically vulnerable than before resettlement. Successful resettlement and improved livelihoods of dam resettlers occurred only in three projects whereas recovery status was seen in other five projects (Scudder 2005).

Besides, dam resettlement has implications on gender equality dynamics. After resettlement, women have to collect forest and river products for daily food and income generation as well as farming activities at greater distance, increasing their workloads and responsibilities, and putting economic pressure on women (Khouangvichit et al. 2013). These can expose women to more livelihood vulnerability than men. As with other parts of the Global South, the livelihoods of people in most dam resettlements in the Lower Mekong Region are subject to social and economic vulnerability after resettlement. Their vulnerability results from the fact that most dam resettlers are already living at or below the national poverty line even before resettlement (Cernea 1998). Moreover, dam resettlers in the Mekong Region are rural, and their livelihood strategies rely on a combination of multiple agricultural activities, collection of forest and water resources products, and to a less extent off-farming activities; in other

words, pluriactive livelihood strategies (Rigg 2005). While such strategies remain crucial even post-resettlement in Laos, it is challenging or impossible for resettlers to maintain these strategies due to reduced agricultural land and limited access to natural resources in a focal resettlement site. Meanwhile, unlike in many other countries such as China, where many resettlement sites are developed close to urban areas with a facilitation of off-farm employment (see Wilmsen 2016), employment opportunities (both off-farm and on-farm) close to a resettlement site are little or limited for the dam resettled population in the Lower Mekong countries. As mentioned, most dam resettlement sites in the region are distant from urban areas, though some temporary on-farm employment jobs are available to a lesser extent on resettlement sites (see Chapter 6). Although off-farm jobs are available, resettlers are unlikely to be employed due to their limited human capital as skills, knowledge, and job training programs are limited, or ineffective (Wilmsen 2016).

In many resettlement programs, the proliferation of post-resettlement vulnerability and precarity of dam resettlers also arises from inadequate and non-transparent compensation of individuals' asset losses, especially agricultural land, and uncompensated losses of their common resources (Cernea 1998; Pham Huu et al. 2013; Tagliarino 2017; Turner et al. 2008; Witter & Satterfield 2014). One of the most persistent and crucial concerns regarding compensation in dam resettlement is weak compensation for lost agricultural land (Vanclay 2017). In principle, multilateral development banks (ADB 2009; WB 2004) and national laws in many countries (Tagliarino 2017) recommend that compensation can be either land-for-land or land-for-cash approaches. Nevertheless, in practice, transparent and proper valuation and compensation have remained a major concern and are significantly varied across dam projects due to different degrees of implementation of national regulatory frameworks related to compensation, especially for land loss (Tagliarino 2017). Significantly, dam resettlers' livelihood vulnerability is associated with uncompensated loss of communities' common assets—natural resources, including forest, river, and grazing areas (Behura & Nayak 1993; Cernea 1998; Scudder 2005). A lack of access to such common resources and weak land compensation are main causes of food insecurity (McCarthy 2020). Loss of access to common resources and food insecurity are important components of Cernea's (1997) six causes of impoverishment/poverty risks.

In summary, certain levels of vulnerability exist in rural parts of the Global South before resettlement, leading to development intervention of governments (Rigg 2005). However,

political ecology researchers have clearly identified how dam resettlement also tends to establish new forms of poverty or precarity. The new poverty dynamics sometimes occur because governments often resettle dam-affected communities in the focal site resettlement under multi-purpose resettlement, with more villages and a large population. Such resettlement is often located far away from resettlers' old village territories. This is coupled with limited access to common property resources both for cash and non-cash income and insufficient land for agricultural production. In response to limited resources and production, resettlers need cash to buy their daily food despite a decrease of their post-resettlement incomes. The shift of livelihood strategies, and shortage of cash to buy the daily food illustrate dynamics and characteristics of new poverty. Fully understanding these changes requires paying close attention to changing land and resource property rights, and forms of resource tenure, through the resettlement process and in resettlement zones. The new poverty of dam resettlers needs to be analysed through the complexities of multiple-purpose resettlement, which aims to support the multiple economic and political interests of governments and other actors involved in a specific hydropower project. Therefore, knowledge of the new poverty of dam resettlers can be understood through the role of external events and dimensions, which are beyond the control and capabilities of villagers (Chamberlain 2007).

2.5 Conclusion

Water governance, including hydropower, is a complex and interdisciplinary field. In this chapter, I have provided the theory I have chosen to contribute to a broader water governance concept, through a multi-scalar analytical approach, analysing the implications of contested hydropower development for regional and national energy security, and institutional disconnect on local livelihoods. To support such an analytical approach, I situate the thesis in relation to the political ecology of water and hydropower, as a useful overarching framework to examine key related issues and actors and their power relations at scalar levels through three components: powershed, scale, and livelihoods. These frameworks are helpful for my research in investigating how power relations and political-economic interests of actors across sectors and scalar levels shape livelihoods of dam-resettled communities on the ground in the Sekong Basin of southern Laos.

Through the ideas of hydropower **powershed**, I seek to explain the influences of actors and their power relations, discourses of energy security, the flows of investment capital and technologies, and electricity across national borders and watershed boundaries, on hydropower development, a changing social-ecological landscape. The conceptualization of energy-scapes in this chapter has provided a better picture of the dynamics of the rapid hydropower development and hydro-politics in Laos and the broader Mekong Region. My analysis suggests that the political economy of construction profits from hydropower projects by transnational and national hydropower actors, as the key driver of rapid hydropower development in Laos and the broader Mekong Basin, rather than realistic energy demand in riparian countries.

By **scale**, I refer to a series of dimensions and actors or sectors with their own hierarchical levels and their interactions both in vertical and horizontal directions. Scale is a useful analytical concept for the complexities of conflicts and cooperation between hydropower-related actors across sectors and scalar levels, shaping current contested hydropower and water-related issues in the Mekong Region. My conceptual analysis of the politics of scale in this chapter has added a value to the existing multi-level and multi-dimensional water governance approach, especially debated by Dore and Lebel (2010) and Daniell and Barreteau (2014), by incorporating a specific context of hydropower scale into such an approach. The scalar analysis in this chapter, especially drawing on the party-state political and hierarchical structure in the specific context of Laos, as with communist countries such as Vietnam and China, has also added conceptual contribution to the existing literature on multi-level water governance.

By **livelihood change**, I mean the transformation of people's livelihoods from one to another level of quality of living standards, access to resources, livelihood assets, dynamics of vulnerability, and poverty risks, either better or worse off post-resettlement. The existing literature on dam resettlement and post-resettlement livelihoods mostly has focused on the impacts that are specifically induced by dam structures, especially reservoir, and dam development activities. However, my research has contributed to the existing literature by analysing governments' multiple agendas and policies attached to dam resettlement as key drivers, significantly shaping resettlers' livelihoods. Overall, from the literature reviews of the three theoretical frameworks, I argue that the change of livelihoods and vulnerabilities to poverty risks need to be conceptualised through multi-scalar analysis of hydropower

governance, linked to the discourse of powersheds and scalar disconnects. Through these means I assemble my overall political ecology analysis of hydropower development and resettlement in Laos.

Chapter 3 Research Methodology

3.0 Introduction

This thesis investigates the complexities of hydropower governance regimes relating to dam resettlement and livelihood transformation, in Laos. It adopts a multi-scalar analysis approach, investigating the interaction between guiding national social safeguard policies, to policy and practice at local (provincial and district) levels, while also examining the implications for dam-affected communities. To support the investigation, I employ multiple methodologies and methods for both primary and secondary data collection; in other words, methodological pluralism (Doolittle 2015). This chapter also explains my approach regarding research permissions and field research access in Laos, where research on hydropower, especially concerning resettlement issues, is considered sensitive, and a government 'red stamp' is required.

Primary data collection in this thesis engages qualitative, quantitative, participatory, and case study methodologies, operationalized through a mix of methods including semi-structured interviews and household surveys. Primary data collection engaged a wide group of key informants across scalar level and sectors, ranging from local affected communities, public officials from various administrative levels in Laos, and professionals from regional and national non-state agencies working in Laos. Field research for primary data collection was conducted during August-December 2018 complemented with follow-up field visits during October-December 2019. The primary data collection was conducted through a staged process, starting with interviewing professional key informants at the national level before moving downwards to provincial and district levels, and the community level from two case study villages at the end. This thesis engaged a total of 54 research informants from state and non-state agencies, and 43 people from two case study villages for semi-structured interviews. In addition, ten focus group discussions and 235 household surveys were conducted in the same communities.

The chapter is organized as follows. Section 3.1 presents the concepts underpinning the thesis methodology, namely a mixed-method approach, utilizing case study, quantitative, qualitative, and participatory methodologies. Section 3.2 discusses the theory of case study analysis and describes the selected case study projects and sites. Section 3.3 discusses and

contributes to the existing literature on research permission and access to field research in Laos. Section 3.4 outlines the qualitative data collection using a series of practical methods and research tools, drawn from participatory and qualitative methodologies. Section 3.5 presents the methods for quantitative data collection. Secondary data collection is discussed in section 3.6 and section 3.7 provides ethical conduct of research before concluding remarks for the chapter.

3.1 Review of the conceptual framework of mixed methods research

There are several ways that scholars define and employ mixed methods research (see Creswell 2003; Doolittle 2010, 2015; Johnson et al. 2007; Teddlie & Tashakkori 2009). Many scholars refer to the potential benefits of incorporating both qualitative and quantitative methodologies in a single research project (Johnson et al. 2007, pp. 119-121). Doolittle (2015, p. 520) uses the phrase "methodological pluralism", meaning the application of case study, qualitative, quantitative, and/or participatory methodologies in a research project. However, recruiting a wide range of methods in mixed methods research needs to be suitably aligned with the research questions, ensuring various dimensions of the study are addressed (Doolittle 2010; Teddlie & Tashakkori 2009). As Doolittle (2015, p. 519) suggests, "scholars need to fully capitalize on the advantages of methodological pluralism in terms of enhancing research quality".

However, it is not necessary to give equal weight to these mixed methods. According to Morgan (1998), mixed methods can have various designs, ranging from qualitative preliminary, quantitative preliminary, to qualitative follow-up and quantitative follow-up. The mixed methods can also be applied within and across different periods or stages of research (Johnson & Onwuegbuzie 2004). As Bryman (2006) suggests, quantitative and qualitative methods can be integrated at different stages of the research process, whether during the research question design, sample selection, data collection, or data analysis. In this thesis, I selected a quantitative follow-up design as a supplementary methodology, used to enrich the core approach that was based in qualitative methodologies (Morgan 1998; Creswell 2003). I conducted semi-structured interviews and focus group discussions followed by household surveys, based on a sequential exploratory strategy, involving an initial phase of qualitative data collection, followed by quantitative data collection (Creswell 2003).

The choice to use a combination of qualitative and quantitative methodologies also depends on the epistemology of the research design (i.e., post-positivist or positivist), the purpose of the research, and the actual data collection methods (Sharp et al. 2012). However, Sharp and colleagues also recognise some challenges of combining a positivist and post-positivist research paradigm regarding pragmatic principles, including utility, contextual relevance, generalization, and the involvement of interdisciplinary research teams. In this thesis, I largely apply a post-positivist perspective as a primary epistemological position, to understand and develop knowledge regarding the political economy of hydropower development and a multi-level governance approach from multi-dimensional, situated perspectives.

Drawing on Doolittle's (2015) concept of methodological pluralism, I also employed various practical methods in my data collection. These include semi-structured interviews, focus group discussions (FGDs), participant observation, and photographs for qualitative methodology. Household surveys, remote sensing, and Geographical Information System (GIS) methods were used for the quantitative methods. Meanwhile, the practical participatory methods used in this thesis consisted of transect walks, wealth ranking, sketch maps, and historical timelines. However, deep or fully participatory methodologies (e.g., where community members help formulate research questions, are involved in the data collection and analysis) were difficult to apply with my research communities, which are in remote areas with high illiteracy. Fully participatory research requires the researcher to actively facilitate the research process and can be time consuming. Thus, participatory methods were only recruited as supplementary data collection methods during my FGDs. However, mixed methods were useful for my analysis of hydropower governance, especially social sustainability issues, because I could triangulate data collected from different methods to offset biases and substantial and corroborate inquiry findings (Greene et al. 1989). I will first conceptualise and define my case study methodology in the next section.

3.2 Case study methodology and research sites

This thesis utilises a case study approach for comparative analysis of sustainable hydropower governance regimes, with a focus on the social sustainability dimensions of dam-resettled communities. My key case study comparison is based upon two different investment models for hydropower development in Laos—the IPP model and SOE model. Rather than

considering a case as an object or 'thing', my definition of the case involves a more abstract and relational conceptualisation (Lund 2014). Here, I first lay out the conceptual approach to case study design and analysis, including how I defined my 'case' as a political and governance relationship, which shapes the social-ecological outcomes of the IPP and SOE models in Lao hydropower. My two case study projects are the XKM1 project, and the HLG project, both of which are located in the same broad watershed context of the Sekong Basin. However, the two dams are regulated through different governance regimes (SOE and IPP), and the investors (domestic Lao versus Vietnamese hydropower developers) are located in different provincial jurisdictions (Sekong vs Attapeu), both of which introduce certain differences in regulation. Both hydropower projects involve the resettlement of ethnic minority communities under the GoL's multi-purpose resettlement programs.

Within each case, I selected one resettlement village for in-depth local investigation of social-ecological changes under the GoL's approach to 'multi-purpose resettlement' applied to upland ethnic minority communities. In Laos, there has not been adequate literature on dam resettlement from the Vietnamese company-owned hydropower and Lao SOE projects (but see Kouangpalath et al. 2016; Sayatham & Suhardiman 2015 for SOE projects with focus on the Nam Mang 3 dam). My two case study projects, therefore, add some new findings to the literature. The following section provides the rationales for selecting the Sekong Basin as a key watershed basin in Laos to examine hydropower development, and my two specific case study projects and communities.

3.2.1 The conceptual framework of case study methodology

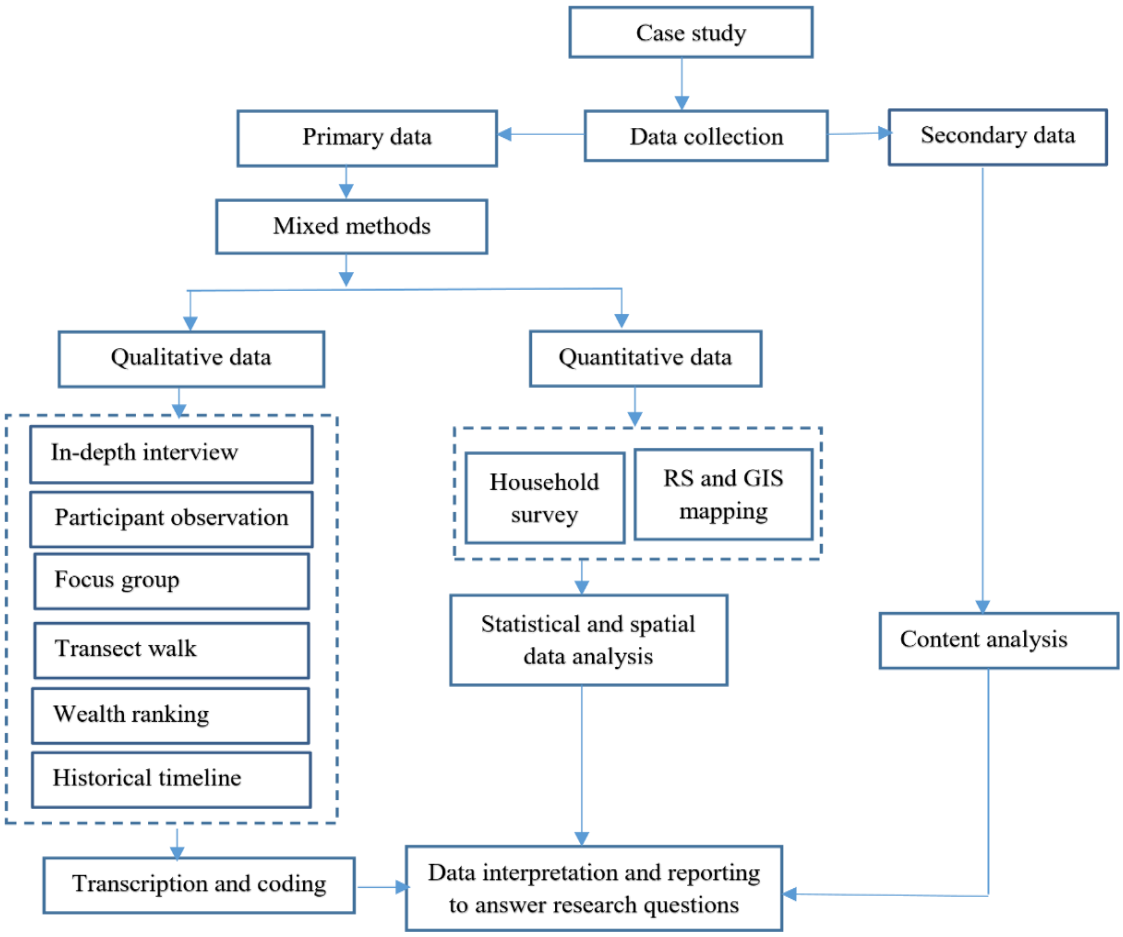
It is important to understand the meaning and definition of the term 'case study', based on existing scholarly papers (see Doolittle 2015; Flyvbjerg 2006, 2010; Gerring 2007; Lund 2014) and dictionaries (Abercrombie et al. 1994; Scott & Marshall 2009). According to the Penguin Dictionary of Sociology by Abercrombie, Hill and Turner (1994, p. 46), a case study refers to: "The detailed examination of a single example of a class of phenomena." The Oxford Dictionary of Sociology by Scott and Marshall (2009, p. 63) defines a case study as: "[A] research design that takes as its subject a single case or a few selected examples of a social entity—such as communities, social groups, [...] and employs a variety of methods to study them." In social science principles, Gerring (2007, p. 19) refers to a case study as: "[T]he study of smaller social and political units (regions, cities, villages, communities, social

groups, families) or specific institutions (political parties, interest groups, businesses)." A case can also refer to the place or location of the research, in other words, "place-based case study" (Doolittle 2015, p. 522). Yet, for critical social science research, a case is better understood not as natural, as an object or thing, but as an analytical and conceptual approach constructed to organize knowledge and ideas in an understandable way (Lund 2014). Some scholars (see Creswell 2013) further suggests that the application of the case study methodology seems to be less flexible and useful if it focuses on qualitative research. However, this may not always be valid. Post-positivist scholars like Lund (2014) argue that analysis of the content of (qualitative-based) case studies can move in a continual stretch between the very specific and the very general, and from very concrete to abstract ways of analysing phenomena or contexts.

From the reviewed scholarship above, especially drawing upon the concepts of Doolittle (2015), Gerring (2007), and Lund (2014), and the nature of multi-scalar methodology of research, my approach to case study research focuses on 'multi-scalar' and 'relational' concepts, rather than on objects or things. The relational and analytical configuration of my case study aims to reveal the political and governance relationship between various institutional levels for hydropower through multi-scalar methodology, moving from general and abstract to a more specific and concrete structure (see Lund 2014, p. 225). At the general pattern, I conceptualized the regional- and national-level political economy of hydropower to understand the general dynamics of hydropower development, cross-state power trade, and subsequent social, political, and environmental implications in Laos and to the wider context in the Mekong Region. Meanwhile, at the national and basin levels, I examined the national institutional and policy disconnects affecting the hydropower governance, building upon the context of private BOT projects and Lao SOE projects. At the local community level, I engaged comparative analysis of livelihood changes of two study communities with different social and political contexts, resettled under each of the case projects. At this level, the conceptual analysis can provide specific and concrete contexts and specific locations of the study communities. Thus, my definition of case study is an analytical framework of relational concept to explain multi-scalar (level) institutional relations. Thus, the primary operationalization of the two case studies involves an investigation of the relational and scalar dynamics governing (i) regional IPP, and (ii) GoL state-owned models of dam development in Laos, and their associated social and ecological outcomes.

The application of the case study methodology in this thesis is underpinned by twofold criteria, namely the nature of my research questions (of 'how' and 'why'), and my exploration of the contextual conditions related to the phenomena under the case study design. This is consistent with the criteria defined by Yin (2003). Likewise, analysis of multiple-level water governance approach (Moss & Newig 2010) through multi-scalar methodology is useful to understand the complexity of general patterns of hydropower governance theory and policies, as conceptualized above. The analysis needs specific and concrete findings from a local or community level from specific places to reflect and understand general theory and practice of hydropower governance (see analytical matrix of Lund 2014, p. 225). More specifically, the case study approach is part of my methodological pluralism strategy to understand the phenomena or contexts of the study communities (Doolittle 2015). Figure 5 provides a diagram of the overall methodological process that guided this thesis.

Figure 5 **The diagram of research methodology**



Source: Author (December 2019)

3.2.2 Case study design and selection

The theories relevant to case study design and selection strategies have been extensively developed and debated amongst scholars, yet there is no common standard or simple rule for how many sites and which cases are to be selected for case study (Sharp et al. 2012; Small 2009). Thus, case study design should consider that the selected case(s) should support a comprehensive study for problems that the researcher wants to explore (Kumar 2011). In many cases, selection for case study is subject to criticism of 'bias' from statistical scholars, but the selection bias in the case study methodology cannot be compared to that of case selection in statistical research (George & Bennett 2005). Rather than being oriented towards limiting selection bias, cases can be purposively selected, based on the range of similar cases that share a particular context, for the purpose of examining under-studied aspects of a phenomenon (George & Bennett 2005).

As Yin (2009) suggests, the selection and number of cases depend on both literal and theoretical replications. My selection is also based on the concept of purposive judgmental or information-oriented elements for selection of the case studies (Kumar 2011, p. 102). Instead of considering potential 'biased selection', I purposely selected my cases because of my interest in examining how IPP and SOE projects in Laos practice and their compliance with the national legal frameworks and policies regarding resettlement and livelihood issues. In addition, selecting my case study projects relied on my previous knowledge and professional research experience through engagement in other hydropower projects in the Sekong Basin. The rich, in-depth and mixed methods mode of analysis in my case study research also mitigates against verification bias. For example, Flyvbjerg (2010, p. 237 emphasis in original) argues:

> The case study contains no greater bias toward verification of the researcher's preconceived notions than other methods of inquiry. On the contrary, experience indicates that the case study contains a greater bias toward falsification of preconceived notions than toward verification.

The selection of these two cases, and my previous background knowledge, are helpful to answer my third main research question regarding livelihood transformation and new poverty risks of dam-resettled communities in Laos. Further, the reasoning and criteria for selecting the cases are discussed below.

3.2.3 Study sites and significance

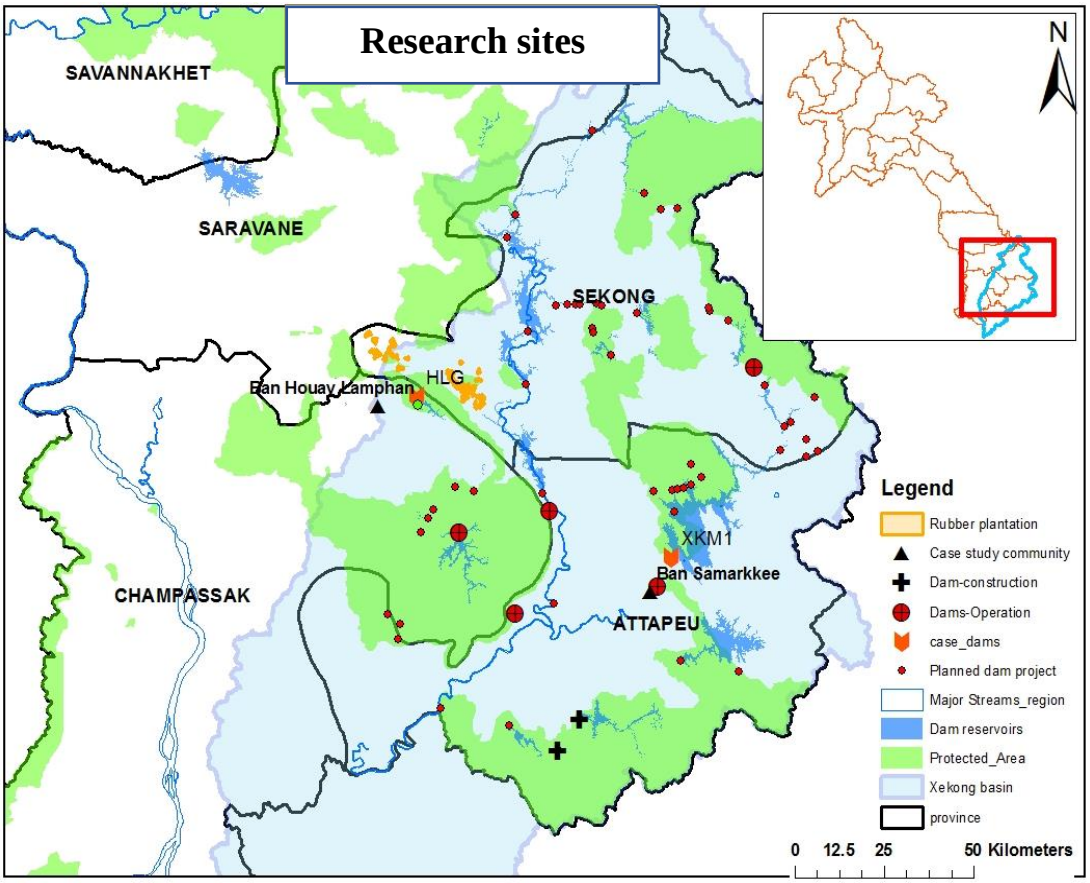
The Sekong Basin

I selected the Sekong Basin in southern Laos for my field research, based on several underpinning factors. First, the mainstream of the Sekong river is the last remaining undammed (free-flow) river of the Mekong major tributaries and it remains one of the main tributaries with the highest diversity and abundance of fish species, contributing to the Mekong River as well as its most important contributions of sediment to the Mekong Delta (Tomas et al. 2018). The Sekong River, as part of the so-called '3S' (Sekong, Srepok, and Sesan) Basin, linking southern Laos, northern Cambodia, and southwestern Vietnam, has 329 fish species, representing 42% of the total fish species found in the Mekong River (Baran et al. 2013, p. 4). Second, the basin is the location of many key National Protected Areas in Laos, including the Dong Ampham and the Xe Pian (Meynell 2014). However, extensive areas of these protected areas have been gradually transformed from landscapes with high natural forest cover and pristine rivers to environmentally degraded landscapes and waterscapes, due primarily to hydropower development, logging, mining, and agribusiness. The Sekong Basin is now a key area for extractive industry development in Laos, making it significant in terms of watershed protection and conservation. Third, there are more than 50 multi-scale hydropower projects on the mainstream Sekong River and its tributaries in various stages of project development (MEM 2016; Tomas et al. 2018), including my case study projects, and thus it is a highly threatened basin. Fourth, there are many land concessions for agribusiness and agroforestry, and mining projects, which along with dams produce intersecting and cumulative ecological impacts, making the basin a rich and complex watershed for investigation.

Within the Sekong Basin, I selected the HLG and XKM1 as my primary cases, and within these two projects I selected one multi-purpose dam resettlement site each, to investigate the social-ecological outcomes and resettlers' livelihood changes. In this sense, my project is not primarily defined as a place-based comparative case study. The two communities are not the primary definition of my 'case'; rather it is the relational and multi-scaled regulatory and governance arrangements of the SOE and regional IPP models, as these are manifested through dams affecting the ethnic minority community field sites, which defines my 'case'.

The selection of the cases and villages was built on the conception that selected cases should have broadly similar characteristics and causal processes (Stake 2005), and that there is no personal conflict of interest involved in the case selection processes. I selected two villages for field investigation: the first resettled from the Houay Lamphan Gnai (HLG) project (forming the SOE case); and the second from the XKM1 project (forming the regional IPP case). To protect the identity of these villages, pseudonyms were given to the villages, as 'Ban Houay Lamphan' and 'Ban Samarkkee' respectively (see Figure 6).

Figure 6 **Map of the case study area and hydropower projects in the Sekong Basin**



Source: Author (October 2019)

I selected these two resettlement sites drawing on two reasons. First, there has not been any scholarly study on dam resettlement of ethnic minorities found in these two project areas. Second, the two resettlement sites share some commonalities, especially multi-purpose resettlement. Key commonalities are that both villages involve ethnic minority groups who have been involuntarily displaced and resettled from the reservoirs of the study projects (see Table 1). Rather than only driven by the project reservoir impoundment, both resettlement

programs are also oriented by the GoL's multi-purpose resettlement for the state's interests and agendas, which will be further examined in Chapter 6. Importantly, both SOE and Vietnamese companies-invested hydropower projects are under-studied models of hydropower development in Laos. Moreover, the projects are mandated to conform to Lao national legal frameworks concerning compensation, resettlement, and livelihood restoration. I, therefore, selected the projects and villages to compare to what extent and how these projects followed and implemented national framework policies, and how the resettled villagers experienced and coped with resettlement and new livelihood strategies.

Table 1 **A summary of differences and similarities between two case study projects**

Case study characteristics	**HLG project (Ban Houay Lamphan)**	**XKM1 project (Ban Samarkkee)**
Investment modality	Domestic, State-owned	Foreign investor, PPP/IPP
Ownership Modality	GoL / EdL (a state-owned developer)	Build-Operate-Transfer (BOT) involving Song Da Hydropower Company (Vietnam) (a state-owned developer)
Location	Thateng District, Sekong province, in the Sekong Basin	Sanxai District, Attapeu province, in the Sekong Basin
Installed capacity (MW)	88	290
Power market	Domestic	90% for export to Vietnam and 10% for domestic supply
Governance arrangements	No concession agreement (CA) and no standard environmental and social obligation (SESO[a])	25-year CA and SESO
Type of resettlement	Multi-purpose dam resettlement	Multi-purpose dam resettlement
The number of villages consolidated in the selected resettlement site	Two	Three
Ethnic minority group	Katu	Alak and Yae
Religion	Animism and to a lesser extent Christianity	Animism and Christianity (almost 50% for each)
Village development status	Relatively more developed with lower poverty rates	Relatively less developed with higher poverty rates
Pre-resettlement community livelihood strategies	Cash cropping (coffee and cardamom), lowland and upland rice cultivation,	Upland rice cultivation, fishing, collection of forest products, and local wage labouring

	collection of forest products, and fishing	

***Note**: [a]The SESO for the HLG project was produced in late 2018, only three years after its operation, resulting from transferring its ownership from EdL to its subsidiary company. Meanwhile, all IPP projects usually need SESO prior to commencement of construction.

3.3 Gaining research permission and field research access

In this section, I discuss the issue of research permission and access to research sites in Laos. First, I discuss the strategies of gaining permission for conducting research in Laos from relevant agencies before approaching a research informant and research sites. The strategies were framed through a lens of hydropower and resettlement, which are seen as politically 'sensitive' topics in contemporary Laos. The section then highlights the engagements with local officials during the field research, as both research informants and, to an extent, as 'minders'.

3.3.1 Gaining permission for research in Laos

It is common to gain permission from gate keepers (authorities or officials) at multiple levels prior to access to the communities and research sites to be studied (Creswell 2014). This strategy is not exceptional for research in Laos, especially for permission from relevant bureaucracies from central to village levels. Yet, the complexity and range of obstacles to obtaining a permit are dependent on the context and purpose of research, the target participants, and researchers (Lao or foreign). To a large extent, gaining permission and access to a research site can be easier and more secure for local researchers in comparison with foreign researchers, who can draw more concern from authorities and officials, especially for critical topics such as dam resettlement. Some foreign scholars (see Creak & Barney 2018; Daviau 2010; McAllister 2013; Petit 2013; Turner 2013) have shared their strategies and challenges of how to gain a permit from different levels of bureaucracies and individuals, and conducting research in Laos, especially access to field research sites. However, I would also argue that, in certain contexts, access to communities and doing sensitive research may be more secure for *foreign* researchers as compared to *Lao citizen* researchers. As Kenney-Lazar et al. (2018, p. 1294) note: "Authors [in this article] are in a position of relative privilege to investigate such a sensitive topic [land grabbing] without facing threats to our livelihoods and families, unlike many Lao villagers, government officials, civil society professionals, and academics." The claims of Kenney-Lazar and

colleagues partly build upon their long-term relations with Lao state agencies, and they also can write freely without facing direct repercussions with the Lao Government, although they also may wish to maintain their future research access. Overall, both foreign and Lao national researchers can face various challenges and hurdles in navigating the research permission process in Laos.

Other research challenges are not exceptional even for native Lao researchers, if Lao bureaucracies consider that their study is a 'sensitive' topic (*houa kor la iaet onh* in Lao), including hydropower. Hydropower, especially related to resettlement issues, is viewed as sensitive in several senses in Laos. First, Laos' hydropower projects are developed both on Mekong Mainstream and its tributaries, making hydropower development in Laos sensitive in terms of the influences of external actors (Chattranond 2018). These external actors include the downstream Mekong states if Laos' hydropower projects are developed on the Mekong Mainstream. Second, many hydropower projects involve displacement and resettlement of local communities, and resettlement is often characterized by limited transparency and issues regarding public accountability on resettlement, compensation, and livelihood restoration. Third, and related to the second, like elsewhere many dam resettlements involve the communities of minority ethnic groups *(koum sonphao souan noi* in Lao) (see Tappe 2013). Virtanen (2006) notes that ethnic minority issues are critically sensitive, given the GoL's interest of national unity of different ethnic groups. Rather than only in the context of hydropower, research topics such as upland resettlement of ethnic minorities groups, human trafficking, and human rights are also sensitive in Laos (Creak & Barney 2018).

The controversial issues discussed above have drawn attention and criticism from the international community and international non-government organizations (NGOs) such as the International Rivers, Mekong Watch, civil society groups, and academics. Attention has become more critical after the collapse of the Xe Pian-Xe Namnoy saddle dam in 2018, which sparked more direct criticism of the sector from the international communities, especially NGOs (see International Rivers 2019; Mekong Watch 2018; Save the Mekong 2018). As a result, the associated state agencies have become increasingly wary of researchers, because such criticism tends to undermine the GoL's interests in hydropower development and its views on such criticism as an interference of domestic politics. The GoL's politicisation and framing of hydropower development as a sensitive topic helps it to delegitimate critics on dam resettlement and dam development (Geheb et al. 2015).

My research was considered a sensitive topic, in the sense that it engaged two dam projects, two focal resettlement villages of five ethnic minority communities under multi-purpose dam resettlement arrangements. Beyond the dam resettlement and ethnic minority contexts, the sensitivity of my research can be characterised by beliefs, given that almost half of households in Ban Samarkkee, and a lesser extent in Ban Houay Lamphan, converted to Christianity. Christianity and its religious activities are at times politically threatened, and seen as in opposition to Laos' politics, especially with local authorities, despite religious rights and beliefs written in the country's constitution (RFA 2019). Most importantly, the relevant land allocation and livelihood restoration programs have remained unresolved and are pending controversial issues. However, I was still able to successfully secure my gaining permission and access to research informants and the case study communities, by following GoL's protocols and through strategic use of my multiple positionalities, which will be discussed next.

3.3.2 Gaining access to informants and field research sites

Regardless of non-native or native Lao researchers, gaining permission to engage research informants and research sites requires 'red-stamped' procedural protocols (Turner 2013), although access to informants from some private-sector agencies is quite flexible. I sought official permission documents from relevant state agencies—the National University of Laos and the Ministry of Energy and Mines—before gaining access to key informants from public agencies and some private companies. Given I am a Lao citizen and a public employee for a state-run university in Laos, I received official red-stamped letters from my Faculty Dean to interview these key informants. Importantly, for access to district and village level authorities and informants, the permissions were granted through a multi-layered administrative process, involving contacts and permissions at provincial, district, and village levels (see Petit 2013). For example, the official letters from the university were sent to provincial departments and further downward to district offices, then to *koum ban* (village cluster), and *ban* (village) (the lowest hierarchical administrative systems in Laos). From the perspective of state authorities, this process aimed to gain the trust and better cooperation from the local governments of my research targets. However, I was able to approach some international agencies and private companies through my personal contacts and through a snowball strategy without direct permissions from state agencies.

On some occasions, despite the red-stamp documents, gaining permission from the relevant ministries and departments to interview their staffers was difficult, even for me as a Lao citizen and public servant. I too was faced with challenges of uncertainty, refusal, and non-reply, as Petit (2013, p. 144) described for his experience of field research in Laos. Moreover, although most of my requests were responded to, the responses and approval processes could be delayed for several weeks, even though I followed up the requests very closely. This suggests that challenges of gaining permission and access to key informants tend to apply to both Lao nationals and foreigners. To some extent, the delays were compounded by the complicated and hierarchical bureaucratic systems within these ministries and departments, where most decisions, even those of a simple nature, must be made by senior management for censorship for political concerns. This is not unexpected because senior officials are Party members, and the party permeates all-level bureaucracies in Laos (see Stuart-Fox 2006; see also Creak & Barney 2018; Rathie 2017). For example, in some state agencies, the request letters are delivered step-by-step, hierarchically moving upward through a bottom-up process to a decision maker for approval. The letters then again move downwards through the multi-layered hierarchies to those who were designated for interviews. The delay may also be partly related to bureaucracies' (self-) censorship (see Petit 2013), especially if a request letter is associated with a sensitive topic, and whether or not researchers are considered as 'trustworthy'. In my case, I gained in trustworthiness from being not only a Lao citizen, but also my personal status as a public employee.

Unlike with the state agencies at the national level in Vientiane Capital, communications and gaining permits for interviews with provincial and district (local) authorities was far easier for me. Partly, this seems to reflect the respect given to a red-stamped letter from the university, which is a central-level agency. However, this was also partly due to my previous personal and professional contacts established with these organizations at the provincial and district levels. Being a Laotian, government official and red-stamped letters also helped gain the trust of local participating agencies for gaining access to the community level research sites. Overall, I think I was able to gain access and trust of different groups of informants, including village-level informants, through a strategic use of my multiple professional and personal identities and positionalities (see also Daviau 2010). Yet, despite some advantages, there are some challenges from my multiple positionalities and identities. Given my positionality as a student from an overseas university, some provincial and district informants at management

levels responsible for resettlement implementation tried to remind me not to push in investigating issues related to contested compensation and land entitlement at the community level. And given my other positionality as a researcher from the National University in Vientiane, I perceived that some village informants at times could exaggerate the degree of impacts from a project, hoping that I would report such impacts to central line agencies to put pressure on project developers and local resettlement committees to take more responsibility for resettlers' livelihoods. I also noted some challenges to gain trust of informants at the community level, especially at the first few days of field work in the two case studies, because I am an outsider of their ethnic groups of Katu, Yae, and Alak. Gaining trust from majority of female informants are even further difficult partly due to their limited knowledge of the Lao national language coupled with their little role in communicating with outsiders as with many rural minority communities in Laos.

3.3.3 Engagement of local officials as 'minders' during the community-level field research

In addition to the red-stamped permission letters, it is common in Laos that a researcher usually experiences the political influence of a local government contact person (and often as a 'state minder') for researchers during village field research (see also Daviau 2010). From the government's perspective, her or his role is to help the researcher to coordinate with villagers, ensuring appropriate procedures and better cooperation from studied communities. Rather than conceiving their engagement in a negative notion as suggested by some researchers (but see Baird et al. 2009), the presence of state officials can sometimes help elaborate and verify some issues on the ground. In addition, despite a financial interest (a modest daily *per diem*), engagement of a research assistant, especially from local education or research institutions, can have positive aspects regarding building their research capacity and benefiting local academic improvement (Daviau 2010).

On the other hand, some researchers, especially foreigners, may speculate that the unstated objective of such minders is to monitor any underlying political agendas, such as the spread of non-local religions, anti-government activities, local resistance, and disruption of the solidarity (*kouam samarkkee*) of 'Lao multi-ethnic people' (*paxaxôn lao banda phao*), which is used for building national solidarity between the Lao Communist Party and the national population (see Tappe 2013). Moreover, their presence could also disrupt the freedom of villagers to speak openly about politically sensitive issues. With the presence of a state

minder, villagers are likely to be reluctant to openly discuss or oppose the government policies (see discussion in Baird et al. 2009; High et al. 2009). As Daviau (2010, p. 201) observes: "[I]nformants are generally very cautious in their answers and comments, especially when a researcher is accompanied by officials."

With due consideration for these concerns, I did not engage any state minders during the community-level field research, although the authorities proposed this at the beginning. I managed to avoid their involvement due to several reasons: my previous professional experience in the provinces and districts of the case studies; my personal networks in the relevant offices in these districts and provinces; a degree of trust as being a Laotian and a public official; and indeed, my limited budget to pay for an official per diems. This can be a scenario that also applies to other Lao researchers. In addition, to avoid misunderstanding of the local participants, and following ethical guidelines, I did inform them of my status, as a student from the Australian National University and that I was not conducting the field research on behalf of a private company, or even directly, as a government representative. This was also communicated to villagers regarding my propositions, to help ensure their willingness and to promote confidence in sharing any more critical views.

From the trust gained through my multiple positionalities, and the absence of a state minder, the community-level informants, including village headmen and leaders, who are also party members, felt comfortable and independent to openly provide their critical views regarding compensation, resettlement, and livelihoods issues. Despite disciplinary party structures, which extend down to the village scale, it is still possible to have quite free and open exchanges on development issues, contested resettlement, non-transparent compensation, and limited accountability of resettlement committees, with community members. However, the expression of very critical views (or resistance) is more internalized within their community. This highlights the conception of a "hidden politics of Lao resistance" and of a localized nature of increasing resistance against the expropriation of concession lands in Laos (Kenney-Lazar et al. 2018, p. 1294). Such localised views are at times shared with outsiders, as long as a researcher gains trust from the research communities, especially from a village headman who also holds the position of village-level party secretary. Moreover, drawing from evidence in this thesis, it is noted that affected villagers' confidence and willingness to share their critical and insightful knowledge tend to be shaped by the degree of project impacts and how such impacts are mitigated. Drawing upon the case study communities (see Chapter 6),

affected villagers with poor compensation and resettlement are critical and open regardless of political sensitivity or not.

Although hydropower, particularly dam resettlement, is one of the sensitive topics from the Lao state agencies' view, the strategies discussed above and multiple positionalities helped me gain permission and access to research sites, making my mixed methods research in Laos possible in a smooth way. Next, I will discuss insights into my methodologies and associated methods applied in my mixed methods research.

3.4 Qualitative data collection

Qualitative data collection can be in the way of "words (spoken or written) and visual images (observed or creatively produced)" from various methodologies (Denscombe 2010, p. 273). Some of the main qualitative methodologies in social science research consist of case study, rapid or participatory appraisal, narrative analysis, grounded theory, and ethnography. However, qualitative data in this thesis mainly relies on qualitative and participatory methodologies. The practical methods used included FGDs, semi-structured interviews, participant observations, and photographs of qualitative methodology. Instead of relying only on the qualitative methodology, wealth rankings, historical timelines, and sketch maps, through a participatory approach, were also exercised in the qualitative data collection (Doolittle 2015). Likewise, although the methods can provide a considerable amount of useful data, some critical insights were also obtained through informal daily conversations and participant observations. These methods are discussed in subsequent sub-sections below. The Lao national language was used during the field research and data collection at the community level in this research although the communities in the two case studies are Katu, Yae, and Alak. There were difficulties of communication with some female informants during semi-structured interviews, focus group discussions, and household surveys, thus, interpretation from Lao to minority language and vis versus was required with support from other villagers who have good knowledge of Lao language.

3.4.1 Focus group discussion

The FGD method is used to collect common opinions and perceptions about a study topic (Denzin & Ryan 2007) and it is a useful method complementary to other methods, including

quantitative data collection methods (Cameron 2005*)*. The FGD is usually not designed for a group interview. Instead, FGD encourages participants to also engage and discuss with each other given topics or issues rather than only with the researcher (Smith & Bowers-Brown 2010). Furthermore, the researcher has to allow each participant in the FGD to contribute their opinions, avoiding domination of one or two participants (Flick, 2009). Researchers usually conduct an FGD with an engagement of a small group of people, ranging from six to nine individuals, lasting from one to two hours (Creswell 2014; Smith & Bowers-Brown 2010).

In this thesis, I conducted my FGDs at the early stage of community-level data collection, after initial consultations with the case study village authorities. Due to time constraints for field research and availability of participants, I conducted four FGDs (separate male, female, mixed, and village authority groups) for Ban Houay Lamphan and six FGDs (two female groups, two male groups, one gender-mixed group, and a group of village authority) in Ban Samarkkee. The recruitment of the members in each FGD considered the representation of a mixture of multiple ages and wealth status (based on the information derived from the village authorities), and different levels of impacts and compensation, to ensure a variety of their opinions regarding resettlement-related issues on their livelihoods. The wealth status was further classified and refined for different wealth classes during the FGDs, through the wealth ranking method, as part of a participatory methodology (see Cramb et al. 2004). The community helped me define these wealth classifications, which were determined by several locally relevant indicators: income levels, house types, household assets, and ownership of production land. The results of the FGDs helped identify some general issues the HHs to be engaged in the semi-structured interviews.

In addition to the wealth ranking method, during the FGDs, I employed other useful methods to generate field research insights: namely sketch maps and a historical timeline through a participatory methodology (see Doolittle 2015; Mukherjee 1995; Narayanasamy 2009). These methods improved my understanding of the complexity of livelihoods of the resettled communities regarding land use allocation by the local governments for forests, water resources, grazing lands, and agriculture in the new villages (see Appendix 1). The mapping exercise during the FGDs also helped to improve my understanding of village common resources, boundaries, and social property (see Doolittle 2010, 2015), and resources use as well as the migration history of the communities. Additionally, I used a memory recall method (see Baird 2013; Van Der Meer Simo et al. 2019), especially of memories related to

livelihoods strategies, cultural practices, and social relations in the past years when they were in their old villages. These memories helped fill the data gap of the pre-project livelihood baseline, at household and village levels, and supported comparative analysis of pre- and post-resettlement livelihoods of the resettled HHs (Chapter 6). The data derived from these methods are useful for the comparative analysis of well-being before and after resettlement. The information derived from FGDs can supplement and triangulate with the information derived from other data collection methods. It also helped me determine groups of HHs for further semi-structured interviews, which will be presented next.

3.4.2 Semi-structured interviews

Unlike many other qualitative methods, semi-structured interviews provide good opportunities for a researcher to ask questions regarding both general topics and sensitive or confidential issues (Guest et al. 2013). This is very useful for my research, especially given dam resettlement is a sensitive topic in Laos. In addition, current analysis and debates on Laos hydropower governance often focus on fewer specific groups of people, resulting in limited presentation and views of wider actors involved in hydropower governance. Given such limits, this section suggests that interviews with a greater variety of research informants across sectors and scalar levels, ranging from national, provincial, district, to community levels, in the research design can be useful. The engagement of wider research informants can help better understand the complexities of resettlement and broader hydropower governance through multi-scalar methodology.

Professional-level informants

Sample selection and engagement of suitable informants for semi-structured interviews are vital for validity and useful data. Yet, it is necessary to consider the level of saturation, and there is no ideal number of sample size for interviews; this depends on the nature of research questions (Doolittle 2015). In this thesis, I selected a wide range of profession-level informants including policymakers, planners, and practitioners on hydropower investment and regulations, both from public and private sectors (see Table 2). My informants from public sectors are largely from key Lao Government departments within the Ministry of Energy and Mines, the Ministry of Natural Resources and Environment, and Lao electricity utilities, such as EdL and EdL-Generation Public Company (EdL-Gen). Engagement of such different

responsibilities of informants is to bring different sorts of insights and expertise to the hydropower discussion, to help answer the first and second research questions. However, for privacy and protection of their identities, the names of all participants and specific names of their organizations are kept anonymous, though a few of them were willing to be identified (details of agencies are provided in Appendix 1).

Table 2 **List of participants involved in the in-depth interviews**

No	Organization	No. of informants	Code
1	Environmental consulting companies	7	EC
2	University	1	AC
3	International organisation	6	IO
4	Power company	5	PC
5	Government agencies—national level	13	CG
6	Government agencies—provincial level	9	PG
7	Government agencies—district level	9	DG
8	State enterprise (electricity utility)	4	SE
9	Resettled villagers (across socioeconomic status and nature of project impacts on their livelihoods)	43	RV

It is worth noting that most of the key informants were keen and willing to share useful and critical insights of their perspectives regarding national policies and enforcement in the Lao hydropower governance, especially relating to social sustainability concerns. However, direct discussions of critical issues with these government officials seemed possible only within my personal networks, or through informal discussions held after the formal interviews in their offices (e.g., over lunch or dinner). The officials seemed to be uncomfortable directly discussing policy matters in a direct manner in their offices, or indeed as a representative of a state organization. Kenney-Lazar (2016) provides a similar experience from his state-official informants about the corruption of government officials in the land lease for rubber plantations in Laos. Some informants I interviewed from the Lao public agencies felt sceptical and hesitated to express their opinions on several issues regarding weak enforcement of regulations in hydropower development, especially concerning forced resettlement, under-performed resettlement implementation, and non-transparent compensation. As mentioned, they perceived the disclosure of information of the issues to be a sensitive manner and that they are risk-averse, protecting their own positions and personal security.

Community-level informants

At the community level, semi-structured interviews aimed to collect: (a) the villagers' perceptions of the compensation and resettlement frameworks and implementation by the case study projects; (b) the changing nature of access to natural resources and production lands; and (c) livelihood transformation and vulnerability in coping with the environment and other social issues in the new village locations (see Appendix 3). Such information is used to answer the third research question regarding the livelihood transformation of the research communities. From the two research communities, I engaged 43 resettlers, including 11 women, for semi-structured interviews. These HHs represented different wealth classes and various degrees of impacts from resettlement. Many of the interviews were undertaken through daily conversations in an informal setting, whereas other interviews were formally conducted in the household settings. The proportion of the informants in Ban Houay Lamphan is larger than Ban Samarkkee because of the more complicated narratives of compensation, land replacement, and housing entitlement (see Chapter 6).

3.4.3 Participant observation

Participant observation is another fundamental method for qualitative data collection and complements other qualitative methods (Marshall & Rossman 2006). This method usually engages systematic note-taking and recording of the behaviour and activities of individuals at case study sites (Creswell 2014). Denscombe (2010) argues that participant observation does not rely on answers or opinions provided by a formal individual interview or FGD, but it collects from first-hand evidence and information through observation for specific purposes. The participant-observation approach is to study individuals or a group of people in their daily lives, based on their everyday work and activities, instead of setting up contrived scenes or scenarios created by a researcher (Neuman 2011). However, in participant observation, a researcher can be involved in different levels of participation and observation involving the daily activities of the researched communities. This can range from: 1) complete participant (researcher conceals role); 2) participant observer or observer as a participant (role of a researcher is known); 3) observer participant or participant as an observer (observation role as secondary to participant role); and 4) complete observer (researcher observes without participating) (Bernard 2006, p. 347; Creswell 2003, p. 186).

For a better understanding of the narratives of compensation, resettlement, and post-resettlement livelihoods of the resettlers, I stayed with one of the resettled HH in Ban Samarkkee for over one month during my field research and I employed the different levels of participation and observations discussed above. Rather than being only a complete observer or complete participant, in most cases I acted as a participant observer and or observer participant during the livelihood activities of the HHs and communities in the resettlement sites. From my stay and engagement in different activities, I was familiar to most of the community members, and this helped me gain more trust from the communities for data collection. I was engaged not only in daily livelihood activities at the household level, but also in community-level works. For example, I was engaged in the meetings within the village and between the village and the XKM1 Company. I also participated in the meetings between provincial and district authorities with the communities, regarding the implementation of resettlement and livelihood activities, as one of the village members.

I did a similar participant observation for Ban Houay Lamphan for about one month. Although I did not stay overnight at the village because I secured accommodation not far from the community, I spent most of my days and evenings with the villagers, allowing me to participate in different livelihood activities, including several rituals and ceremonies of the Katu's culture, such as the house ritual ceremony (*Peeti ba heuan*) and new rice harvest (*Boun kao mai*). Joining such rituals helped me understand social relations and how these traditional practices are significant to their livelihoods. More specifically, *Peeti ba heuan* helped me understand one of several causes of resettlers' livelihood vulnerability and poverty risks. A house owner had to do the *Peeti ba heuan* because they needed to upgrade their house despite their financial constraints. The project's poorly provided kitchen and small size of entitled houses forced them to upgrade their houses. Villagers in Ban Houay Lamphan contended that if they did not do this, they believe they would be sickened or punished by their ancestral and house spirits (see further details in Chapter 6).

In addition to a participant observer approach, in some cases I also relied on a complete participant-observation approach to observe villagers' activities. For example, I sat in a small local shop in the early mornings and late evenings to observe both adult and young children going to and coming back from the Vietnamese coffee plantation for labouring. Such observation helped me understand not only the approximate number of villagers engaged in labouring but also the proportion of men and women involved in the labouring. The observed

data helped to support and triangulate the data from my household surveys and semi-structured interviews. As Guest et al. (2013) argue, participant observation findings sometimes support information and insights that cannot be simply collected through other methods such as household surveys, semi-structured interviews, and FGDs. I forward that the observed data can also help validate the data collected through methods such as semi-structured interviews and household surveys.

3.4.4 Transect walks

In addition to participant observation, I engaged the transect walk method as part of the participatory methodology, seeking to understand, contextualize, and compare pre- and post-project livelihood strategies, landscape, and changes in access to natural resources for their livelihoods. I conducted the transect walks both in the new resettlement site (*ban mai* in Lao) and old villages (*ban kao* in Lao). In addition to taking photos and notes, transect walks were beneficial for positioning the important locations with GPS (global positioning system) coordinates for GIS mapping purposes. The data from transect walks and GIS approaches (see Doolittle 2015) helped explain the pre-resettlement migration history and livelihood analysis, especially for their access to natural resources and society-nature relations of the case study communities.

3.4.5 Qualitative data analysis

Creswell (2014) notes that not all collected data can be useful in qualitative research and data needs to be segregated by focusing on more realistic and valuable data before it can be analysed through either software programs or manual hand-coding. Some qualitative software programs including NVivo can help reduce the workload (Denscombe 2010). However, although such programs can decrease the time for the researcher to organize, classify and locate required information (Guest et al. 2013), the analysis still needs to rely on a coding approach by going through transcriptions in each line of text for coding (Creswell 2014). The analysis of my qualitative data incorporated both manual and software approaches. The data obtained from interviews and FGDs were synthesized before coding and analysing in the NVivo 12.

3.5 Quantitative data collection

Two main methods of quantitative methodology, namely household survey and remote sensing and GIS mapping were employed for quantitative data collection. The household surveys were conducted after completion of the FGDs and semi-structured interviews. Although the pre-field research plan was to develop a randomized survey, I changed the plan and was able to engage almost every HH in both study villages during the field research. This also helped me to develop a rigorous understanding of the complexity of the compensation, resettlement, land replacement narratives, and livelihood vulnerability, in both communities. My period of field research also provided sufficient time to engage all HHs in a survey. Meanwhile, the remote sensing and GIS data are mainly derived from secondary data and GPS coordinate points collected during the transect walks.

3.5.1 Design and administration of household surveys

Design of household survey forms

In answering my third research question, the household survey form was initially designed prior to field research based on the knowledge gained during the scoping field visit in December 2017. The form was revised after the FGDs and semi-structured interviews, as well as the pre-test survey. Key themes in the forms include: (1) interviewees' information; (2) household demography; (3) access to facilities; (4) household properties—home-based assets, land tenures, animal holding, housing structure, before and after resettlement; (5) access to natural resources—water resources products; non-timber forest products (NTFPs), timber forest products, and wild animals, (6) income sources and expenditures before and after resettlement; and (7) HHs' perceptions regarding compensation, resettlement processes, livelihood restoration, and livelihood transformation and coping strategies after resettlement. Regarding HH' perceptions, a respondent was able to provide their satisfaction rates through a Likert scale (1=strongly disagree, 2=disagree, 3=not sure, 4=agree, and 5=strongly agree) (see Croasmun & Ostrom 2011). The survey structure used during my field research is presented in Appendix 2.

Administration of household surveys

To ensure the quality of survey outcome and that the designed survey form was understandable and valid, a pre-test survey was conducted (Creswell 2003; Onwuegbuzie et al. 2010) with a few HHs in Ban Houay Lamphan. In the household surveys, including the pre-test survey, I recruited one male field assistant who recently graduated from the Champassak University in Pakse, southern Laos, to support my household surveys in Ban Houay Lamphan due to considerable household samples. This assistant could also understand and speak the Katu ethnic language, which is the language of his parents, though he is from another village near the Thateng district centre of Xekong province. Following Leman's (2010) suggestions for household surveys, the field assistant was trained and practised in general interview techniques and in well understanding the survey questions. Importantly, he was briefed on the specific ethical requirements defined in the approved Australian National University ethics protocols (see section 3.7). To ensure the trustworthiness and quality of his surveys, I asked him to observe a few of my surveys at the beginning before his own practice. I was also present at his first few surveys to ensure his ability to conduct the remaining surveys by himself, with my daily check of his surveyed forms. In Ban Samarkkee, I did not engage any field assistant for the surveys because of the small number of household surveys, which I was able to manage on my own.

The surveys were delivered through personal interviews (Kumar 2011), with due consideration of which household member should be engaged in the survey. Although the surveyors are usually the household head, either men or women, in many cases, both wife and husband joined the surveys and each survey lasted about one hour on average. Specifically, with the nature of the Lao ethnic minority of the case study communities, some HHs headed by women with limited Lao language needed the presence of their adult HH members for translation during the surveys.

3.5.2 Sample design and household surveys

The household surveys aimed to collect quantitative data to complement qualitative data (Cameron 2005). The quantitative data through household surveys provided statistical data of trends and opinions of the HHs (Creswell 2003) regarding pre- and post-resettlement livelihoods of the research communities. During development of my research proposal, I had

drawn up several approaches from existing statistical theories regarding sample design for the household survey. However, after the FGDs and semi-structured interviews, in Ban Houay Lamphan, I realized that it would be useful to engage as many HHs as possible in my surveys due to complexity of impacts, compensation, and resettlement narratives. Moreover, with the sample size, engagement of every HH in the surveys was possible and manageable within the timeline of the field research.

Nevertheless, despite an attempt to engage all HHs in the surveys, I could not engage some of them (12% in Ban Houay Lamphan and 7% in Ban Samarkkee) because they were away from home for agricultural production in their old villages. Due to the distance and cost associated with transportation, during my field research these HHs had to stay a few days to a week in their old village for weeding their coffee plantation (Ban Houay Lamphan). Similarly, a few HHs in Ban Samarkkee stayed at their *kaneum* (local ethnic term for small hamlets of 2–5 houses) in the old village for harvesting their upland rice. Meanwhile, a few HHs in Ban Houay Lamphan hesitated to participate because they were frustrated with the controversial aspects of the compensation program, including housing entitlements, and ongoing contentious land entitlements. Due to the given constraints, I was able to engage 164 (or 88%) out of 186 HHs in Ban Houay Lamphan and 71 (or 93%) out of 76 HHs in Ban Samarkkee for the household surveys.

3.5.3 Quantitative data analysis

After completion of data entry of all forms, I used a basic Excel spreadsheet for basic quantitative analysis of variables such as annual incomes from various sources, expenses, and number of assets, especially land plots. The analysed data is useful for cross-case and within-case comparative analysis and livelihood improvement or impoverishment in the statistical way to support qualitative data. For the GIS mapping, I used the GIS 9.2 program to produce maps of the study location, pre-resettlement migration history of the research communities.

3.6 Secondary data collection

Secondary data in my research refers to information or documents in either paper-based or computer-mediated forms, and they can be available through various sources (Kumar 2011). These secondary documents have already been collected and utilized for other specific

purposes and interests (Flick 2009; Kumar 2011). Many of my secondary data were collected from electronic sources. The data include Lao national legal and policy documents and some reports of international organizations, especially related to the Lao context. However, some technical documents from the case study companies, provincial and district governments, and villages are not publicly available. In this regard, the technical documents from agencies and reports from village authorities were collected in parallel with collecting primary data. These include environmental impact assessment reports for the case study hydropower projects, concessionary documents, and layout maps of the case study projects, demographic and poverty census data at provincial and district levels, amongst others. With the nature of my research questions and mixed methods, the collected secondary documents were very useful in complementing other primary qualitative and quantitative data (Flick 2009). Additionally, my ability to access and to read the Lao language documents, especially at provincial and district levels, including 5-year socioeconomic development plans, and institutional arrangements for resettlement committees for the case study projects, help provide more insights into hydropower governance issues.

3.7 Ethical conduct of the research

It is necessary to gain permission from an institutional ethics review board prior to conducting research, especially research that involves human subjects (Flick 2009). Rather than in any specific stage, ethical conduct is required in all steps of the research process (Creswell 2013). However, in the real world, there are many challenges to put ethical codes into effective practice (Mertens 2018). The codes cannot be simply and smoothly practised abiding by the designed guidelines due to social complexity (Creswell 2013). Instead, researchers often experience ethical challenges because it is often difficult to put the ethics protocol into black-and-white solutions in all stages of research (Flick 2009). Moreover, the ethical conduct involved all stakeholders who were directly or indirectly involved in the research, including researchers, informants, and institutions (Kumar 2011).

My research directly engaged groups of human subjects in the process of data collection. These include professionals from public and private organizations and ethnic villagers from the case study communities in Laos. To meet the ethical standards, I aimed to closely follow the protocol, which was endorsed by the Human Research Ethics Committee of the Australian National University on 18 July 2018 prior to conducting field research. During the field

research, each informant was explained and proposed to with both oral and written forms for their own decision. However, only 11 (5 non-Lao staff and 6 Lao professionals from some private firms and organizations) from 54 professional participants chose the written consent forms, while the remainder either from public or private sectors chose oral consent. Similarly, all participants from the villages chose to give oral consent. Unlike professional participants, their choice was mostly made by their limited literacy and understanding of the ethics content despite explanation. Almost all of the villagers are ethnic minorities with limited Lao national language, especially women. The constraints to get written consent in Laos was foreseen and explained in the approved ethic protocol for this research. Moreover, to retain the confidentiality and privacy of my research participants, their personal information such as name, address, and organisation was encoded to protect their identities from readers (Flick 2009). I also consulted and agreed with the villagers to use a pseudonym for their villages to minimize identification of the case study communities.

Regarding the overall relationship between myself and my community informants, I perceived that villagers and village authorities in both research communities were friendly to me and supportive of my research. Most village informants were open and quite confident in talking about critical issues, especially during FGDs, regarding non-transparent compensation (Ban Houay Lamphan) and poor livelihood restoration. However, despite their friendliness and supportiveness, several villagers in Ban Houay Lamphan hesitated to participate in my research because they were furious with the non-transparent compensation and lack of livelihood reconstruction programs of the HLG project. Despite understanding that I was not an employee of the state hydropower company, or a staff member of the local government, they declined to participate in my research, and I respected their choice.

3.8 Conclusion

This chapter has highlighted the importance of mixed methods (methodological pluralism) and multiple groups of key informants in the process of data collection for investigating critical issues in the field of hydropower governance. More specifically, the application of mixed methods could be used to improve understanding and unfold the complexities of hydropower governance, especially concerning dam resettlement and resettlers' livelihoods, through the engagement of multi-layer state and non-state agencies and the researched communities. The employment of mixed methods and a wide set of informants is also

beneficial for this thesis in terms of data triangulation and validation. In particular, participant observation was very useful for my research, not only for supplementing other methods, but also for validating the data collected through the other methods discussed in this chapter. It has also provided a critical view about the process of research permission and gaining access to field research sites, through a lens of hydropower as a sensitive topic in Laos, especially from the perspective of a 'local Lao' researcher. This chapter has also explained how multiple identities and positionalities were supportive for access to research informants and field research sites, especially for a sensitive research topic. With this methodological discussion and reflection, the next chapter of my thesis presents a critical discussion of the political economy of hydropower, energy-scapes transformation, and social safeguard norms in Laos.

Chapter 4 A Political Economy of Mekong Energy-scapes and Implications for the Lao Hydropower Sector

4.0 Introduction

Hydropower development for transboundary power trades can have unequal social, economic, and ecological costs and benefits for exporting and importing states, especially in the context of weak hydropower governance in exporting states. The Mekong Basin includes territories of six countries, with fast-growing economies, creating high electricity demands. Wealthier and larger economies in the region, such as Thailand and Vietnam partly rely on electricity imports from smaller neighbouring economies with surplus hydropower potential, especially Laos (Lei 2010). While Laos' current export to Vietnam is relatively low, Laos signed MOUs for power export of 5000 MW, of which currently Laos signed PPAs with Vietnam for power from numerous (both existing and under construction) projects, in addition to planned. projects. Both increasing energy demand, and (over)-estimated demand projections, have resulted in growing regional hydropower development, increased cross-border electricity trading, and efforts to promote regional grid interconnection. Since the early 1990s, the region's energy architecture and power inter-connection have been supported by the ADB-championed GMS program (IEA 2019; Kakegawa 2011; Owen et al. 2019). Rapid hydropower development and cross-border electricity trades have transformed the Lower Mekong Region's energy-scapes and re-ordered social-ecological relations.

Laos has played a vital role in the GMS's regional interconnection, given the country's surplus hydropower potential and the GoL's interest in export-oriented hydropower development for its national political economy. Laos has been seen as a frontier for hydropower development by foreign investors (Barney 2009). The development has resulted in commodification of water in national and transboundary watersheds in Laos. This aims to generate hydroelectricity largely for export to neighbouring countries within the Mekong Basin, and to a lesser extent, outside mainland Southeast Asia. Export-oriented hydropower development has helped to position Laos as a major energy exporting state, as the self-proclaimed "Battery of Asia" (GoL 2011, p. 99). Politically, hydropower development has also helped sustain the political power, legitimacy, and durability of the current ruling party—the LPRP (Barma & Oksen 2014; Creak & Barney, forthcoming). However, the country's

current and future significant oversupply and consequent elevated debt load of EdL, also shows the drawbacks of this strategy (Barney & Souksakoun 2021). The strategy has also resulted in social-ecological transformations, and a changing social safeguards regime, especially through a transition of hydropower actors in Laos.

This chapter contributes to existing literature on hydropower governance in the Mekong Region, by addressing two gaps in existing analysis. First, the chapter examines the commodification of Lao rivers and waters through the geographical idea of an energy-scape, and particularly through Magee's (2006) concept of a 'powershed' to understand the current driving forces and dynamics of rapid expansion of hydropower development in Laos. From this concept, the chapter will highlight how the Lao hydropower sector's rapid development has shaped Lao energy-scapes and situated Laos as a powershed state for the Mekong Region. Presently, this has challenged the financial and institutional stability of the Lao energy sector while supporting regional energy security. Second, my analysis of new Lao domestic private hydropower actors extends to the current debate over regional hydropower governance and their crucial roles shaping current energy landscapes, political economy, and the current financial problems of the energy sector in Laos. This debate has focused on transnational hydropower actors, especially from Thailand, China, and Vietnam (Bakker 1999; Mathews 2012; Middleton et al. 2009; Souvannaseng 2019). The analysis of this second element is used to examine how different waves of hydropower actors have transformed the hydropower governance regime, including social and environmental safeguard standards, in Laos.

I political economy of hydropower in Laos has had a positive overall impact on the Mekong Region's energy security. Electricite du Laos also has a successful record of rural electrification nationwide (Barma & Oksen 2014), and has led an increase in foreign investment at the national level. However, Laos has resulted in significant oversupply, critical debt risks, and privatization of national strategic assets (through the late 2020 sell-off of the domestic transmission grid). The findings in this chapter also suggest that domestic Lao hydropower actors have driven such oversupply and risks, especially the role of EdL, which has received overseas and Chinese financing. Rapid hydropower development is also undermining Laos' social safeguards. The shift from multilateral and Western actors to regional and domestic actors in hydropower development further contributes to this weakening.

In building these arguments, this chapter first outlines the current context of the Mekong energy-scape, focusing upon the contested issue and problem of electricity generation capacity, demand, and 'reserve margins', which are inadequately addressed in the wider Lower Mekong countries. The section further discusses how transnational and local hydropower actors' interests in, and narratives of, the political economy of hydropower have fast-tracked hydropower in Laos. Then, section 4.2 outlines the key hydropower actors, with a special focus on regional or 'third wave' investors, to provide a better understanding of the current hydropower governance regime in Laos and wider Mekong context. Section 4.3 examines how the GoL's power export orientation, and fast-tracked hydropower development, has shaped the Lao energy sector in various ways. Key outcomes for Laos include domestic oversupply, debt crisis for the GoL, and partial privatisation of state electricity utilities and state-run banks. Then, section 4.4 investigates how key hydropower actors play roles in the evolution of social safeguard policies in Laos and to what extent these actors effectively implement such policies in reality.

4.1 Mekong energy-scapes: the position of Laos as a powershed state for Mekong regional energy security

Energy regulators in different countries have struggled with estimating future energy demand. The proper estimation of demand is crucial because when power capacity is over-developed, it holds significant financial implications for investors and governments, as well as negative and avoidable social and ecological impacts. In Southeast Asia broadly, there is an accepted level of necessary excess capacity of electricity, called the 'reserve margin', which is set to meet the maximum peak demand at certain times (on a seasonal, daily, and hourly basis). A reserve margin[10] is usually set at about 15% above actual baseline demand. Some countries in the Mekong Region, such as Thailand and Vietnam, currently have electricity generation capacity well in excess of the standard reserve margin. Yet, current research has not discussed the past or current reserve margin in Laos despite the country's current reserve margin being at about 190% of baseline demand. Further complexities, which are under-studied, arise due to the gap of the reserve margin between urban and rural areas in Laos and other Mekong countries. High reserve margins and capacity overexpansion are often linked to political

[10] A reserve margin ratio is (capacity minus demand) / demand (https://www.eia.gov/todayinenergy/detail.php?id=6510).

decision making, and money politics, and therefore to political economy. Analysis of estimating future energy demand, complexities of reserve margins, and political economy of energy is important for understanding the hydropower rush and transformation of energy-scapes, and current contested hydropower governance in Laos.

4.1.1 Electricity demand and supply discourses in the Lower Mekong Region

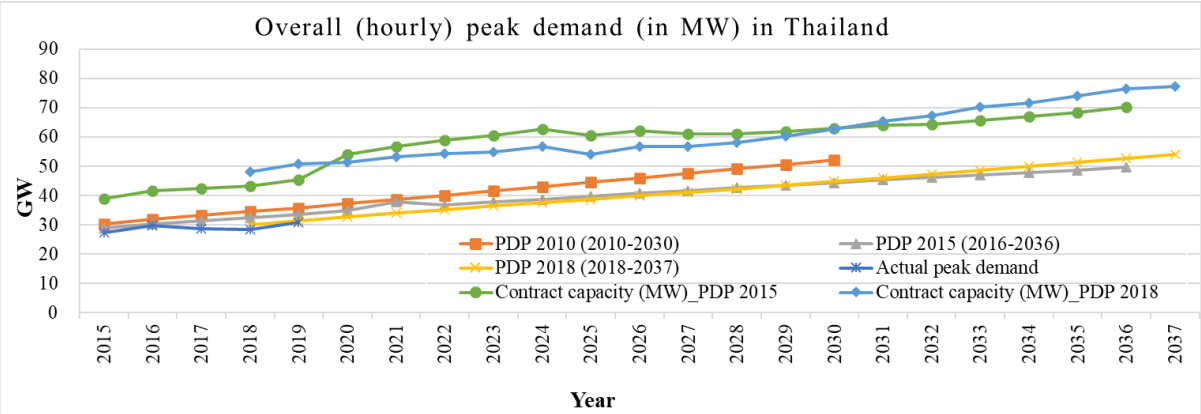
Rapid economic growth in the Lower Mekong riparian countries has been accompanied by challenges for regional governments regarding energy security. The national electricity utilities in these countries have forecasted ongoing and sharp increases in electricity demand, through national power development plans (PDPs). These include Thailand's PDP 2010 (2010–2030), Vietnam's PDP 2011 (2011–2020), and the Laos' PDP 2016 (2016–2030). While different studies (Eyler & Weatherby 2019; Greacen & Palettu 2007) have assessed the tendency to over-estimate the projection of electricity demand in the Mekong countries, including in the context of excess reserve margin, this section further adds to the discussion by taking account of the gap of reserve margin between urban and rural areas in these countries.

Like in other countries, including the USA (see Carvallo et al. 2018), the countries in the Lower Mekong Region have often inaccurately forecasted annual peak energy demand (Greacen & Palettu 2007; IEA 2016). In Thailand, for example, the Ministry of Energy projected in its 2010 national PDP that annual peak energy demand for 2015 would reach 30 gigawatts (GW) for 2015, whereas the actual peak demand in that year was about 27 GW (EGAT 2015). This represents a 3 GW (10%) deviation, compared to Thailand's total capacity of about 39 GW (EGAT 2015). This also means the actual reserve margin in 2015 was 44%[11] above actual peak hourly demand for that year. For 2019, the deviation between predicted demand (35 GW) and actual peak demand (31 GW) (EGAT 2019) increased to 4 GW (14%), compared to a total installed capacity of about 45 GW (see Figure 7 below). This means the reserve margin was 45% above actual peak hourly demand that year. Such a large difference between predicted and actual hourly peak demand may have been the rationale for why Thailand made comparatively lower electricity demand projections in its 2015 and 2018

[11] This figure is calculated through the formula of reserve margin, which is (capacity minus demand)/demand [(39–27) / 27].

PDPs (see Figure 7). Similar deviations have occurred in Laos, leading Laos to make lower projections for 2018–2030 in its 2019 PDP compared to its 2016 PDP, which will be further discussed in section 4.3.1. While different countries periodically revise their power development plans in response to economic growth and growing demand for renewable energy, the revision of PDPs in the Mekong countries has also been linked to overestimations in previous PDPs.

Figure 7 **Variation between Thailand's 2010 and 2015 power development plans**



Source: Author (based on PDP 2015; EGAT, 2015, 2016, 2017, 2018, 2019)

Despite revision of their PDPs, the different state energy regulators of the Mekong countries have maintained their long-term high demand forecasts and reserve margins. In its PDP 2010, Thailand designed a minimum reserve margin of about 25% for 2016. The subsequently revised 2015 Thai PDP indicated a minimum reserve margin of about 40% for 2024, and the margin will continue to be above 30% until 2026, before dropping to 15% post 2032 (MOE of Thailand 2015). Although the minimum reserve margins during this period of 2018–2037 are not indicated in the PDP 2018, the gap between predicted demand and generation capacity is relatively larger than of the PDP 2015 (see Figure 7). Meanwhile, the reserve margin in Vietnam is set between 30–40% during 2024–2049 (IES-MKE 2016, p. 81; WB 2017c). In Cambodia, a fixed 20% margin is set for the period of 2020–2030 (MoME of Cambodia 2019, p. 21) compared to commonly accepted standard reserve margin at 15% as mentioned above.

However, my analysis also points to a significant difference in the reserve margins prevailing in different regions within each Mekong country. While main cities and other areas that are close to power stations do have excessive reserve margins, in other parts of a country the

reserve margin may not be sufficient to support dry season peak hourly demand, which can lead to power outages. For instance, in central Thailand, including Bangkok, where there are many large fossil-fuelled power plants, in 2018 there was a full 40% reserve margin, compared to just 15% in the southern part of Thailand (Bangkok Post 2018). The same news outlet cited Thailand's Energy Minister saying that the country still needed to increase its reserve margin by 15% for its north-eastern part in response to power outages and increasing daily peak demand. In other words, when Eyler and Weatherby (2019) claim that Thailand has a 40% reserve margin, this is not quite accurate, as areas of the northeast and south of Thailand may need to add more to an existing 15% reserve margin to minimise the impacts from outages.

Other countries in the region have experienced similar situations of sub-national reserve margin differentials as Thailand. For example, in Vietnam the reserve margin in its north is more than 40% compared to a tighter reserve margin in its south (WB 2017d, p. 3). Moreover, the hourly or daily peak demand in the Lower Mekong countries usually occurs during the dry season (April–June), which is at the same time of year when there is lower electricity generation capacity from hydroelectricity due to low water levels in reservoirs of dams in the region. Thus, while the issue is complex, high reserve margins in these countries is likely to remain for the foreseeable future, as elaborated further in section 4.1.2.

Consequently, the Lower Mekong countries have set very ambitious targets to generate electricity capacity from their domestic sources in response to their sharply increasing demand (see Table 3).

Table 3 **Anticipated generated capacity and estimated peak demand in the Lower Mekong countries based on recent PDPs**

Country	**Anticipated generated capacity/peak demand (GW)**			**Reserve margin**
	Year			
	2020	**2025**	**2030**	
Thailand	54/35	60/40	63/44	Above 30% until 2026
Vietnam	60/40	96/60	120/80	30–40%
Cambodia	2.5/2	3.8/3.2	4.7/3.7	20%
Laos	8.5/1.6	12.6/2.1	16.3/2.7	Not available

Source: Author [based on the PDPs of Thailand (MoE of Thailand 2015), Vietnam (the Government of Vietnam 2016), Laos (EdL 2019a), and Cambodia (MoME of Cambodia 2019)]

Although the Mekong countries have attempted to expand their domestic generation capacity of electricity in response to a steady increase of demand, electricity imports from neighbouring countries remain essential for their energy security. In Vietnam, for instance, in its PDP 2016, the government aims to reduce its proportion of imported electricity from 1.5% (or 1,400 MW) of total installed capacity in 2025 to 1.2% (or 1,500 MW) of total installed capacity by 2030 (Government of Vietnam 2016). The Government of Vietnam is keen to reduced imported electricity due to increased optimism around increased domestic electricity generation and capacity, including solar, wind, and pumped storage hydropower. In the case of Thailand, Weatherby and Eyler (2017) argue that Thailand may not need to import more electricity, particularly from Lao hydropower, because Thailand has sufficient domestic capacity, including from non-hydropower renewable energy such as solar and wind, and an ongoing high minimum reserve margin. Nonetheless, there are some challenges for Thailand and Vietnam to meet demand through domestic sources, at least over the next decade.

First, as mentioned, despite their high reserve margins, these countries still likely require additional reserve margins for their sub-national geographical areas, in the northeast region of Thailand for instance (Isan). Second, the domestic power potential of Thailand and Vietnam, especially in hydropower, has already largely been exploited (Lei 2010). Third, based on the PDPs of Vietnam and Thailand, their hydrocarbon-based power plants largely rely on imported coal and gas, with high costs. Fourth, to reduce the imports of such raw materials, coupled with the national and global agenda of energy transition to minimise global climate change (IHA 2020; IRENA 2020), different renewable energy projects have been listed in the PDPs. These include large-scale pump storage hydropower projects. Yet, in the case of Vietnam, its pump storage hydropower projects appear to be more expensive compared to electricity imports from Laos, if the Lao-Vietnam transmission plan is materialised[12] (WB 2017d) and many other renewable power projects have also been delayed (see Reuters 2019b). Thus, Lao hydropower is likely to still have a market in Thailand, Vietnam, and Cambodia, at least for the next decade, at least until importing countries can meet its demand with domestic supply and Laos fulfils its MOUs with its importing countries. As of 2020, Lao annual electricity exports to the region reached about 6.6 GW (see Table 4).

[12] The development of sufficient size of PSP normally costs $1,000/kW and it requires about 25% of off-peak generation; thus, the benefits of PSP in Vietnam would be only derived from the deferral or delay of investment in thermal power plans (WB 2017d).

Table 4 **Electricity demand in the Lower Mekong countries and Laos' electricity exports**

Country	Planned energy export (GW) under MOU	Electricity imports from Laos (GW) in 2020
Thailand	9	5.7
Vietnam	5	0.5
Cambodia	3.2	0.3
Malaysia	0.3	0.1

Source: Author (based on MoME of Cambodia (2019); MoME and CEAC of Cambodia (2020); IES and MKE (2016); JICA (2020); MoE of Thailand (2015); the Government of Vietnam (2016).

Table 4 above shows that Thailand remains by far the largest net importer of electricity from Laos. Electricity imports represented 13% or 5,720 MW of Thailand's total capacity (in terms of contracted energy agreements); about 95% or 5,434 MW of this was from Laos (EGAT 2019, p. 97). For Cambodia, 21% of its total electricity supply was imported, and the electricity import from Laos represented 38% of Cambodia's total power imports in 2020, compared to only 12% in the previous year (MoME & CEAC 2020, p. 1). Electricite du Cambodge has also signed new power purchase agreements (PPAs) with the developers of the 1800 MW and 700 MW thermal power projects in the Sekong province of Laos (JICA 2020), which will be developed by the end of 2021 (Nation Thailand 2021). Meanwhile, in 2019, Vietnam's electricity imports from Laos were 500 MW (from the XKM1 and Xekaman 3), which represented 91% of its total imported electricity of 548 MW (or 1% of its total electricity of 54,880 MW). Vietnam's electricity utility recently signed PPAs with Lao private hydropower producers to import more electricity from six (existing and under construction) hydropower projects in Laos with a total capacity of 500 MW (see EVN 2019, 2020). These new PPAs with Laos may be linked to unanticipated increases in electricity demand. Vietnam is considered the top beneficiary of the US-China trade war, resulting in a considerable shift of foreign investment from China to Vietnam (Reuters 2019b).

Overall, ongoing and anticipated exports of electricity situate Laos as a powershed state or the "Battery of ASEAN" (GoL 2011, p. 99) for the lower Mekong Basin countries and beyond, including Malaysia. Thus, Laos' status can be considered as a similar case to Magee's (2006) conceptualization of Yunnan province in southern China as the 'powershed' for the load centre of neighbouring Guangdong province (see also Chapter 2). However, rather than merely being concerned over energy security, electricity imports from Laos by other lower Mekong countries, especially Thailand and Vietnam, are also associated with underlying

political-economic and environmental dimensions. This 'powershed' status is important because it supports the analysis of how regional governments and investors use the GoL's position as a powershed state to benefit their economic and environmental interests beyond their energy security concerns.

4.1.2 Political economy of hydropower in Laos: beyond energy security

Transboundary electricity trades in the Mekong Region are shaped not just through discourses and policies of national and regional energy security. Existing studies (Hirsch 2010; see also Kaisti & Kakonen 2012; Middleton 2012) have argued that transboundary electricity trades in the region can benefit importing countries by externalising their environmental costs to exporting countries. Different national political-economic interests, especially through construction and regulation of dams in exporting countries, also play a pivotal role. This section investigates how state and non-state actors' interests in political economy of hydropower, and environmental activist groups' campaigns against hydropower, especially in Thailand, have driven hydropower development, positioning Laos as powershed for the Mekong Region. These factors have resulted in the current highly contested situation of Mekong hydropower.

Hydropower is a lucrative business for some actors. In Laos, the GoL promotes the harnessing of its rivers for energy, for the publicly stated purposes of achieving its inter-twined economic and political goals. In the statements of the GoL, hydropower revenues will be used to increase the country's economic growth, promote modernisation, and support poverty reduction for all ethnic groups, which are used as instruments to achieve such goals. The GoL has attempted to take advantage of both its geographical position and political stability to accelerate its hydropower development to the maximum extent. The acceleration is to secure regional electricity market share as early as possible. This is particularly so for Laos' largest electricity markets, such as Thailand that also has MOUs with other countries such as Myanmar and China. These two countries have much larger hydropower potential than Laos, although their MOUs with Thailand have not been materialised into actual cross-border electricity transactions (MoE of Thailand 2018).

Hydropower also plays a crucial political role and is a politically sensitive issue in Laos. It has been understood as a political instrument for the country's ruling party (i.e., LPRP) to

maintain its political power and legitimacy (Barma & Oksen 2014; Creak & Barney forthcoming), securing its status as a single-party state. The LPRP views the hydropower sector, through its state electricity utility (i.e., EdL), as a main source of revenue (albeit with evidence of significant sovereign debts associated with hydropower development, which will be discussed in section 4.3.2), countrywide electricity supply, industrialisation, modernisation, nation-building, and poverty reduction, helping increase credibility of the LPRP (Barma & Oksen 2014). Given the sector's important political role, there are restrictive controls over formal civil society organisations and social movements, and limits on freedom of speech in relation to the hydropower sector. These controls have resulted in limits on the form of resistance or opposition to hydropower projects. Such control can help delegitimate critics on government agendas on hydropower development (Geheb et al. 2015; Roe 1994). Nevertheless, on occasion, rare opposition, especially from resettling communities, in several projects, has been evident, including in the study communities of this thesis (see Chapter 6). This tight control and limited opportunity for domestic debate or opposition have allowed the GoL and other actors to fast-track their hydropower development, especially since the 1990s. The number of hydropower projects increased from 8 dams with installed capacity of 640 MW in 2000 (EdL 2019b) to about 75 dams with installed capacity of about 8,000 WM, together with other sources (coal and non-hydropower renewables), which constitute a total installed capacity of Laos at about 10,000 MW in 2020 (MEM 2021).

The governments In the Mekong region see Lao hydropower as opportunities for not only cheap and clean energy, but also an important source of revenue. With the GoL's strong promotion of hydropower investment and political stability, regional power companies, mainly from China, Thailand, and Vietnam have invested in hydropower projects in Laos. The interests of the Governments of Thailand and Vietnam with respect to Laos are heavily incentivised by several aspects of the political economy of hydropower. First, these countries significantly benefit from the imports of cheap electricity from Lao hydropower projects, purchasing electricity from their own private and state-owned power company projects. Second, foreign investors in Lao hydropower can make profits from selling electricity throughout the concessional period, either exporting back to their home countries or to domestic markets in Laos. Third, regional private power and construction companies (such as Thailand's Ital-Thai Group and Ch. Karnchang Public Company), are interested in securing lucrative hydropower construction and maintenance service contracts in Laos. Fourth, construction and power companies in the region, especially from China, take construction

profits derived from Engineering-Procurement-Construction (EPC) contracts with EdL's solely owned hydropower and transmission line projects. Such benefits go to key actors in China, Thailand, and Vietnam: their state utilities, private power companies, commercial banks, and construction companies. This can be seen from the empirical evidence that all of Thailand's and Vietnam's energy imports from Laos, at least currently, are sourced from projects that involve their own domiciled state utilities or private actors, as investors, or construction contractors. That is, Thailand does not import electricity from projects in Laos financed or developed by Vietnamese or Chinese investors, and vice-versa, unless investors from their countries involve in projects. This is demonstrated in Table 5 below.

Table 5 **Hydropower projects in Laos for export to Thailand and Vietnam**

Project name	**Capacity (MW)**	**Shares of developers by countries (%)**	**Load centres**
Theun-Hinboun	220	Developers—Laos (60), Norway (20), Thailand (20); financier—partly ADB/Thai banks	Thailand
Houay Ho	150	Developer—Laos (20), Belgium (60), Thailand (20); financier—Korean/Thai banks	Thailand
Nam Theun 2	1,075	Developers—Laos (25), France (35) Thailand (40); financier—partly WB/ADB/Thai/other banks	Thailand
Theun-Hinboun expansion	220	Developers—Laos (60), Norway (20), Thailand (20); financier—partly ADB/Thai banks/others	Thailand
Nam Ngum 2	615	Developers—Laos (29), USA (4), Thailand (67); financier—Thai banks	Thailand
Xe Pian-Xe Namnoy	410	Developer—Laos (24), Korea (51), Thailand (25); financier—Thai banks	Thailand
Nam Ngiep 1	290	Developer—Laos (25), Japan (45), Thailand (25); financier—partly ADB/Japanese/Thai banks	Thailand
Xayabury	1,285	Lao (20) and Thailand (80); financier—Thai banks	Thailand
Xekaman 3	250	Developer—Laos (15) and Vietnam (85); financier—Vietnamese banks	Vietnam
Xekaman 1	322	Developer—Laos (20%) and China (80%); financier—Vietnamese banks	Vietnam

Nam Theun 1 (under construction)	650	Developer—Laos (60), Lao EdL-Gen (4), Thailand (25); financier—Thai banks	Thailand
Luangprabang (site preparatory work)	1,460	Developer—Thailand (52%), Laos (38), and Vietnam (10%)	Thailand/ Vietnam

Source: Author (based on the secondary data of the selected projects)

In some cases, regional and national actors focus on narrow-viewed profits from a hydropower project with limited concerns of energy security and uncertainty of energy markets. This can be seen from the PowerChina-invested Nam Ou cascade dams in north-central Laos. This project is a part of China's Belt and Road Initiative with EdL-Gen holding a 15% share, and PowerChina the remaining 85%. Mr. Khammany Inthirath, the former Minister of Energy and Mines, told Radio Free Asia that the project aims to supply electricity to factories in Laos and southern China and the China-Laos rail operation (RFA 2020a). However, the minister's statement and rationales behind the development of this project appear at some distance from what has transpired. The power generated from this cascade of 630 MW (first phase) is in a situation of oversupply, and currently lacks a buyer (or off-taker) for its electricity output (JICA 2020). EdL and GoL recently negotiated with Thailand and Vietnam to export such oversupply. However, one senior official from the Ministry of Energy and Mines—MEM (interview CG9, August 2018)—noted that these countries would purchase the power, but only at a much lower price primarily because of several reasons. First, none of their state utilities or private companies were involved or otherwise benefited from this project. Second, this project is not a candidate project in Thailand's PDP 2015/2018 or Vietnam's PDP 2016 to import electricity from Laos.

Third, the exports of power from this cascade can involve very high costs for transmission due to the distance between the dam powerhouses and load centre either in Thailand or Vietnam. However, the distance does not seem to be a problem. This is due to the fact that Thai and Vietnamese power companies are actively progressing preparatory work, including the bridge to cross the Mekong River, for the Luangprabang dam (RFA 2021a). The power generation from this project aims to export either to Thailand or Vietnam and the project location is indeed not far from the Nam Ou cascade dams, especially Nam Ou 1 and 2. Yet, the electricity utilities in Thailand and Vietnam have disregarded the opportunity to purchase electricity from these dams. At least for Vietnam, this might be understood in relation to

regional geopolitics. Some Lao officials note that it is unlikely that Vietnam is interested to purchase electricity from this project because of rising China-Vietnam tension over the South China Sea (interviews CG8, September 2018; SE4, August 2018).

In different cases, private power companies and developers' core interests appear to be focused more on the profits available from the construction of hydropower infrastructure, than on actual operations. The engagement of the Italian-Thai Development Public Company—both as a construction contractor and a consortium partner in the NT2 project— is a good example of making profits directly from hydropower construction. Just after the project started commercial operations in 2010, this company sold its 15% share to other shareholders—the Thai Electricity Generating Public Company Limited and Électricité de France.[13] Good profits from dam construction for hydropower developers has also favoured Chinese firms for EPC contracts, especially for EdL's dam and transmission line projects. In addition to private actors, state powerful actors can gain benefits through rent seeking. Construction profits can also go to state influential actors. This researcher has noted anecdotal (but informed) estimates that some state actors' corruption from hydropower development project can range from 5-20% of total project costs. The Xayaburi project is reported to have paid about 5% or US$190 million of its total investment cost for corruption to individual powerful actors across the region (Matthews 2012, p. 402). Yet, there is little firm evidence or solid documentation to fully support such assessments.

Environmental and social movements against hydropower have also shaped the Lao hydropower sector and the making of Mekong energy-scapes. This is especially evident in Thailand since the Pak Mun dam of the early 1990s, which had implications for Thailand's electricity import from Laos (Hirsch 2010). Given the relationship between regional civil society movements against hydropower and electricity imports, scholars have argued that importing states in the region, especially Thailand and Vietnam, have externalised the social and environmental costs of dams on exporting states such as Laos (Hirsch 2010; see also Kaisti & Kakonen 2012; Middleton 2012). The substantial social and ecological effects from the 2018 collapse of the Xe Pian-Xe Namnoy project, which has exported power to Thailand, exemplify such externalisation. The collapse not only caused lives of many people and affected livelihoods of thousands of rural communities, but also cause irreversible biophysical

[13] https://www.nsenergybusiness.com/news/newsitd-sells-shares-in-nam-theun-2

environmental damages to forests, landscapes, hydrological systems, and aquatic ecosystems (Baird 2020; Mekong Watch 2018). These ecological and social costs did not come at the costs of power consumers in Thailand. Many dam proponents and developers in Laos have capitalised on this situation, to the detriment of local communities in Laos, especially dam resettlers (see Chapter 6).

From the empirical evidence set out above, I suggest there remains potential for further dam development in Laos and increased electricity exports to regional customers in the coming decade. Evidence for this can be drawn from the existing PDPs in the Mekong Region, especially in Thailand and Vietnam, and especially if the proposed transboundary transmission projects in the pipeline are materialised. Meanwhile, energy regulators in Laos still pay limited attention to utility-scale wind and solar energy either for domestic supply or export. A senior official from the Ministry of Energy and Mines of Laos noted that the investment costs in these two energy resources are comparatively higher than hydropower, with higher price/kilowatt-hour (kWh) for sale, coupled with their intermittent power generation (interview CG10, August 2018). Moreover, there is still potential to increase the amount of hydropower being utilised in Laos, especially given high investment costs and technical capacity to develop smart grid systems and diversification of power to reduce intermittent issue. Despite current decreasing investment costs, energy regulators in Laos may have little interest to speed up solar power because of its lower capital intensity, and thus lower rent-seeking potential, in comparison with hydropower development. As of 2020, about 7,800 MW had been harnessed. Such capacity represented only about 34% of the country's total hydropower potential of 23,000 MW (ADB 2019). Thailand will continue to be Laos' largest net importer for its domestic supply. Moreover, Thailand has aimed to be the electricity trading hub or 'middleman' for ASEAN, by exporting its excess electricity to Malaysia, Cambodia, and Myanmar, and electricity imports from Laos can be used to fulfil such an aim (Bangkok Post 2019; Reuters 2019a). Vietnam's electricity imports from Laos are also likely to substantially increase, as long as that country's economy continues to develop (as aided by the ongoing shift in manufacturing from China to Vietnam). There will also be increasing electricity exports from Laos to Cambodia, especially if the two coal-fired plants mentioned can move forward.

In turn, importing electricity from Laos can benefit these three neighbouring countries in five key aspects. These are: domestic energy security; cheap energy; support of national energy

transition targets; profits from hydropower development for state and private companies; and externalization of environmental and social problems. In this way, energy security for Thailand, Vietnam, and Cambodia is often producing a more uneven livelihood insecurity for rural citizens in Laos. Meanwhile, the increasing electricity exports to these countries help the GoL fulfil its ambition of becoming a regional 'battery' or what I call a powershed state, transforming energy-scapes in Laos and the wider Mekong Region. These transformations in the regional and Lao political economy have also interacted with the emergence of social safeguards and a broader hydropower governance regime, due to changing actors in Lao hydropower.

4.2 Transition of hydropower actors and implications for hydropower governance in Laos

Neoliberalisation policies and the introduction of a new financing arrangement mechanism, through PPPs in the energy sector, have led to the involvement of new hydropower actors, and broader changes in the hydropower governance regime in Laos. There has been a shift from old to new players with different political-economic interests, and new discourses of sustainability. Especially notable has been the shift from sectoral domination by multilateral development banks and Western donors towards regional actors (see Chapter 2; see also Kakonen 2020; Middleton et al. 2009; Souvannaseng 2019). In this section, I contribute to understandings of regional and national hydropower governance by analysing a set of under-studied domestic hydropower actors, and their increasing role in shaping hydropower development and the governance regime in Laos.

4.2.1 Different waves of hydropower actors in Laos

The current debate on hydropower governance in Laos has focused on transnational hydropower actors (see Kaisti & Kakonen 2012; Middleton et al. 2009; Souvannaseng 2019) and the influence of foreign investment capital, expertise, and technology (Middleton & Allouche 2016; see also Rieu-Clarke 2015; Suhardiman et al. 2011). Different actors have played a greater or lesser role in Lao hydropower at different points in time. These existing studies classified these actors into old and new hydropower players, or 'first wave' and 'second wave' actors in the Mekong Region, especially in Laos (see Chapter 2). However, existing scholarly research has paid little attention to domestic Lao hydropower actors (both

state-owned and private), despite the growing role of these players, especially the private power companies in the Lao hydropower sector since the early 2010s. I refer to these actors as 'third wave' hydropower actors (see also Creak & Barney 2020, p. 21, for state utilities). I broadly classify domestic hydropower actors in Laos into two main groups, as discussed below. Rather than focus only upon its temporal dimension, my characterisation of the three waves is based on patterns of financing arrangements, safeguard performances, and governance approaches adopted by hydropower actors.

State-owned enterprises

There are four SOEs that have been involved in hydropower development and regulation in Laos: EdL; EdL-Gen; Lao Holding State Enterprise (LHSE); and the Electrical Construction and Installation (ECI). EdL is an electricity monopoly (generation, transmission, and distribution for domestic electricity supply) and an off-taker of all electricity generation for domestic supply. For its role as an electricity generation body, EdL has become involved in various scales of hydropower projects. Before the 1990s, the MDBs and multilateral and bilateral donors financed EdL's infrastructure projects through the Bretton Woods-led public infrastructure lending system, especially for state utilities (Souvannaseng 2019, p. 38). The EdL's projects developed through such a system include the Nam Ngum 1 of 155 MW, Xeset 1 of 45 MW, and Nam Leuk of 60 MW projects. After liberalisation and introduction of the PPP and IPP modalities, especially after the 1990s, EdL has established joint IPP projects as a consortium partner in major dam projects. These include the original Theun-Hinboun, Houay Ho projects, and Nam Ngum 2 commissioning in 1998, 1999, and 2010, respectively. Since the 2000s, EdL has also built multiple dams with its sole ownership, but primarily through EPC strategy with loans from Chinese banks. These include the Houay Lamphan (2015), Nam Mang 3 (2005), and Nam Khan 2 (2015). The financial, institutional, and governance implications of the shift from old financiers and the Bretton Woods-architected system to Chinese lending institutions will be discussed in the next section.

The GoL's desire to position itself in the context of a regional energy landscape, and financial viability, resulted in a major reform in 2011 that established EdL-Gen, a subsidiary investment arm of EdL (Barma & Oksen 2014). EdL owned 75% equity share before reducing to 51% in 2020. Some speculate that this share sale could have been linked to EdL's debt crisis, which will be further discussed in Section 4.3. Currently, EdL-Gen regulates

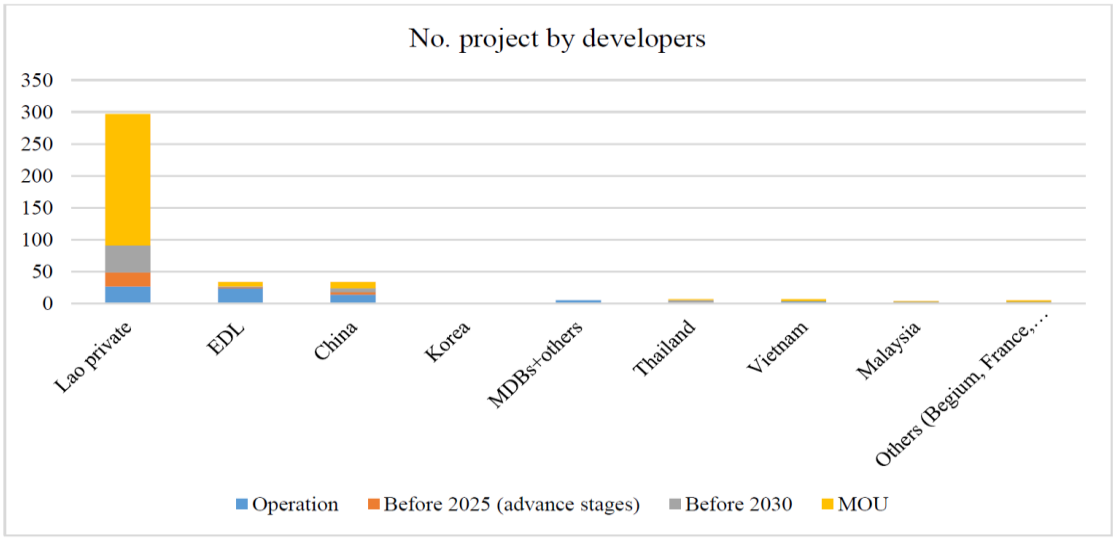
almost all of EdL's solely owned projects. EdL-Gen has also succeeded EdL in all IPP dams where EdL had previously held equity shares in these dams. Lao Holding State Enterprise (LHSE) is another Lao SOE, but under the Ministry of Finance. It was formed in 2005 through the GoL's engagement in the NT2 project. LHSE currently has equity shares in the NT2, Xe Pian-Xe Namnoy, Nam Ngiep 1, and the Hongsa lignite power station. The ECI is another SOE established in 1982. It was once a part of EdL before it became an independent state-owned enterprise since 2006. However, the enterprise has been so far involved in only one small dam project, the Nam Sim of 9 MW.

Lao private hydropower developers

In addition to its formation of SOEs, the Lao party-state has strongly encouraged domestic private investors to support its ambition of becoming a powershed state, while presumably counterbalancing the influence of transnational hydropower actors in Laos. The encouragement could have also aimed to reduce the dominance of foreign investors in the Lao hydropower sector. By the late-2000s the GoL began to promote domestic private investors to engage in hydropower development, especially for small-scale projects (below 15 MW). The GoL has given very substantial preference allocation of MOUs to Lao actors and EdL's 'take-or-pay' commitments and growing easy money from Chinese commercial loans with little or no safeguard requirements. The take-or-pay is a contractual agreement between power producers and the buyer (e.g., EdL) to purchase specific generation capacity of electricity from power producers, or pay a fine if EdL do not take electricity under the defined contractual terms. This contract applies even if there is no consumer or off-taker for the electricity output. Key private Lao actors in the country's hydropower sector include Phongsubthavy Group, Chaleun Sekong Group, Phonesack Group, and Douang Chaluen Group. Within a decade, Lao private actors have built numerous projects of both small and large scales with increasing share in the country's total generation capacity. By the end of 2019, local Lao private companies have generated 213 MW of installed hydropower capacity, from 29 small-scale projects and 278 MW of installed hydropower capacity from five medium to large-scale projects, mostly for the domestic market. Meanwhile, another three larger-scale projects with an installed capacity of 935 MW and other numerous small-scale projects are under construction. Figures 8 and 9 illustrate the overall picture of different actors, including Lao private and state actors, involved in different stages of hydropower development in Laos. While Lao (private and state-owned) projects account for a majority—

about 67%—of existing and planned projects, their installed capacity represented is relatively small; approximately 13% of current total generation in Laos (see Figure 9) because most of third wave investors' projects are relatively small scale.

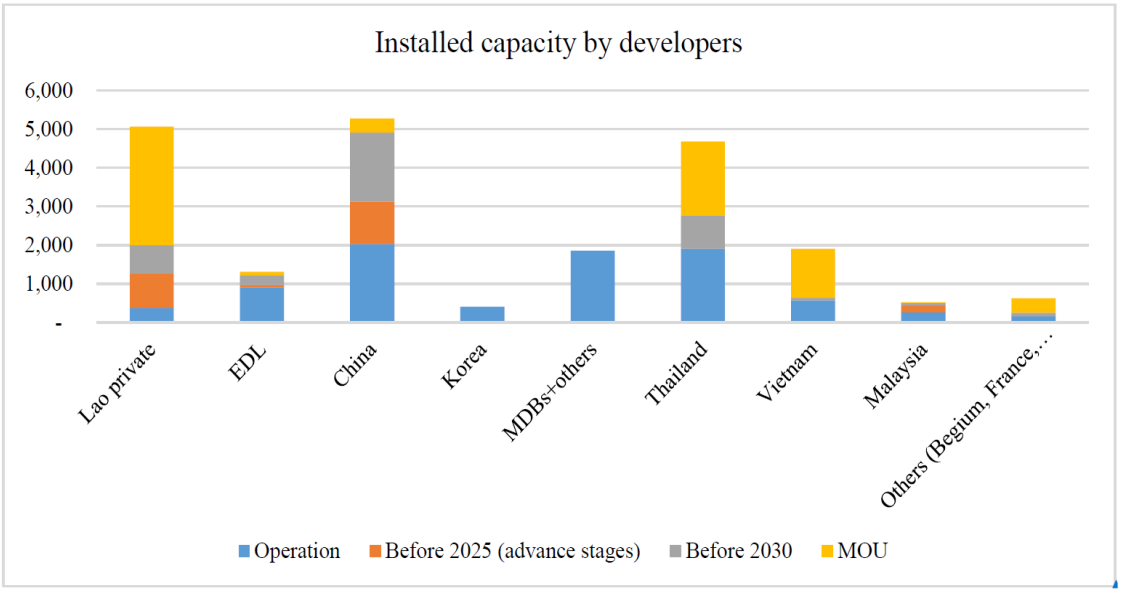
Figure 8 **Number of dam projects of all capacity sizes in Laos by developer nationality**



Note: Capacity sizes vary from 60 kw to 1285 MW.

Source: Author (based on MEM 2016, EdL 2019b; and author's compilation from other sources)

Figure 9 **Installed hydropower capacity by developer nationality**



Source: Author (based on MEM 2016; EdL 2018; and author's compilation from other sources)

Drawing on Figure 8, I note that the GoL has provided a substantial preferential allocation of MOUs to domestic private hydropower actors, many of which have limited hydropower construction experience, capital, or apparently the practical intention to actually develop their proposed projects. Rather, some of these domestic actors seemingly hold the MOUs, and seek to on-sell their MOU 'rights' to others to make money; in short, 'unregulated speculators'. To provide one example, the government awarded the MOU for the Nam E-Moun project of 129 MW to TK company (a domestic firm), but this company then promptly sold the concession rights onwards to Chaleun Sekong Group, who is now developing this project. Another example is a transfer of ownership of half-built Nam Kong 2 of Phongsubthavy Company to the same group. The GoL has awarded such preferential allocations to domestic candidate developers, with limited or no proper selection and bidding process. These issues highlight patterns of non-transparent decision making and ineffective planning in the current Lao hydropower governance regime. Together, these could have contributed to the repeated failures of several dams of both small and large scales, significant sovereign debts, overcapacity of power generation for the domestic market, and the government's suspension of new domestic-oriented power projects in Laos in recent years as discussed further below.

4.2.2 The implications of hydropower actors' transition for the Lao hydropower sector

The transitions of hydropower actors have crucial implications for the Lao hydropower sectors, especially the hydropower governance regime. This section outlines the implications that have emerged in three main waves of hydropower development in Laos, which will be elaborated on below.

MDB-led hydropower development

Despite some criticism on MDB-led projects, there are some important characteristics and arguments that these 'older' hydropower actors have laid a positive basis for hydropower governance in Laos. First, old actors or first-wave investors were oriented towards the discourse of multiple purpose hydropower dams—including water for electricity, irrigation, fisheries, and poverty reduction (Kakonen 2020; Souvannaseng 2019). The WB and ADB-backed NT2 project can be a good model of a multi-purpose dam in Laos despite some critics, especially regarding resettlement issues and post-resettlement poverty dynamics of resettlers (Shoemaker & Robichaud 2018; Scudder 2020). The Nam Theun 2 Power Company (NTPC)

provided financial support through the Laos-Khammouane Rural Livelihoods Project to facilitate the irrigation schemes downstream of the NT2 project by utilising the water discharged from the NT2 powerhouse (WB 2016b). The support is additional to the NTPC's support programs for the NT2 reservoir fishery and the Nakai National Protected Area of US$1 million per year. Second, the hydropower financing strategy of old actors promoted multilateral cooperation and regional political-economic integration. This can be evident from the ADB-led Greater Mekong Subregion program and its relevant dam projects such as the NT2, Theun-Hinboun, and Nam Ngiep 1 projects. Third, although there were clear limitations, old actors engaged wider stakeholders, including local communities and civil society groups in different stages of their projects (Singh 2014). Fourth, the old actor's financing mechanism, with accountability, which was lifted by the World Commission on Dams, was introduced for the consortium-financed NT2 project in Laos, which included ADB, WB, and other numerous major banks worldwide, including banks and investors[14] from Thailand. Such accountability in hydraulic infrastructure lending could have served as a basis for other dam projects in Laos, although many dams that have been built since have not paid attention to such accountability mechanisms.

Fifth, and importantly, the old actors incorporated the discourses of environmental and social sustainability in their financing mechanism and conditionality, in what Souvannaseng (2019, p. 16) frames as "green finance" or "green capital" for energy projects. The old actors have drawn some criticism from local people and NGOs on their failures to fully address the social social-ecological impacts from their projects in Laos (see Chapter 2). However, the engagement of old actors in the hydropower sector in Laos has added significant contribution regulatory reforms, especially relating to safeguards, in Laos (see Table 6 below). Yet, studies note the GoL's resistance to social and environmental standards that MDBs introduced, especially through the NT2, and hesitating to apply such standards in other dam projects, which are not MDBs-financed (Jusi 2011; Matthews 2013). As Jusi (2011, p. 256) quoted the then head of Laos' Electricity Department, Mr. Viraphonh Vilavong, "[y]es, they are saying that Nam Theun 2 is a very good project. But to use it as a standard, it's not possible. We can use it as a good example, a good guideline, but not as a standard. All the developers say that it is not possible

[14] Thai developers and investors can also indeed be categorised as old actors because they were involved in the original Theun-Hinboun, Houay Ho, and NT 2 projects.

to use Nam Theun 2 as a standard". As such new regional and national dam developers and investors have not much followed such social and environmental standards from the NT2.

Table 6 **Timeline of social safeguard policy development in Laos**

Year	Key social safeguard legislations	Supporting agencies
1996	Forest Law	SIDA
1999	Environmental Protection Law (EPL)—amended in 2013	UNDP[a]/SIDA[b]/NORAD[c]
20000	Decree on Environmental Impact Assessment	ADB
2001	Decree on implementation of the EPL	ADB
2005	Decree 192 on Compensation and Resettlement Management in Development Projects	ADB
2005	National Policy on Environmental and Social Sustainability of the Hydropower Sector	WB/IFC
2010	Amended Decree on Environmental Impact Assessment	UNDP
2013	Guidelines 707 on Public Involvement	ADB
2013	Ministerial Instruction on the Process of Environmental and Social Impact Assessment of the Investment Projects and Activities	UNDP
2015	Amended National Policy on Environmental and Social Sustainability of the Hydropower Sector	WB/IFC
2016	Decree on Compensation and Resettlement Management in Development Projects (Amended)	UNDP
2016	Ministerial decision on review process of Environmental and Social Impact Assessment Report	Finland
2016	Ministerial decision on review process of Initial Environmental Examination Report	Finland
2017	Decree on National Environmental Standard	WB
2018	Resettlement and Occupation Law	GoL
2019	Amended Decree on Environmental Impact Assessment	WB

Note: [a]United Nation Development Program; [b]Swidish International Development Cooperation Agency; and [c]Norwegian Agency for Development Cooperation.

Source: Author (based on ADB 2005b, 2006 and author's compilation)

Sixth, old actors also have played a role in institutional landscapes in the Lao hydropower and energy and environmental sectors. An example is the ADB's environmental support program loan that supported the GoL to establish the Environmental Protection Fund to support country-wide environmental protection activities in Laos in 2005, through the NT2 project (ADB 2006, 2010a). Yet, based on the information available on the website of the fund, only the NT2 and Theun-Hinboun are hydropower projects that have contributed money to the fund, in addition to small amount of contribution from mining projects. It is also questionable

to what extent spending of fund helps improve environmental and social safeguards countrywide. The establishment of the LHSE to participate in the NT2 project is another product of the WB and ADB's influence in the institutional landscape. The establishment of the LHSE, as other state enterprises such as EdL and EdL-Gen, has also been instrumental for the GoL to dominate the ownership in the hydropower sector of state strategic assets, in an effort to realise an ambition of creating "Lao industrial champions" (Creak & Barney, forthcoming, p. 21). I forward that these contributions to institutional, regulatory, and governance landscapes by old actors, if they were to be adequately followed, could result in broadly effective and sustainable hydropower governance in Laos although the WB- and ADB-self claims of sustainable hydropower development of NT2 remains in doubt. However, these multiple requirements are difficult to follow and, rather than doing so, the GoL has shifted its intention to second and third waves to accelerate its hydropower development plans.

Second wave or regional hydropower actors

In contrast to the old actors, the regional private and state-owned actors in Lao hydropower (i.e., investors and state enterprises from Thailand, China, and Vietnam) have downplayed overall hydropower governance in Laos in various dynamics. First, these actors have focused more directly on investors and developers' profits rather than multi-purpose development. Second, the regional actors usually arrange project development through bilateral cooperation and negotiation approaches (Souvannaseng 2019) with limited transparency and accountability. Third, only limited stakeholders such as direct impact communities and some state agencies are engaged in different stages of their projects. Fourth, instead of following, many regional actors have downplayed the safeguard policies that MDBs and other bilateral aid agencies have promoted, both in policies and practice. For hydropower actors from Thailand, despite their experience with MDBs' so-called good example of hydropower projects such as the NT2 and Theun-Hinboun projects, these actors did not follow the social and environmental standards from these projects in their new hydropower projects. Fifth, on some occasions, these different forms of weakened hydropower governance could have been linked to special political relations between the GoL and investors' governments, such as Vietnam and China (see examples in Chapter 5).

Third wave or domestic hydropower actors

The rise of domestic hydropower actors has further shaped the hydropower governance regime in Laos in four different dynamics. First, the growing investment of domestic private investors[15] can help reduce the relative role of foreign actors in Laos' hydropower industry, even though benefits, especially during the project's concession period, may mainly go to local business elites and a few bureaucrats. The recent transfers of equity shares in two state-run banks—the Lao Development Bank and Lao Agricultural Promotion Bank—and EdL-Gen, which will be further discussed in the next section, can help depict some intentions of the GoL, to elevate the role of local investors and in counter-balancing foreign investors.

According to the power project list in Laos (MEM 2016), the increasing role of domestic private actors seems to have shifted the Laos' traditional hydropower regulation and governance regime. This can be evident from how the GoL allows full ownership of the domestic private actors in some IPP or BOT projects without any share of state-owned utilities: EdL, EdL-Gen, and LHSE. These include some existing projects, such as the Nam Ngiep 3A, Nam San 3B, Nam San 3A, Nam Kong 2 and projects under construction, such as the Nam Sam 3 (MEM 2016). The shift has changed PPP arrangement, which has been used with IPP hydropower projects in Laos, in which the GoL usually holds between a 10% and 60% stake in a PPP project. Third, and controversially, as mentioned, the GoL allocates MOUs for potential projects to domestic private actors, regardless of whether or not these actors actually hold the intent to invest or develop the projects. Fourth, the GoL strongly supports its domestic actors, and they have close connections with top officials and government agencies, but often with little demonstrated commitments to upholding national safeguard standards.

Unlike foreign and domestic private actors, EdL holds certain autonomous powers to develop and regulate its solely owned projects (Barma & Oksen 2014). It also receives regulatory exemptions regarding planning and development of its solely owned projects, which are stipulated in the country's Electricity Laws 2011 and 2017. For instance, EdL's projects are not required to have SESOs and Concession Agreement (CA) documents. Together, these exceptions and powers are loopholes for EdL, resulting in weak safeguard standards, limited

[15] While the financiers, mainly from Thai banks, for the domestic Lao company-led Nam Theun 1 project have been publicly released, financing arrangements for other Lao investors' sole project are not available.

transparency, and unaccountability in its projects. These exceptions for EdL appear to have been a key driver for its current debt problems while also causing social and ecological effects in their hydropower projects countrywide.

Overall, the shift from the first to second and third waves has had certain positive implications for Laos, in promoting hydropower investment not just by foreign operators but also domestic investors, especially for export orientation. Nevertheless, the transition and shift of the hydropower political economy has also created new challenges being introduced for the broader hydropower governance regime. The second and third wave actors tend to focus on their business profits, disregarding the ideal of the multiple purposes of hydropower development, and demonstrate a lack of willingness to incorporate even minimum international safeguard standards such as the Equator Principles (Souvannaseng 2019). As with the second wave by regional hydropower actors (Middleton et al. 2009; Souvannaseng 2019), the rise of the third wave by domestic hydropower actors has, I argue, further compromised the existing limited compliance to national safeguard policies. Weaker social and environmental safeguard policies and less transparency and accountability in the project approval and development processes of these new investors is aligned with, and facilitates, the GoL's intention to fast-track its hydropower development effort. Souvannaseng (2019) argues that this was a reaction to the slow tedious model of the Western MDB-led NT2 project. Together with the view on NT2 as a "regulatory burden", which represented a challenge to sovereignty and a "drain on scant human resources" (Creak & Barney, forthcoming, p. 20), the reaction also resulted from the easier access to alternative finance from lenders in the Mekong countries such as Thailand, China, and Vietnam. However, the transition of hydropower actors and weak hydropower governance have caused unintended major consequences for Laos, as discussed below.

4.3 The implications of energy-scape changes for the Lao energy sector

Laos' rapid push for development of hydropower for export has helped improve the energy security for its neighbours, and to some extent in Laos as well, given the success of national electrification projects. In 2019, about 95% of Lao HHs enjoyed access to electrification (EdL 2019b). Yet, many rural parts of Laos still rely on local grid systems, and during the dry season (peak demand period) some local grids rely on electricity imported from neighbouring countries, largely from Thailand. However, there have also been unintended negative

consequences within Laos, including the current situation of substantial domestic oversupply of electricity, unchecked increases in the debt load of the state energy utility, and the recent privatisation of key state assets. The power import and oversupply issues are due partly to the country's unfinished national transmission systems—transmitting power from power stations to main factories and other large industrial customers.

4.3.1 Contested power generation capacity in Laos: reserve margin or oversupply?

Within two decades, the rush towards hydropower in Laos has brought impressive growth in total generation capacity to Laos. By the end of 2019, the total installed capacity both for export and domestic supply was about 9,500 MW from a total of 92 power plants, including large new projects such as the Nam Ngiep 1, Don Sahong, Xayabury, and Xe Pian-Xe Namnoy, which have all been commercially commissioned since 2019 (ASEAN+3 Macroeconomic Research Office (AMRO) 2020). However, that impressive growth has come with significant adverse consequences. The GoL now faces substantial domestic electricity oversupply issues (interviews CG9, CG6, September 2018; PC5, October 2018; see also AMRO 2020; JICA 2020). The oversupply is evident from the fact that 2,900 MW of a total 9,500 MW was for domestic supply in 2019 (6,600 MW was for export as indicated in Table 4 earlier). However, the actual domestic demand in Laos in 2019 was 1,000 MW (EdL 2019b), which translates into a 1,900 MW overcapacity situation or 190% of reserved margin. From this 2,900 MW for domestic supply, the Nam Ou cascade of 1,200 MW, which has reportedly faced a lack of electricity markets, already represents 44%. In other words, the power generated from this cascade could have been a major driver to current domestic supply in Laos.

JICA (2020, p 0–4) indicates that the current electricity generated from existing and under-construction power projects for domestic supply will exceed demand until at least 2027. Senior officials in the Lao energy sector have acknowledged the problems of such oversupply. The national English newspaper daily, Vientiane Times (2020a), quoted the acting managing director of Lao EdL:

> About 1,500 MW of potential electricity generation was wasted by hydropower stations during the high-flow wet season.

This statement is supported by the evidence from one of EdL's solely owned projects, the HLG, which is one of the two study projects in this thesis. One of the senior management staff members from this project (interview CG5, October 2018) noted:

> Houay Lamphan Gnai project cannot generate its full capacity of 88 MW. We [the project] now generate only 44 MW out of total installed capacity due to [the] limited capacity of transmission line network and electricity market problems.

This level of a reserve margin of 190% is unprecedented and may not have occurred in other parts of the world. And as outlined, a certain level of oversupply in other Mekong countries is intentionally generated as a reserve margin, to support different sub-national regions that have more constrained reserved margins buffers. However, a reserve margin in Laos was not designed, as mentioned in Table 3 above. The country's current oversupply capacity cannot be considered as a 'reserve margin' because it is not utilised either during base or peak demand during the dry season or periods of power shortages. I refer to the ongoing situation of oversupply in Laos to Lund and Münster's (2003, p. 66) idea of "critical surplus electricity production", meaning that the oversupply of electricity can neither be sold locally nor exported overseas. In Laos, this is related to the limited (or, 'unfinished') inter-connected domestic transmission grid system. For example, major domestic-oriented projects in the Nam Ou Basin, including PowerChina's massive Nam Ou cascade, and in the Sekong Basin, such as the HLG dam, have not operated at their designed installed capacity since their commissioning. These dams are not oriented towards meeting the domestic dry season peak hourly demand due to the limited inter-connections of Laos' domestic transmission grid system (interview CG9, September 2019). Thus, electricity imports, mainly from Thailand, are used to meet seasonal peak demand (JICA 2020; interview CG9, September 2018). The current extent of Laos' oversupply of electricity can therefore be seen as wasteful production, of which the then Deputy Minister (now current Minister) of Energy and Mines has recognised. Xinhua (2020) quoted the Minister' words:

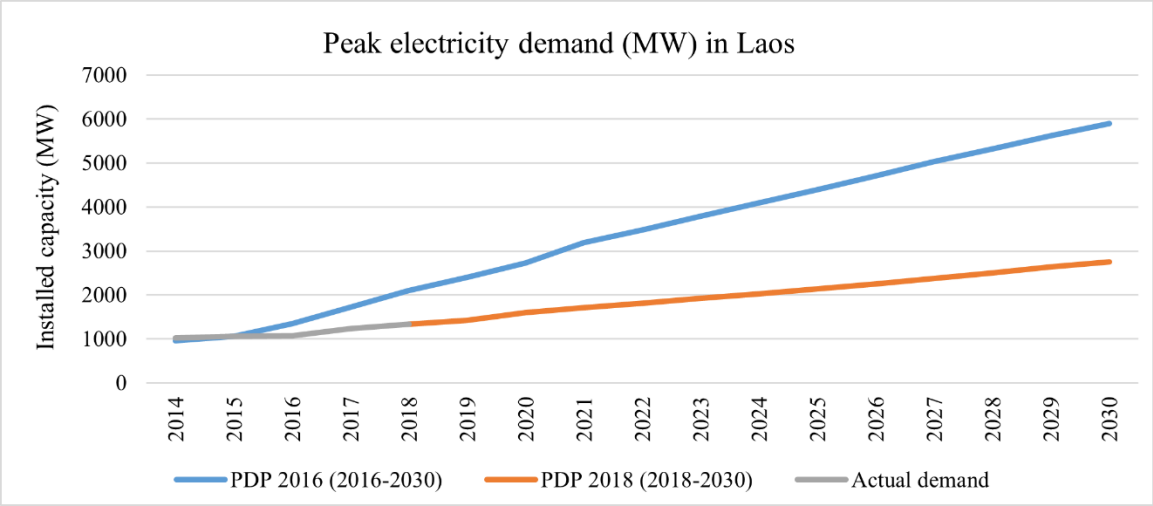
> Some large hydropower plants could not run at full capacity due to limited transmission capacity. We [Ministry of Energy and Mines] just release water downstream wastefully.

The problem of domestic oversupply in Laos is primarily related to EdL's overestimated demand forecasts and take-or-pay contracts[16], in addition to other three underlying factors as

[16] As monopoly electricity utility, according to its mandate, EdL takes part in take-or-pay contracts with all power development projects for domestic supply.

discussed in subsequent paragraphs. I draw evidence for this assertion from the substantial gaps in EdL's demand forecasting, for which I previously refer to Laos' PDP 2016 for 2016–2030 (MEM & EdL 2016) and Laos' PDP 2019 for 2018–2030 (EdL 2019a). Figure 10 below clearly shows the substantial gap of these two PDPs. The later PDP may help reduce the future gap between forecast and actual demand, but in the meantime the repercussions of the earlier PDP demand forecasting continue to be felt in Laos, with too many energy sectoral projects, and insufficient domestic demand.

Figure 10 **Variation of Laos' old and revised power development plans**



Source: Author (based on EdL & MEM 2016 and EdL 2019a)

The apparent over-forecasting of energy demand by EdL is also evident from JICA's (2020, p. 5–2) study, which indicates that just for 2016, the forecasted demand for large industries was 38% (or 190 MW) higher than actual consumption. These are significant figures contributing to the current situation of oversupply oriented to the domestic demand. However, a more critical concern is the large number of domestic-oriented projects that were approved and developed by the GoL after the PDP of 2016, before its replacement by PDP 2019. My analysis reveals three key underlying causes for such oversupply: energy forecasts; political economic interests within EdL; and political pressure outside EdL.

First, there have been very optimistic scenarios of domestic GDP growth. Both existing technical reports such as JICA (2020) and key informants interviewed for this research (CG9, September 2019; PC5, November 2018) point to EdL's unrealistic and ill-planned forecast,

leading to capacity oversupply. JICA (2020) notes that EdL's overestimated forecast simply follows the Ministry of Planning and Investment's (MPI) very optimistic and very high GDP growth targets. The MPI in turn may have reviewed and approved such targets, aiming to achieve the five-year national socioeconomic development plans that are oriented towards political calculations; that is, towards party goals as opposed to detailed expert economic modelling. The anticipated growth heavily relied on some key drivers—mega infrastructure and resources projects, mining, the Lao-China railway, and special economic zones—even though at the time of the forecasts many of these projects remained uncertain, in early stages or showed potential to be economically feasible. According to a senior officer from the MEM (interview CG15, December 2019), the EdL's forecast for the GoL's mining sector alone, including a bauxite mining project on the Bolaven Plateau in Champasak province, was already 2,000 MW. Yet, despite its initial proposal in 2007, the project has still not been implemented (Mekong Watch 2020). Many of the country's key specific economic zones have also made little progress in the recent years.

Second, political-economic forces have pushed the overestimates and the capacity expansion that has followed, especially given that hydropower is a lucrative business for some. These forces can be located either within or outside of EdL's formal or informal realm of institutional power and influence. Within EdL, there are possibilities that EdL promoted and manipulated the high demand scenarios. These scenarios draw from the EdL's leading role in preparing the power demand plan for 2016–2030 (MEM & EdL 2016) and EdL's PDP 2018–2030 (EdL 2019a). These scenarios justified and enabled EdL to commit in advance to buying the generated output from all domestic-oriented IPP projects, given that EdL/EdL-Gen has a certain level of equity shares in most IPP projects (both domestic and export). These scenarios also implied that there would be a market for all of the electricity produced, and that EdL as a producer, single buyer, and distributor would be a major beneficiary from high-demand forecasts. Importantly, the GoL has given EdL operational autonomy and independence as well as a high political position of the EdL Director in the MEM's party structure (Barma & Oksen 2014), to support these moves.

Third, it is also however possible that EdL may have received political pressure to approve new domestic-oriented hydropower projects and 'take-or-pay' contract arrangements (as detailed below), from high-level political powers within the Laos' Ministry of Energy and Mines, or even higher (i.e. the politburo level) due to their individual connection to

hydropower projects and their personal economic interests. The issue of non-transparent and institutionally uncoordinated decision making will be examined in the next chapter. Yet, political-economic forces seem to influence more than just the forecasting process. Despite considerable oversupply and readjustment of forecasts in 2018 to minimise the huge gap between forecast demand and actual consumption, the GoL has continued approving and developing many projects of various scales for domestic supply. Importantly, the approvals continued even after the collapse of four dams in the past four years, including the tragic case of the Xe Pian-Xe Nam Noy saddle dam failure in July 2018. The overestimated forecast demand and underutilised electricity capacity, and contracts where the risk is shifted to EdL, have exposed EdL and the GoL to unnecessary financial risks, which are detailed next.

4.3.2 Financial crisis in the Lao electricity utility

Over-development of hydropower projects and excessive capacity have resulted in EdL, as the monopoly state energy provider, accumulating substantial debts and financial risks (AMRO 2020; Financial Times 2020; JICA 2020; WB 2020). In September 2020, the Financial Times (2020), citing Fitch, estimated the EdL's debt at US$8 billion, or two thirds of the GoL's total foreign debts of US$12.6 billion (also see a similar figure from WB 2020, p. 28). AMRO (2020, p. 50) has projected that EdL's debt servicing to foreign creditors will continue to increase from about US$400 million in 2020 to US$800 million in 2023. International agencies previously signalled to the GoL concerning the potential for increasing debt and elevated macro-economic risks from its rapid hydropower development (WB 2017b). The existing and future debts of EdL reveal a contrast with the GoL's view of hydropower as the country's key contributor to its economic growth. In 2018, the power sector contributed 1.9% to Laos' total GDP growth of 6.5 (WB 2019a, p. 16). However, arguably the hydropower sector has been more of a 'debt creator', at least in immediate and medium terms, undermining Laos' macro-economic positioning. Meanwhile, the benefits have gone to creditors outsides Laos, such as China, Thailand, and Vietnam. In other ways, I refer to Souvannaseng's (2019) argument that Laos' hydropower projects have become the financial assets for foreign investors and developers.

The existing debt burden of EdL can arise from at least five main root causes. First, and despite uncertain power markets, EdL has signed fixed-term contracts of take-or-pay from all domestic-oriented IPP projects, and some proportion of electricity generated from exported-

oriented projects, in addition to its numerous solely owned projects (interviews CG9, September 2018; see also JICA 2020). Rather than EdL's independent authority, these take-or-pay contracts are arranged through the concession agreements (CAs) and PPAs signed by the GoL, through its Ministry of Planning and Investment and Ministry of Energy and Mines and individual IPPs (see Chapter 5). It is unclear whether the PPAs' signing of these projects were processed and evaluated transparently, or signed behind a 'closed door', without due process and regulatory due diligence. Second, EdL's investment in hydropower and transmission projects relied heavily on foreign bilateral concessional loans, mostly from Chinese banks. These projects typically are supported through EPC contracts with Chinese contractors. Examples of the existing EPC hydropower projects are the HLG and Namkhan 2 projects, as well as others currently under construction, such as the Nam Ngum 4 (interviews CG6, August 2018; PC5, November 2018). One of the informants from the state-owned power plants noted that most of the EdL's EPC projects, including transmission infrastructure, often involved inflated costs (interview PC5, November 2018). Third, the financial risks of EdL are partly a consequence of the existing system of electricity tariffs, which are below cost recovery (AMRO 2020)[17]. Fourth, EdL has experienced problems of non-payment or late payment for electricity by state agencies (Songvilay et al. 2017). It was estimated that the total unpaid electricity bills reached 1,217 billion kip (or equivalent to about US$150 million, of which 326 billion kip (about US$40 million) of unpaid bills were of Lao state origin, especially from the Ministry of Agriculture and Forestry (The Laotian Times 2017).

Fifth, despite its position as the largest net exporter to countries within the Mekong Basin and beyond (i.e., Malaysia), at different times of the year Laos needs to import electricity, mainly from Thailand, to meet its domestic demand. The imports usually occur during the hot, dry season when regional peak demand also occurs, and when Laos' dams also operate below capacity due to low rainfall. In other words, Laos sells energy to Thailand cheap (US 5 cents/kWh) and purchases it back (US 11 cents/kWh) (Vientiane Times 2020a) while EdL's buying unit price of electricity from domestic producers and take-or-pay is not known because such information is not publicly available. This requirement to import energy in the dry season is also attributed to the limited access to the national grid in some parts of Laos due to unfinished domestic grid systems, as mentioned. The recent depreciations of the Lao

[17] Electricity tariff ranges in US cents/kWh: Cambodia (15.6 – 21.0), Indonesia (9.4–10.3), Lao PDR (4.0–11.0), Malaysia (4.95–12.98), Thailand (7.1–13.4), and Vietnam (7.2–13.0) (AMRO 2020, p. 25).

kip against the Thai and US currencies have added to the costly price differentials between energy exports and imports (AMRO 2020).

The empirical evidence above indicates the current financial risks of EdL. The risks are due to over-development of hydropower, which has resulted in a high level of electricity oversupply. Even if a domestic market existed, the unfinished domestic grid systems have further presented challenges to transmit electricity from some power plants to domestic load centres, resulting in such oversupply. Meanwhile, EdL/GoL needs to pay the fee for all agreed generation capacity produced by IPP projects in compliance with the GoL's PPAs with private power producers. I contend that ill-planned and non-transparent approval of hydropower dam projects and deliberate arrangements of take-or-pay contracts by MEM or EdL are primary causes of the ongoing situations of electricity oversupply and debt crisis for EdL. In response to the situation, the GoL has partly or largely privatised its state strategic assets.

4.3.3 Losing monopoly: privatisation of state utility's assets

The ongoing financial crisis due to the GoL's rapid hydropower development has resulted in privatization of the country's strategic state utilities. Through 2019–2020, the domestic energy market oversupply and elevated debt burdens experienced by EdL have placed pressure on its status as the monopoly electricity utility for generation, transmission, and distribution in Laos. As a result, the GoL has taken steps to reduce the pressure of the government's debt obligations.

The first and most crucial move was the establishment in September 2020 of another EdL subsidiary company, EdL-Transmission (EdL-T), and the sale of a majority stake of this entity to a Chinese utility. China Southern Power Grid Company (or CSG) reportedly now controls a 90% financial share in EdL-T's operation throughout a 40-year concession agreement (interview NG 16, March 2021). The same informant indicated that although the foreign company controls the majority of the share, EdL can—if it has the financial means to do so—repurchase its share in the future before the end of the period, as per an article in the agreement. However, the details of this possible arrangement have not been made public. I expect that the repurchasing share from CSG would be very unlikely if current institutional and governance problems in the Lao energy sector remain unresolved. These factors include

strong political interference, which has resulted in: deals that have disadvantaged EdL; limited transparency in hydropower development and PPAs; weak auditing power of other state agencies; and the lack of an independent energy regulator. These factors might block EdL from increasing its position in EdL-T because CSG may foresee that in such a scenario, EdL-T may run into financial risks, as EdL is now experiencing.

Alternatively, EdL / GoL would allow key local Lao developers and power producers such as Phongsubthavy Group or Chaleun Sekong Group to gradually take equity shares in the EdL-T operation over the next five- or ten-years' time. The idea for Laos would be to minimise over-dominance of foreign actors in the state strategic assets. Similar arrangements emerged in the Lao banking sector, in which these two power companies took major equity shares in two state-owned banks in March 2021, as mentioned, although Chinese investors had previously been interested in such arrangements (RFA 2021b).

It has been suggested that the purchase of shares in EdL-T by CSG is a de facto debt-for-equity swap with China (China Africa Project 2020). I also note that the major shareholding and control over EdL-T are likely to benefit CSG, especially in the long term. In the short term, benefits will accrue from the regulation of domestic distribution. However, the next stage of the plan for EdL-T is to also control the distribution for export, particularly after 2030 when some export-oriented IPP projects will gradually return to the full ownership of the GoL after the end of the BOT concession periods (Barney & Souksakoun 2021). This means CSG is positioned to gain significant revenue from power exports through its 90% share in the EdL-T—transmission and distribution regulator. In addition, CSG's Lao investment also coincided with CSG's interests in exporting the oversupply of excessive generation production in China's Yunnan province to other GMS countries, especially under the existing GMS plan to export to Thailand via Laos (WB 2019b). Thus, CSG's engagement in the EdL-T may help support the CSG's interests to export oversupply of power in Yunnan to Thailand or other countries.

One month after the establishment of EdL-T, in October 2020, EdL announced a second major move to transfer 24%, or 400 million shares, of its 75% share in its subsidiary in EdL-Gen to an influential Lao hydropower developer, Phongsubthavy Group (EdL-Gen 2021; RFA 2020b). The shares have a value of about US$160 million. Although this amount of money is relatively small compared to EdL's debt load, it may help reduce some of EdL's

immediate debt servicing requirements of about US$500 million in 2021 (AMRO 2020). While the reason behind the transfer has not been publicly or officially disclosed, a senior official from the MEM (anonymous pers. comm. 9 December 2020), confirmed that the transfer of 24% is another debt-for-equity swap arrangement. The speculation draws on the evidence that since 2015, Phongsubthavy has generated 158 MW in annual output from its projects—Nam Ngiep 3 A, Nam San 3 A, Nam San 3 B, and Xe Namnoy 6—since 2014, 2015, 2015, and 2016, respectively. As mentioned above, EdL has long-term take-or-pay contracts with domestic-oriented IPP projects. It is eminently possible that EdL may not have been able to follow its take-or-pay obligations for Phongsubthavy's dam projects, leading to a debt for equity exchange through the 24% stake in EdL-Gen., in addition to transferring equity shares from two state-run banks to this company, as mentioned. Indeed, other power producers for domestic supply have experienced similar situations to Phongsubthavy and Chaleun Sekong Group, but they might have had limited opportunities to take debt-for-equity swaps.

Exporting excess electricity from domestic-oriented dams to neighbouring countries could be another strategy of the GoL in response to the current critical level of the country's domestic oversupply and substantial debt. The GoL has promoted IPPs to export the electricity from their projects that EdL holds responsible for as take-or-pay contracts. Recently domestic private actors such as Phongsubthavy Group and Chaleun Sekong Group have initiated this strategy by signing PPAs with Electricity of Vietnam to export the power from their projects to Vietnam (see Table 7 below). Unfortunately, this strategy does not seem to be applicable for other existing projects such as the Nam Ou cascade, as mentioned.

Table 7 **The list dams for domestic supply that have PPAs for export to Vietnam**

Power projects	Capacity (MW)	Year of commission	Anticipated date of export to Vietnam	Annual power output (GWh)	Developer
Nam San 3A	69	2015	2022	364	Phongsubthavy Group
Nam San 3 B	45	2015	2022	232	
Nam Emoun	129	2021/2022	2022	427	
Nam Kong 2	66	2018	2021	263	Chaleun Sekong Grop
Nam Kong 3	54	2020/2021	2022	204	
Total	**363**			**1,490**	

Source: Author (based on EVN 2020 and author's compilation)

The empirical evidence presented in this section highlights how the GoL's strong ambition to position itself as a regional powershed state by rapidly developing hydropower capacity, has moved Laos' energy sector into different, negative directions. These negative directions are electricity oversupply, debt crisis, and the sector's loss of sovereign control. These directions can be even worse if all social and ecological costs, which are mostly not counted by hydropower developers and investors in project cost and benefit analysis and mitigation measures. These moves solidify the negative effects of the rapid growth of hydropower in Laos in past years. I argue that such negative effects arise from the ill-planned and uncontrolled practice of hydropower expansion, especially for domestic supply, by EdL, and more broadly the GoL. The nature of currently contested energy-scapes also points to deficiencies in hydropower governance, including non-transparent project approval and decision-making processes, and limited inter-ministerial coordination in hydropower development, which will be explored in Chapter 5.

4.4 Conclusion

Hydropower development has been one of the GoL's top priorities to drive its economic growth and poverty reduction, primarily through electricity export to its neighbouring countries for revenue. Given its economic significance, hydropower is also a political instrument for the LPRP to maintain its legitimacy and power in a single-party system (Barma & Oksen 2014; Creak & Barney, forthcoming). From these political-economic interests, the GoL has developed its hydropower potential at a very rapid pace since the 1990s, with an ambition to become the Battery of Asia, especially under the ADB's GMS power interconnection.

The introduction of liberalisation in the hydropower sector has attracted rapid growth of foreign direct investment in the sector, benefiting the GoL's position as the Battery of Asia. In early days, the country welcomed MDBs and Western companies, and donors or old actors, who promoted sustainability conditionalities and a multilateral cooperation approach dominated this sector. However, after its lesson and experience from the NT2 project, the GoL has shifted its focus to regional or new actors, mainly from the Mekong countries. The shift is due largely to tedious processes, a high level of safeguard standards, and requirement of institutional and regulatory reforms by old actors. The shift is also coincidental with easier

access to money from regional bilateral lending institutions with limited transparency and lack of safeguard commitments. It has also actively promoted domestic private investors and SOEs or the third wave. The GoL has given substantial preferential allocation of MOUs to domestic private actors regardless of their financial capacity and expertise. In the past decade, there is a clear rise of Lao private actors and the dramatic increase of their share in Lao total electricity production. This can help the GoL to minimise foreign actors' economic and financial dominance in the sector. Yet, some of domestic actors sell their MOU rights to others for profits instead of materialising their MOUs.

The transition from first to second and third waves has allowed the GoL to accelerate its hydropower development. By early 2020, total installed capacity reached 9,500 MW from 92 power plants (including a coal power plant 1,878 MW) (AMRO 2020). At that level of capacity, the GoL has partially materialised its ambition of becoming a regional powershed state. However, the transition has also shaped the current characteristics of hydropower governance and energy-scapes in Laos and the wider Mekong Region with limited commitments to safeguard policies, transparency, accountability, and multi-purpose dam development. A combination of political economy, externalisation of social and environmental costs, cross-border power trades, transition of hydropower actors, and weak governance regime in Laos has facilitated Laos as a powershed for the Mekong Region.

However, the country's ambition of power export, powershed position, rapid expansion of generation capacity, and transformed hydropower governance have 'poisoned the well', and radically reshaped the domestic energy-scape. While the electrification of the Lao population nationwide, which is central to EdL's legitimacy as Barma and Oksen (2014) ague, rapidly and successfully reached 95% in 2019, the rapid-paced hydropower development and the overestimation of power demand has resulted in high domestic oversupply. It is estimated that current (as of 2020) generation capacity from domestic-oriented projects, both in operation and construction phases, will exceed domestic demand until at least 2027 (JICA 2020). The state utility, EdL, needs to pay for such oversupply because of its fixed take-or-pay contracts from all domestic-oriented IPP projects, in addition to its solely owned projects with inflated costs. As a consequence of this oversupply, EdL has further placed itself under extreme financial pressure by investing in overly expensive transmission infrastructure projects. The investment aims to integrate a national grid system, hoping to distribute oversupply to domestic load centres. Importantly, these extension projects with highly inflated costs have

been financed mostly through bilateral concessional loans from China and developed under EPC or turnkey contracts with Chinese firms. I argue that the rapid-paced hydropower development and oversupply of domestic electricity characterises the political economy of construction profits by foreign and local hydropower actors, and some individual senior officials within EdL and relevant ministries, disregarding a realistic demand-supply power development mechanism. More specifically, oversupply of energy is a notable consequence of non-transparent and institutionally uncoordinated decision making—mostly decisions are made behind closed doors in take-or-pay contracts and EPC projects in the interests of small groups of people and few agencies (see Chapter 5).

The aforementioned problems have produced a multi-billion debt for EdL, putting the GoL in a critical position whereby it cannot service its debt (AMRO 2020; Financial Times 2020; Barney & Souksakoun 2021). This has led to two different forms of privatisation of EdL's strategic assets business within 2020. First, EdL established a new subsidiary company, EdL-T, of which Southern Power Grid reportedly controls 90% share to operate the national grid throughout a 40-year concession period. Second, EdL further privatised its business by transferring its 24% out of total 75% share in EdL-Gen at a value of about US $160 million to a local power company. In the first case, some foreign media even linked such a vast major share of China Southern Power Grid to China's debt-trap diplomacy and a debt-for-equity swap arrangement. However, rather than blaming China or outsiders, I concur with Kearrin Sims (2020) that EdL and the GoL 'trapped itself' by taking advantage of close Laos-China political ties and easy access to bilateral concessional loans from China. The government, especially through its hydropower sector, then invested in EdL-led projects, especially through EPC contracts, with inflated costs and limited economic returns and non-transparent decision making for take-or-pay deals.

Chapter 5 Institutional Disconnect in the Context of Lao Hydropower Governance

5.0 Introduction

Much like the broader context of water governance, sustainable hydropower governance requires effective coordination of multiple stakeholders across different sectors and levels of government (Daniell et al. 2014; Dore & Lebel 2010; see Chapter 2). Although the Lao government has established various coordination institutions for oversight of hydropower development, its hydropower regulation has been characterised by uncoordinated and competitive power dynamics and inter-ministerial power plays. This is mainly due to multiple legal arrangements (Suhardiman & Giordano 2014), overlapping institutional mandates and laws (Jusi 2011; WB & MEM 2017), weak implementation of legal instruments (Matthews 2012), and contested processes of decentralisation and centralisation (Poppe 2004). I refer to such a competing and uncoordinated dynamic of hydropower governance as "institutional disconnect" (Lu & Schönweger 2019, p. 62). Lack of inclusive and meaningful stakeholder consultation, the chase for personal money, and cultural norms of non-transparency and unaccountability, further compound this disconnect. In this chapter, I argue that the structural institutional disconnect, along with the inter-ministerial power plays, in hydropower governance, is unlikely to be resolved given the political norms of limited transparency and accountability, compromising sustainable hydropower in Laos, especially in the social dimension.

Although national legal instruments require public involvement, in practice stakeholder engagement is limited. Instead of following meaningful and deliberative processes (Dore 2014), stakeholder engagement in the country's hydropower development is selective and invitation-based. Many groups of stakeholders, including some affected communities, are intentionally excluded from participating in decisions around hydropower; in short, "deliberate exclusion" (Warner 2006, p. 30). In my view, this is not consistent with the LPRP principle of democratic centralism, which intends to substantively debate pressing issues in a deliberative manner. Thus, there is very limited space for invited participants, especially local communities, to raise their concerns. Rather, there is a political culture of limited free speech and state control over mass media (Middleton 2012; Creak & Barney 2018). Stakeholders are invited to participate, but in a highly ceremonial or performative fashion, in which I have

conceptualized such fashion as ceremonial public participation (see Chapter 2). The result is that decision making over hydropower development mostly reflects the interests of small groups of powerful state actors and business elites, who serve their narrower economic and political objectives (Matthews 2012).

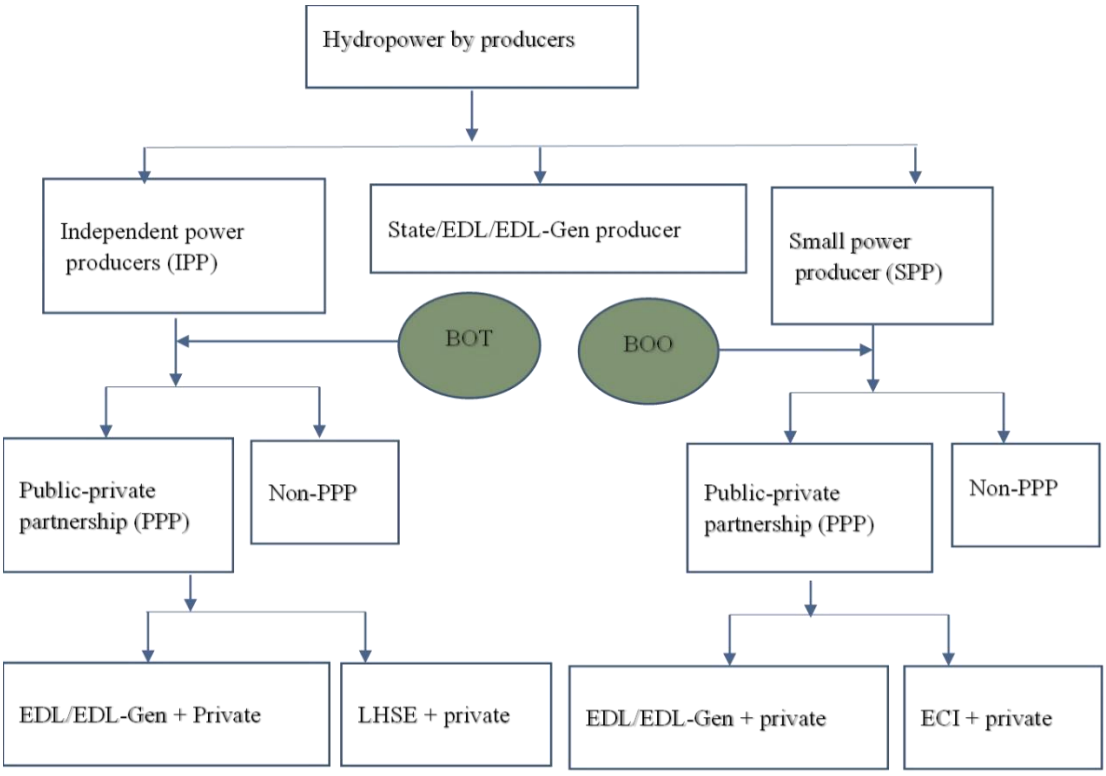
In this chapter, I investigate institutional disconnect in Laos, and trace its implications in the context of hydropower governance arrangements, and how such arrangements play out through its grounded social and environmental relationships. I focus on the workings of institutional disconnect between key government agencies, both horizontally and vertically (Daniell et al. 2014, p. 2417; Lu & Schönweger 2019). The investigation builds upon and elaborates the concept of "scalar disconnect" (Suhardiman et al. 2012, p. 575), and the broader idea of the politics of scale in water governance (e.g., Daniell & Barreteau 2014; Dore & Lebel 2010). My investigation aims to contribute to existing literature on scalar disconnect in the Mekong Region by shifting from the regional (Mekong River Commission; MRC)-national context to the national-provincial-district contexts within Laos. Doing this helps me to understand the issue of scalar disconnect through 'ceremonial public participation' of stakeholders in Laos, which presents further challenges to the hydropower governance regime.

I proceed by describing the key Lao power producers and hydropower institutional arrangements. Section 5.2 then examines cross-sectoral *(horizontal)* institutional coordination, the nature of overlapping mandates, implications of competing laws and policies, and unequal power relations between key sectors. These factors result in the structural institutional disconnects, along with the inter-ministerial interplays, which together undermine sustainable hydropower governance. Section 5.3 analyses *vertical* institutional disconnect between the national, provincial, and district levels in Laos, framing this within specific discussion of decentralisation and recentralisation paradigms of the hydropower governance, and how this affects environmental and social management funding. In section 5.4, I analyse institutional disconnect in a vertical direction through the formality of multi-level resettlement committee arrangements and ceremonial participation in Lao hydropower, drawing upon the empirical evidence from my two case study projects in southern Laos.

5.1 Hydropower institutional arrangements in Laos

Hydropower development in Laos can be differentiated by the type of investor involved and the operational model. First, hydropower projects can be grouped into three main producer categories: IPP; state-owned or EdL producers; and small power producers (SPP) (MEM 2016; see Figure 11). Second, following Article 44 of the 2017 Electricity Law, there are the three main ownership models: BOT for IPP projects (above 5 MW); BOO for SPP projects[18]; and those operating under the EdL regulations. Most IPP projects, and to a limited extent SPP projects, engage state companies either through EdL-Gen (i.e., the EdL's investment arm) or Lao Holding State Enterprise (LHSE) with their equity shares, ranging from 10–60% as discussed in Chapter 4. Meanwhile, the ECI that is mandated to work mainly on general electrical installation and electrification has equity share in only one SPP project.

Figure 11 **The hydropower producers and development models in Laos**



Source: Author (based on the 2017 Electricity Law and MEM 2016)

[18] The definition of SPP is subject to a variation in the Electricity Law, which will be discussed in detail in a subsequent section 5.3.

Outlining these different power producers, operating models, and investment arrangements is useful for my analysis of the hydropower governance regimes in two different ways. First, there are increasing numbers of projects, which are arranged through a 'non-PPP' investment strategy both under IPP or SPP models. These projects are owned by the local Lao private investors or third hydropower grouping, as discussed in section 4.2.1 above. Second, the analysis helps characterise how these operating models help shape social safeguard landscapes in the Lao hydropower sector. The analysis in this chapter and throughout this thesis focuses on the context of EdL and IPP regulations.

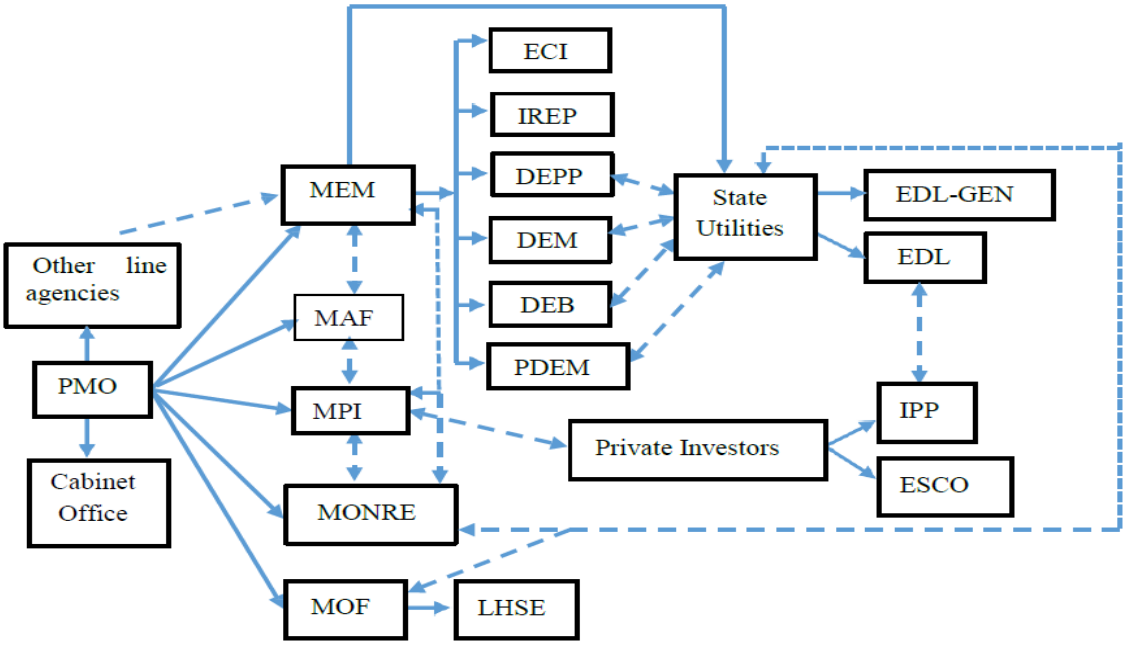
These three hydropower operating models (BOO, BOT and State-led) require different institutional arrangements and governance regimes. I first start with an outline of the IPP model, pioneered by the multilateral development banks such as the ADB during the 1990s (Middleton & Allouche 2016; Souvannaseng 2019; see Chapter 4). The model aims to distribute financial risk amongst lending institutions and other investors (Middleton et al. 2009). The institutional arrangement and procedural requirements for an IPP project are defined in the 2017 Electricity Law (also in its predecessor version 2011), and in the IPP procedures issued by the Central Investment Promotion Steering Committee (CIPSC) (see WB & MEM 2017). An IPP project in Laos engages the wider technical departments of a series of ministries. These key agencies include the Ministry of Energy and Mines (MEM), MPI, the Ministry of Natural Resources and Environment (MoNRE[19]), the Ministry of Finance (MoF)[20], and the state-owned company, EdL[21]. Figure 12 below shows the overall relational dynamic of key ministries and departments in the IPP hydropower governance regime in Laos.

[19] MoNRE was previously known as Science, Technology, Environment Authority (STEA) before 2007 and the Water Resources and Environment Administration subsequently until 2011.

[20] MoF is involved in the process mainly through its role as a shareholder in some IPP projects, through its investment arm, the Lao Holding State Enterprise (LSHE). LSHE is involved in the NT2, Xe Pian-Xe Namnoy, Nam Ngiep 1, and the Hongsa lignite power station, amongst other major energy projects in Laos. The MoF is also responsible for the funds that IPP projects allocate to government agencies' social and environmental monitoring. Although, in principle, the government's equity share in the export-oriented projects is held via LHSE, there are some exceptional cases such as the Xayaburi and Don Sa Hong, in which EdL-Gen holds the government's share.

[21] EDL can be involved in IPP projects in various ways, including through: 1) electricity monopoly (generation, transmission, and distribution for domestic electricity supply); 2) its equity shares in IPP projects by its subsidiary EDL-Gen; 3) an off-taker of the electricity from IPP projects for domestic power supply; and 4) electricity supplier during the construction period of IPP and SPP projects. For the GoL's desire to position itself in the context of regional energy landscape, and financial viability, there was a major reform in 2011 that established EdL-Gen, a subsidiary investment arm of EdL (Barma & Oksen 2014), in which EDL owns 75% equity share [now reduced to 51%].

Figure 12 **The relations between key state agencies involved and their relations in IPP project development in Laos**



DEB – Department of Energy Business, DEM – Department of Energy Management, DEPP – Department of Energy Policy and Planning, ECI – Electricity Construction and Installation, IREP – Institute of Renewable Energy Promotion, MPO – Prime Minister Office, PDEM – Provincial Department of Energy and Mines, EdL – Electricity du Laos ESCO – Energy Service Companies

Source: Adapted from WB and MEM (2017)

These key ministries and departments hold different mandates and responsibilities during the various stages of hydropower development processes. According to the 2017 Electricity Law, MEM and its technical departments are responsible for the technical, economic, legal, and management aspects during all stages of hydropower development. Their responsibilities include review, appraisal, and approval of technical studies for projects during preparation stages, in addition to multiple roles during construction and operational stages. Meanwhile, MoNRE, particularly its Department of Environmental and Social Impact Assessment, is responsible for coordination with other state and private agencies for environmental and social impact assessment (ESIA), the issuance of environmental compliance certificates (ECC) prior to project implementation, and safeguard monitoring during the construction and operational stages (see the Environmental Protection Law 2013). Despite its non-technical

sector mandate, the government has mandated MPI, especially through its Investment Promotion Department (IPD), as the focal point agency for any investment project in Laos, including hydropower, through its single-window system. It is also a designated signatory on behalf of the government for legal documentation pertaining to hydropower projects, especially IPP projects, with intended project investor(s). Key project approval documents include memoranda of understanding (MOU), project development agreements (PDA), and concession agreements (CA) (see WB & MEM 2017).

Since 2016/2017, the Ministry of Agricultural and Forestry's (MAF) Department of Forestry (DoF) also became increasingly involved in hydropower, when it resumed management of all state forest categories (including forests located outside of the state forest zone). In the context of hydropower, the DoF exerts its jurisdictional authority, mainly related to the impacts on forest resources from dam reservoirs and transmission lines. The recent promulgation of the Law on Resettlement and Occupation (LRO) in 2018 may also increase MAF's role in hydropower resettlement programs, because the LRO permits MAF to lead the GoL's upland and infrastructure development resettlement programs, through its new Department of Rural Development.

Besides these key ministries, there are important inter-ministerial committees at the national level that influence the Lao hydropower governance system, especially at the planning stage. These include the Central Investment Promotion Steering Committee (CIPSC), for which a Deputy Prime Minister is Chair, and the Minister of Planning and Investment is Deputy Chair. This committee has a crucial role in the final decision regarding approval of any proposed major infrastructure project in Laos. Likewise, there is a Joint Steering Committee, acting as a coordinating point for all government agencies and investors for the IPP hydropower development processes (see WB & MEM 2017). There are also inter-ministerial resettlement committees, which are discussed in subsequent section 5.4. These government agencies and inter-ministerial committees hold designated responsibilities, and their organisational mandates and actual governance interventions hold key implications for patterns of structural institutional disconnects and power interplays in the Lao hydropower sector.

The SPPs of below 5 MW (compared to 15 MW before stipulation of the 2017 Electricity Law) involve state regulators, but mostly at provincial and district levels; much fewer than for the IPP projects. The provincial branch offices of key ministries, such as MEM and MoNRE,

approve the technical feasibility studies prior to approval of SPP projects by the Provincial Investment Promotion Steering Committee[22] (PIPSC). According to the 2016 Investment Law of Laos, a provincial governor is chair of PIPSC.

Meanwhile, the state-owned EdL and EdL-Gen power producers engage much fewer stakeholders than either the IPP or the SPP producers, unless their projects involve a resettlement program that requires the project-specific resettlement committees. There is limited engagement of stakeholders in the sole-owned EdL projects because of its role as the national electricity monopoly in Laos. Moreover, according to Article 74, the EdL state enterprise is not required to hold a CA, nor the SESO attached to the agreement, commonly practised for the IPP/SPP projects, although such an agreement should be written after it transfers ownership of its project to its subsidiary company, such as EdL-Gen. The CA and its SESO are crucial legal documents for relevant state agencies to evaluate project performance, especially for social and environmental compliance, although many IPP/SPP projects also dismally fail to comply with their SESOs. In other words, lacking in both a CA and a SESO, there are more limited legal avenues for state regulating agencies to evaluate and monitor the social-environmental performance of EdL-backed dam projects—including the HLG project (one of my case studies).

As should be clear, multiple state agencies and committees are involved in the planning, decision making, and implementation of Lao hydropower projects. One of the key priorities of these agencies and committees is to implement the WB-supported national Policy on Sustainable Hydropower Development (PSHD), which establishes equal importance for the technical, economic, environmental, and social pillars of hydropower development in Laos (PSHD 2005, 2015). Yet, questions remain as to the extent of the GoL's attention and interest in this national policy because it was developed out of the WB-backed Nam Theun 2 development process (see ADB 2010a, 2010b; Middleton et al. 2009). The policy is seen more as a key rhetorical instrument, and it is not supported by any decrees that would help establish minimum standards and penalties for infractions. Besides, government agencies and officials view hydropower as per se sustainable in line with a view of hydropower as a renewable and sustainable energy source. Unfortunately, rather than cooperation within and

[22] The CIPSC and PIPSC are established through the Decree on the Establishment and Operation of the Investment Promotion and Management Committee No. 05/PMO, 2018 and the Investment Law 2016.

between state regulating agencies towards the goal of sustainable hydropower, what has emerged is a system of overlapping decision-making powers across sectoral mandates, and contested dynamics of horizontal and vertical coordination, which are infused with rent-seeking interests.

5.2 Horizontal institutional disconnect in Lao hydropower

Theoretically, effective hydropower governance needs the cross-sectoral coordination of multiple stakeholders from public and private agencies (see Suhardiman & Giordano 2014). In Laos, the PSHD mentioned above has long been adopted to promote cross-sector engagement and coordination. However, as mentioned this PSHD has emerged as a rhetorical instrument for the hydropower sector in Laos, using it to argue that the country's hydropower development is sustainable, but lack of regulatory support and ineffective implementation of safeguard policies as oppositional to development. In practice, unclear institutional mandates, competing legal instruments, and unequal power relations, result in structural institutional disconnects and power plays between key ministries; in other words, "horizontally across different sectors" (see Daniell et al. 2014, p. 2417). Drawing upon the concept of "scalar disconnect" from Suhardiman et al. (2012), who discuss it in the context of water governance in the Mekong Region, this section examines the dynamics of scalar disconnect in a horizontal direction (i.e., across key public sector agencies), involved in Lao hydropower. To understand this horizontal disconnect, my analysis will centre on three important dimensions: (i) overlapping ministerial mandates; (ii) competing legal instruments of key ministries; and (iii) unequal power relations between those line agencies with significant revenue-generating authority (such as MEM) versus those agencies that have less revenue-generating power. I contend that such disconnects undermine effective planning and implementation in hydropower projects, resulting in the current situation of ineffective governance.

5.2.1. Overlapping mandates between key ministries

Multiple state agencies, especially MEM, MPI, and MoNRE, and committees in Laos are involved in hydropower investment, regulation, and governance. These agencies are meant to closely coordinate the planning, decision making, and implementation of any hydropower project and other investment projects, following their mandates and applicable regulations (see PSHD 2005, 2015). However, in practice, what has emerged amongst key ministries is a

system of overlapping and poorly coordinated decision-making power across sector mandates between sectors (WB & MEM 2017; Suhardiman et al. 2012), especially during the preparation and construction phases.

Recent assessments of hydropower (WB & MEM 2017) and ministerial mandates (MPI 2018; MEM 2018) highlight some of these overlapping mandates. Both the Investment Promotion Department (IPD) of the MPI and the Department of Energy Policy and Planning under the MEM are mandated to screen, review, and approve hydropower developers' feasibility studies, including ESIA, of hydropower projects (WB & MEM 2017). In practice, it is difficult for the IPD to review any feasibility study and ESIA for a hydropower project given its limited technical capacity in these areas. Likewise, the Department of Energy Business, through its Legal Agreement Division, of the MEM is mandated to draft and revise MOUs, project development agreements, and concession agreements for IPP hydropower projects (MEM 2018). However, the IPD, especially through its Contract Appraisal and Management Division, is also mandated to draft such MOU and other (concession and power development) agreements for distribution to relevant government agencies, especially technical departments within MEM and MoNRE, and investors for comments, prior to revising and finalising these MOU and agreements (MPI 2018).

The overlapping mandates between MEM and MPI arise from their poor coordination when they formulated their mandates (interview CG2, September 2018). The overlaps of mandates and institutional structures could have been intentionally left so as to heighten oversight from multiple agencies in reaction to the problems of rent seeking and ineffective implementation of a development project. This is important to understand Lao resource governance problems. The reaction to rent seeking is often bringing in more safeguards—more oversight from other agencies. Yet, rather than solving these problems, engagement of more state agencies in a development project seems to increase more agencies in rent seeking through hydropower dam construction. Corrupt practice in political economy of natural resource management, rent seeking and corrupt practices exist in the hydropower sector in Laos, but there is a lack of evidence and documents to confirm such practices. The lack of clarity of mandates supports the position of either MEM or MPI to dominate decisions on hydropower and their sector's interests in rent seeking. While these two ministries have equal power in their respective mandates and responsibilities, in practice, MPI is more powerful than MEM. Their difference of power links to the structural position of MPI, which is a focal point for all investment

projects and authorised power to sign legal documents and approve projects on behalf of the GoL.

It is logical that the MEM should have a role in reviewing and approving the developer's technical and economic feasibility studies, because MEM's departments have a technical capacity on hydropower. The review and approval of ESIAs should be the MoNRE's mandate, instead of MPI's. It is also reasonable that the MEM is responsible for drafting and revising agreements because the Contract Management Division is under the MEM's Department of Energy Business to evaluate IPP projects of their compliance to CAs. This department also acts as the focal point and secretariat of the Joint Steering Committee, as indicated in 5.1 above, for IPP hydropower development processes in Laos (WB & MEM 2017). Meanwhile the IPD as a secretariat for single-window services for all investment projects, including hydropower, should follow the articles of the Investment Law while reviewing any proposed development project. Then it should propose the completed set of documents to the CIPSC for consideration and approval. After this, the IPD/MPI, as suggested, would sign the completed sets of agreement documents for IPP projects as a designatory party on behalf of the Lao government (see WB & MEM 2017).

The established inter-ministerial committees mentioned above should be aware of the issues with overlapping mandates, and should have advised key ministries, which are also members of the committees, to avoid duplication of mandates, improving sectoral coordination. One of the key informants from the MoNRE (CG2, September 2018) noted that the duplication arose from poor coordination between key hydropower agencies in formulating their mandates. Yet, the committees, especially the chair of CIPSC, who is also a deputy prime minister, might have intentionally allowed such overlapping mandates because they do not want to interfere with internal affairs of other ministries, and ensuring oversights from multiple agencies as mentioned. This has produced confusion for private investors, leading to further difficulties in managing the investment environment despite the existence of the single-window or 'one-stop service' system under MPI for many years. The weak inter-ministerial coordination and difficulties of investment procedures in Laos was also raised during the ninth ordinary session of the Lao National Assembly in July 2020. During this session, some parliament members questioned the Lao Deputy Prime Minister, who is also the Minister of Planning and Investment, about complex, uncoordinated, and lengthy project approval processes in Laos (Vientiane Times 2020b). Besides the overlapping mandates, ill-functioning single-window

system, and ineffective inter-ministerial committees, there are also competing legal instruments related to hydropower regulation, which have further influenced horizontal institutional disconnect.

5.2.2 Cross-sectoral competing policies and laws on hydropower governance

Institutional disconnect has been considered through the competing nature of legal instruments and policies of key ministries (see Suhardiman & Giordano 2014). Notably, different scales of regulation (see Chapter 2; see also Daniell & Barreteau 2014), are also involved, and add further complexity to institutional disconnects. Competing legal instruments substantially influence the current governance of hydropower in Laos, and it is confusing for both local government agencies and hydropower investors and developers to implement the instruments and policies. In this section, the competing legal instruments and power relations in the Lao hydropower sector are highlighted for MEM, MoNRE, MPI, and MAF, with a particular focus on hydropower resettlement. Tracing these complexities is important as it establishes the institutional basis for uneven and often poor resettlement practice, as documented in the next chapter.

Horizontal institutional disconnects in the Lao hydropower and resettlement governance regime are associated with competing legal instruments of three regulating ministries: MoNRE, MEM, and MAF. Given its institutional mandate for environmental and social safeguards, MoNRE has striven to take a lead on regulating development-induced resettlement for hydropower. Initially, the Environmental Protection Law (1999) did not refer to social issues such as resettlement, including committee and compensation matters. Such issues were only covered after endorsement of an implementing regulation in 2005, Prime Ministerial Decree 192 on the Compensation and Resettlement of the Development Project, prepared under the ADB's guidance, primarily backed through the WB-backed NT2 project (see Chapter 4). This decree did not specify which government agencies should lead the resettlement and compensation issues. This was only established by the Decree 84 in 2016, which enshrined power to MoNRE as the key responsible agency to regulate resettlement and other social issues related to development projects. Under Decree 84, MoNRE and its provincial branch offices are mandated to lead multi-level resettlement committees with the involvement of representatives from line ministries.

Meanwhile, in 2017, the National Assembly endorsed MEM's Electricity Law, which, as a national law, is legally more powerful than the Decree 84 (see regulation scales in Figure 3, Chapter 2; see also Daniell & Barreteau 2014, p. 2369). Disregarding and/or overriding MoNRE's mandate, the 2017 Electricity Law overtly competes with Decree 84 over which agency takes the leading role and control over dam-resettlement programs. Provincial governors have authority to appoint and supervise the resettlement committees at provincial and district levels in planning and implementation (Suhardiman & Rigg 2021). Yet, the 2017 Law enshrines MEM and its branch offices at provincial and district levels with the legal right to propose institutional structures and representatives to be engaged in resettlement committees at national, provincial, and district levels for any hydropower resettlement, allowing the MEM to lead an overall dam resettlement program. This right is stipulated in Articles 70 and 71 of this Electricity Law, which contrasts with the Decree 84 mentioned above. In effect, these articles establish the MEM's full control over the hydropower sector. The concrete impacts of these two sectors' competing regulatory authority will be elaborated in subsequent section 5.4.1 and Chapter 6, in which MoNRE and MEM led the resettlement programs in two case study projects.

Further to this, in 2018, the MEM formed the Social-Community Development Division under the Department of Energy Business within MEM. This division is mandated to oversee resettlement and social development programs of all IPP hydropower projects during the construction phase, seemingly in contradiction with the mandate of MoNRE under Decree 84. Again, this formation supports the increase of institutional, legal, and financial power of MEM regarding resettlement and livelihood issues, particularly as some officials in MEM view MoNRE as having limited capacity in supervising the implementation of resettlement programs, producing low quality of resettlement outcomes (interview CG14, November 2019). The leading role of MEM is also evident through how it takes the lead role, as opposed to MoNRE, in arranging the national annual or bi-annual review meeting of hydropower-induced resettlement, with the chair being the Minister of Energy and Mines (see Vientiane Times 2019).

The overlapping legal framework regarding dam resettlement has become even more contentious after the promulgation of the 2018 LRO under the Ministry of Agriculture and Forestry. The newly created Department of Rural Development under MAF was mandated to implement this new law. This law covers internal state resettlement programs and

development-induced resettlement, including for hydropower. Many of the criteria and requirements of resettlement, compensation, and livelihood restoration under this law clearly overlap or duplicate those of both MoNRE's Decree 84 and MEM's 2017 Electricity Law, especially Articles 70 and 71. Like MEM's 2017 Electricity Law and MoNRE's Decree 84, Articles 40 to 43 of the LRO authorise the MAF to lead and propose representatives from line agencies to fill in three (national, provincial, and district) levels of resettlement committees.

In my analysis, the legal competition indicated above contributes to two main outcomes. First, the formulation and revision of legal instruments lack, or at least provide very limited, coordination between line ministries or departments and wider stakeholders. As one senior legal expert from MoNRE stated in an interview:

> In the past [before 2017], there was a lack of coordination between departments even within a ministry in the processes of formulation, review, and revision of laws and regulations. Moreover, there were no common procedures and limited reviews of existing regulations within and across departments or ministries before formulating new or updating existing laws and regulations. Therefore, there are loopholes and overlapping contents in laws and regulations (interview CG2, September 2018).

Second, the uncoordinated formulation and revision of legal instruments can be closely related to economic interests between key agencies in access to rent-seeking opportunities from development projects, especially hydropower. These opportunities include the budget for resettlement activities, which always involves multi-million-dollar funding blocks, paid directly by the hydropower companies. For example, based on the SESO of the XKM1 project, the project social obligation cost related to resettlement activities was about US$7 million (XKM1PC 2011). Meanwhile, the funding for social obligations was estimated at about US$20 million for the HLG project (including $8, $7, and $3 million for compensation, resettlement, and livelihood restoration respectively) (MEM 2010). Different ministries or departments aim to benefit financially from overlapping laws and regulations.

The nature of the cross-sectoral conflicting interests through competing legal instruments is not only based on economic incentives, but also political interests in the Lao party-state context, whereby the political position of the LPRP dominates overall decision making at all administrative levels in Laos (see Stuart-Fox 2006; Creak & Barney 2018). It is also not known to what extent the new legal departments established within each ministry can help

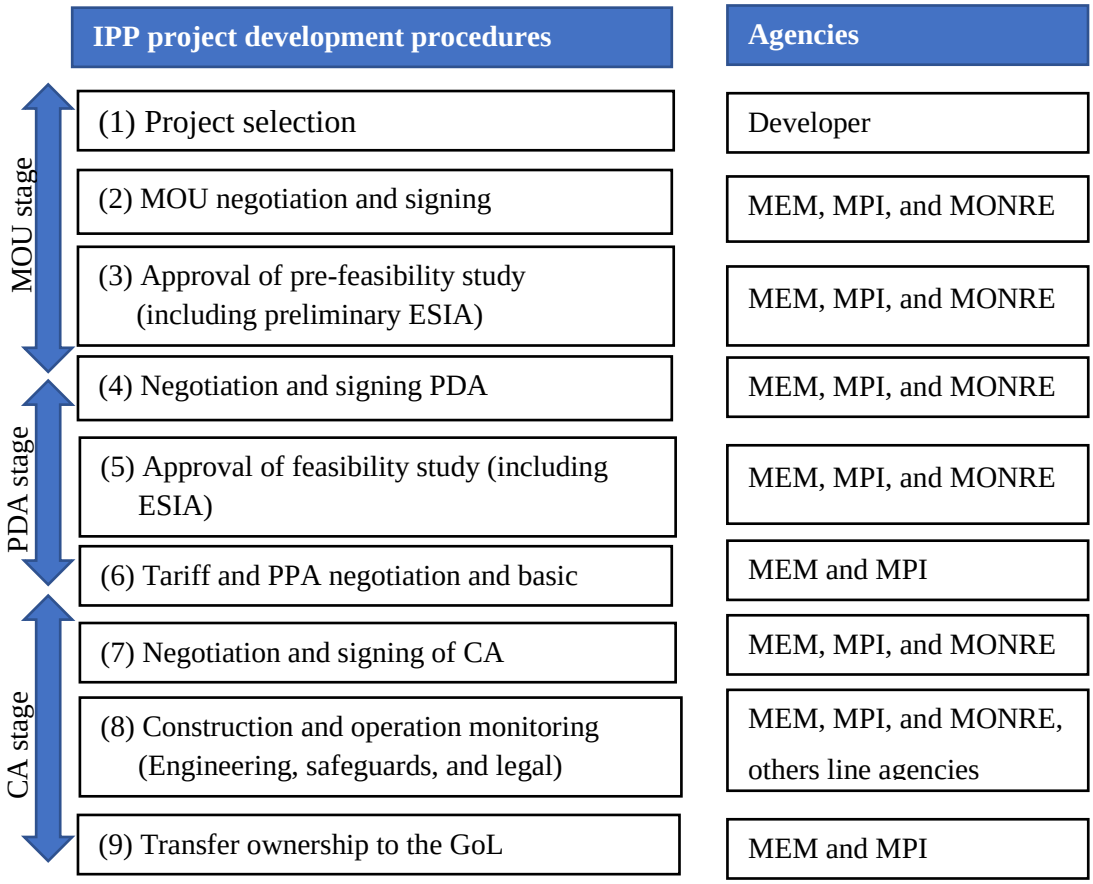
rationalise the competing legal instruments, especially under a circumstance of unequal power between hydropower-related sectors and their existing weak enforcement of social and environmental safeguard policies. In the next section, I provide further evidence of unequal powers between MEM, MPI, and MoNRE.

5.2.3 Unequal power relation between key sectors in hydropower regulation

In addition to the overlapping mandates and competing laws and regulations highlighted above, the horizontal institutional disconnect is further shaped by unequal power relations between key ministries such as MPI, MEM, and MoNRE, in hydropower decision-making processes. This section discusses such relations, with a specific focus on MoNRE, which is widely viewed as a secondary or subordinate ministry in Lao hydropower regulation (Phaengsuwan 2018).

In principle, equal importance should be given to technical, economic, environmental, and social pillars for sustainability in hydropower development in Laos (PSHD 2015). Following this policy, hydropower investors are required to conduct an initial environmental examination (IEE) or an ESIA study prior to implementation of projects (EPL 2013). Article 22 of the Environmental Protection Law (2013, p. 9) states: "[B]oth the [IEE/ESIA] report and the [environmental and social management] plan shall be approved [including issuance of environmental compliance certificate (ECC)] by MoNRE prior to functioning investment projects and activities." This means that it is unlawful to proceed with hydropower construction activities on the ground before project ESIA and mitigation plans are submitted and certified through an ECC, issued by MoNRE. This legal requirement is also empowered by the MEM's IPP hydropower approval framework, which signifies the importance of ESIAs in various stages of IPP hydropower approval procedures (see Figure 13 below). These procedures are necessary steps to ensure a logical and robust planning and implementation process for hydropower development in a sustainable manner.

Figure 13 **The approval procedures for IPP projects and actors involved in Laos**



Source: Adapted from WB and MEM (2017)

However, in reality, the 2013 EPL and IPP procedures are ineffectively practised and unevenly implemented in the hydropower sector, and this is mostly due to the unequal power relations between MoNRE and more powerful agencies such as MEM and MPI. This is indeed not a new issue. In the years before its formation as a Ministry in 2011, the Water Resources and Environmental Administration (currently MoNRE), with status only as an authority, clearly had less administrative and political power than MEM and MPI (Suhardiman et al. 2012); thus, it could not convince other ministries to comply with safeguard policies. Yet, despite its current status as a Ministry, in my assessment MoNRE is still viewed as having less power than other resource ministries sectors such as MEM—with key management responsibilities over a sector that drives national economic growth (interviews CG4; CG6; CG7, August 2018). The uneven power relations have heavily been driven by the GoL's strong support for a hydropower development policy that has downplayed the enforcement of regulations, especially for environmental and social realms (see Phaengsuwan 2018). The primary aim of the government is to encourage investors,

despite the passing of the Policy on Sustainable Hydropower Development. Yet, as mentioned, some officials from MoNRE (CG4; CG6, August 2018) stated that MEM and MPI often see environmental and social realms as less important, delaying the progress of the hydropower development process, leading to continuous technical assistance programs to develop SESOs that are then not effectively used. My key informant from the Theun-Hinboun Power Company (PC2, August 2018) noted that MoNRE and project developers cannot implement SESOs effectively because some provisions of SESOs, which are drafted by the MoNRE's international consultants, are not practical. Besides, private sector companies such as power companies were not engaged during drafting such SESOs.

Given the unequal power relations suggested above, the more powerful sectors such as MEM and MPI often ignore both the provisions of the 2013 EPL and the roles of subordinate ministries such as MoNRE. This is especially evident in relation to Article 22 of the EPL and the MEM's own IPP procedures mentioned above. Such power relations can be evidenced in practice in two different patterns.

First, holding an approved ECC from MoNRE is one of the criteria for MPI to provide their approvals for the next steps of IPP procedures for a hydropower project (interview CG7, August 2018; see also Phaengsuwan 2018). Instead of following the IPP procedures, which also requires an approved ESIA or IEE study, MPI and MEM request of investors only evidence of the ECC certificate to proceed with their approval processes, regardless of how such certificates are secured. As a result, some project developers have lobbied directly with MoNRE. Sometimes MoNRE is under pressure from powerful figures above the ministerial levels to issue an ECC, to fast-track the progress of a dam project, regardless of the purpose, significance, progress and quality of IEE/ESIA studies (interviews AC, EC3, August 2018; EC7, September 2018). The pressure compounds with developers' strong political support from, and good connection with these figures (interviews EC1, August 2018; EC7, September 2018). In several projects, developers did not even have an ECC before commencing their construction works on the ground, as indicated in subsequent paragraphs. In other words, MPI and MEM do not always conduct an appropriate level of due diligence that proper environmental assessment procedures have actually been followed.

Lobbying for ECCs in turn helps project owners accelerate the approval procedures, and proceed to the next steps such as a concession agreement (i.e., stage 7 in the IPP procedures) (see Figure 13 above). As a key informant from MoNRE highlighted:

> In principle, after signing a MOU, a developer has to prepare and submit its draft ESIA and complementary reports to MoNRE for review before going to the next stage of its project. However, some projects did not submit the reports to our office [MoNRE], although the project advanced to the stages of PDA or even CA. In some cases, projects almost signed the CA despite no approval of ESIA. They [MEM and MPI] focused on technical aspects. They gave less importance to environment sector because MEM is an implementing and leading agency, but we are from a participating agency only, so they have more power and rights than MoNRE (interview CG5, August 2018).

The informant was indicating how more powerful ministries such as MEM and MPI selectively ignore or overlook key national legal requirements and the IPP hydropower investment framework, fast-tracking approval processes for their interests in hydropower development.

Similar issues of unequal power relations have been identified for small hydropower projects under the responsibilities of provincial government agencies. As one government official from a provincial branch office of MoNRE stated:

> IEE certificates, through orders from top commanders [i.e., provincial/deputy governors], are issued prior to completion of IEE, or even without IEE studies, to attract more investment and speed up the processes [i.e., project approval processes]. This practice does not follow the relevant regulations and laws, but 'Nayhobai' [i.e., policy orders from top leaders] is more important than regulations. However, some of them [developers] do not turn up again to conduct IEE after receiving IEE certificates (interview PG7, September 2018).

With this statement the informant highlights an ineffective enforcement of laws by state agencies at local levels, where most powerful actors such as provincial governors strongly promote MEM and MPI branch offices to approve small-scale hydropower projects, putting asides the importance of environmental and social safeguards and the role of MoNRE branch offices.

However, my key informants from some environmental consulting and power companies noted that the MoNRE's less political power than MEM or MPI, and the controversies around the issuance of ECCs, partly arise from the MoNRE's own deficiencies (interviews EC1, EC3, EC5, PC1, August 2018). These include institutional limitations and limited transparency and accountability in review and approval processes of ESIAs and approval of ECCs, affecting an overall process of a development project. These informants also indicated that on many occasions they experience very high and unreasonable cost for consultation meetings by MoNRE and considerable delay of ESIA review processes.

Second, uneven power relations and weak legal enforcement in Lao hydropower is associated with the politics of "special treatment" (Phaengsuwan 2018, p. 136). Through this treatment, the MEM and MPI informally set aside MoNRE and its legal instruments as well as the MEM's own IPP framework. Except for state-owned or EdL projects, such treatment has been adopted with many hydropower projects, especially for those owned by developers from neighbouring countries such as Vietnam and China that share a similar or same political system and a 'special relationship' with Laos. As a senior official from a local branch office of MEM (interview DG6, November 2018) suggested:

> The two-party and two-state [Laos-Vietnam] special relations should not undermine implementation of national laws and standards. The government should follow a good example from the NT2 project.

From this informant's statement, the unequal power relations between ministries regarding hydropower governance have further arisen from external powers, such as Vietnam and China that share the same political system and exert a strong influence on Laos' politics and economy.

These dynamics can be seen in a number of projects that have proceeded to the stage 8 of the standard IPP procedure (i.e., construction stage) despite neither completion of an ESIA nor the approval of ECC. My first example is the Vietnamese company-owned XKM1, one of my two case study projects. The XKM1 commenced its construction works on site in 2008, but its ESIA and complementary management plans were only officially approved in mid-2009 (see ADB 2012; Lawrence 2008). As the ADB (2012, p. 6) documented[23], "[t]he concession

[23] This is the due diligence report for the ADB's Ban Sok-Pleiku power transmission Project for the target projects in Sekong and Attapeu provinces, including the XKM1 project, under the GMS interconnectivity. Given the

agreement has not been signed and as such no safeguard actions are being taken, despite the fact that the construction work is progressing rapidly". In fact, in the case of XKM1, the project SESOs and its main project Concession Agreement, was only signed in 2011 (XKM1PC 2011).

Like the XKM1 project, Phaengsuwan (2018, p. 136) indicates that the construction of the 66 MW Nam Kong 2 project[24], led by Hoang Anh Gia Lai (HAGL), a Vietnamese company, proceeded before its ECC had been granted. A similar activity was reported for the Chinese-owned Nam Tha 1 project, whereby the construction of an access road of the project was underway although the ESIA and its complementary reports had not been completed (Lawrence 2008). The construction of the Chinese company-owned Nam Ngum 5 project had also proceeded before its ECC was granted (Lawrence 2008). These examples of special treatment projects suggest that the rules and standards are bypassed due to the politics of special bilateral relationships. In other words, there were double standards for EIA practice for hydropower projects. Weak implementation of EIA and overall practice of social and environmental safeguards have significant ecological effects at watershed scales in Laos, especially irreversible changes of aquatic ecosystems such as fish and increasing deforestation and pressure on forest resources, including wild animals.

Based on the empirical evidence above, the horizontal institutional disconnect in Laos has been shaped mainly through overlapping institutional mandates and competing legal instruments, which are formulated in an uncoordinated manner. The disconnect is heavily shaped by unequal inter-ministerial power plays between economic sectors such as MEM and non-economic and subordinate agencies such as MoNRE, given the party leadership's and politburo members' strong emphasis on hydropower development and overestimated economic gains over environmental and social realms. Politically, the hydropower sector, especially through its EdL, has been an essential instrument for the LPRP to maintain its stable legitimacy and power in the country (Creak & Barney, forthcoming; Barma & Oksen 2014). Yet, the current debt of EdL increasingly challenges the role of EdL in supporting the

findings in this report regarding poor compliance to the ADB's 2009 safeguard policy and Lao national standards of the target projects, ADB reportedly withdrew its interest to support this project.

[24] This project was later sold to the local Lao Chaleun Sekong Group that increasingly dominates both medium and large dam projects in Laos.

LPRP's development program and strong pressures for politburo members to remediate the financial problems of EdL and the GoL in general.

This section has argued that the 2017 Electricity Law enshrines MEM's power by weakening MoNRE's existing subordinate role regarding hydropower resettlement issues, which may have helped MEM achieve its objective to have full power over the lucrative hydropower sector. Yet, power relations between sectors in the Lao hydropower sector are complex and extend beyond the horizontal or inter-ministerial dimensions. To gain a better picture of scalar disconnect for hydropower governance, in the next section I analyse institutional disconnect in a vertical direction that is between central, provincial, and district levels of the state.

5.3 Vertical institutional disconnect and decentralisation in the Lao hydropower sector

This section analyses vertical institutional disconnects within national ministries and their local branch offices at provincial and district levels, and the implications for Lao hydropower governance. My analysis draws upon the scalar concept in water governance (see e.g., Daniell & Barreteau 2014; Dore & Lebel 2010) to understand multi-level (national, provincial, and district) power interactions in the regulation of Lao hydropower. Here, an analysis of 'vertical' scalar disconnect is framed through narratives of decentralisation and recentralisation (see Gomez et al. 2011; Keuleers & Sibounheuang 1999) and contested national-local relations regarding control over environmental and social management funding.

5.3.1 Decentralisation and recentralisation paradigms of hydropower governance in Laos

Laos has implemented its administrative and fiscal decentralisation and recentralisation via recurring processes over different periods since 1975 (see also Gomez et al. 2011; Keuleers & Sibounheuang 1999; Soukamneuth 2006). The country's hydropower sector has experienced a similar process, beginning in earnest just after promulgation of the first national Electricity Law[25] in 1997.

[25] The WB helped the GoL draft this law, amongst other laws and regulations, including the first national environmental law stipulated in 1999 (see Goldman 2005).

The history of decentralisation and recentralisation of hydropower authority

The current contested hydropower governance regime in Laos has partly resulted from the decentralisation and recentralisation of authority. In the hydropower sector, I trace how the decentralisation and recentralisation process has gone through three primary phases between 1997 and 2017. The first period of decentralisation of the hydropower sector took place in 1997, after the passing of the 1997 Electricity Law. The delegation of certain powers to the provincial government came amid growth of the Lao hydropower industry in the 1990s, with the construction of Houay Ho dam in 1994 (see Khamin 2000) and the commissioning of phase-1 of the Theun-Hinboun dam in 1998 (see Blake & Barney, 2018). This law delegated power to provincial governments to manage small-scale hydropower projects (see Chapter 2 on scalar levels of hydropower) with installed capacity scales of between 100 kW to 2 MW, while district governments held authority for 0.1 kW and below (see the Electricity Law 1997).

However, only two projects fell within the range below 2 MW between 1997 and 2011 (MEM 2016). Moreover, it was unknown whether the responsible provincial governments, in which these projects are located, actually approved them. This was an example of an unrealistic decentralisation of power to local authorities, particularly as the central government would have known there were very few small-scale projects in the approval pipeline. This helps depict a loose devolution by transferring only functions rather than actual political power (see Poppe 2004). However, others may argue that, at the time, the central government would have been taking a high level of risk if delegated power at the provincial level to approve projects of larger generation capacity, given the clear constraints of limited institutional and human capacity that prevailed in the 1990s. Despite the creation of Decree 01/prime minister in 2000—devolving power downward to local governments for broader administrative and fiscal responsibilities (Gomez et al. 2011)—and the Law on Local Administration 2003; there were no attempts at further decentralisation in the Lao hydropower sector between 1997 and 2010.

In the second period, the MEM endorsed the updated Electricity Law in 2011, which proved to be beneficial for local government agencies, especially the local branch offices of MEM. The new law delegated more authority to provincial governments to manage projects, increasing their limit from 2 MW to 15 MW, while there was no change at the district level. The update may have been linked to the passing of the Law on Local Administration on local

level delegations. However, the key drivers of this increased authority may also include extensive planning and subsequent rapid hydropower development in the late 2000s. The MEM at national level might not have had sufficient personnel to directly supervise and monitor a significant number of dam projects, especially those with the capacity below 15 MW at the time. Moreover, there may have been a demand of provincial authorities for more involvement in the hydropower industry for a greater share of benefits and rent-seeking opportunities from hydropower projects.

The delegation of increased decision-making power to provincial governments benefited not only the local branch offices of MEM, but also the branch offices of MoNRE and MPI. The enforcement of the updated 2011 Electricity Law also triggered MoNRE to delegate power to its provincial branch offices to administer IEE and issue ECC for projects with the installed capacity of 15 MW or below (MoNRE 2013). A similar move was evident in MPI, of which its branch offices at the provincial level were authorised to approve hydropower investment projects of such capacity. The increased decision-making power to provincial governments significantly increased the level of power held by provincial offices of MEM, MoNRE, and MPI[26], and also benefited provincial governors who chair the PIPSC (Provincial Investment Promotion Steering Committee), in making a final decision for hydropower projects of 15 MW or below.

The delegated power to local governments resulted in rapid approval of smaller scales of hydropower projects at the provincial level, with limited oversight from national ministries. As with the national level, the approval processes lack proper technical and safeguard due diligence. The rapid approval resulted in about 50 small scale hydropower projects (including 22 in operation and 27 in advanced stages) regardless of other numerous projects in the study stages (see Chapter 4). This can depict Creak's (2014, p. 160) observation: "The central party-state often holds little sway over district and provincial officials who approve significant amounts of foreign investment unilaterally." Similarly, the central party-state approved some natural resources development projects with little consultations and consensus of provincial and district levels.

[26] The branch offices directly report to their respective governors, but they also report to their respective vertical ministries. Also, in the party system, the party secretary of the branch offices is under, and report to, provincial party secretary (i.e., the provincial governor).

However, like broader administrative and fiscal decentralisation and recentralisation narratives discussed in Chapter 2, the decentralised power facilitated by the 2011 Electricity Law was short-lived because of recentralisation during the third period. The central government agencies, notably MEM, endorsed another revised Electricity Law in 2017 (replacing the 2011 Electricity Law). This revised law has recentralised the authority from provincial governments through reducing the power of approval from 15 MW down to 5 MW, as presented in Table 8. The recentralisation of authority to approve small-scale hydropower projects also had implications for the provincial branch offices of MoNRE, as they also had to reconsider their scope of responsibilities in approving ECC for IEE studies. Like MoNRE, the branch offices of MPI then experienced a similar recentralisation in relation to its national ministry.

Table 8 **Decentralisaton and recentralisation of power to approve dam projects**

Law	Decentralisation and recentralised power for administrative and hydropower scales			
	National Assembly	Government	Province	District
Electricity Law 1997	>50 MW	2–50 MW	100 kW–2 MW	100 kW
Electricity Law 2011	>100 MW	15–100 MW	100 kW–15 MW	100 kW
Electricity Law 2017	>100 MW	5–100 MW	100 kW–5 MW	100 kW

The justifications of contested decentralisation and recentralisation

Despite limited authority delegated to its local governments, the GoL has recentralised decision-making autonomy regarding hydropower approval through the 2017 Electricity Law, with important implications for local governments. Many employees from central ministries, especially MEM, argued that the recentralisation was necessary because of concerns regarding the limited technical capacities, subs-standard construction of dam infrastructure, as well as social and environmental concerns of small-scale projects administered under its provincial branch offices (interview CG9, September 2018). The collapse of the 12 MW Nam Ao Dam in northern Laos on 11 September 2017 (see Lao News agency 2017), approximately three months after the 2017 Electricity Law was endorsed, and the failure of the 1 MW Kaeng Khouan Dam in northern Laos on 4 November 2019 (see RFA 2020c), have substantially strengthened this argument.

However, while many officials from central ministries often proclaim their higher technical capacity and higher standards of planning and implementation of hydropower projects than their branch offices, the central ministries have also experienced significant challenges in managing projects under their control. The recent collapses of two large hydropower projects in Attapeu province of southern Laos attest to this issue. These are the penstock failure of the 250 MW Xekaman 3 dam, in December 2016, followed by the tragic collapse of a major saddle dam of the 410 MW Xe Pian-Xe Namnoy facility in 2018, both of which are in the Sekong Basin. Besides these projects, the 2017 "Report on Assessment of Current Institutional Arrangement for Hydropower IPP Development", funded by the WB in coordination with MEM, which assesses compliance with the PSHD policy and its guidelines, found that only 5 out of 15 operational projects were rated as satisfactory in terms of economic, social, and environmental sustainability (WB & MEM 2017). The collapse of dams and limited dam safety standards draw attention of GoL and international agencies, leading to its Review of Nationwide Emergency Dams Safety Inspection. This review covered 54 hydropower projects of 79 dams (some projects has more than one dam). The review indicates that 98% of selected dams have limited dam emergency preparedness and action plans (MEM 2020, p. 22).

When considering the recent history of dam failure in Laos, the lack of technical capacity may partly arise from sub-standard construction and governance occurring at both national and local scales. However, I argue it is more an issue of transparency, accountability, and effective enforcement of legal instruments, both in the approval and implementation phases of hydropower projects at all capacity scales in Laos. These constraints include weak transparency in technical studies, low-quality and uncoordinated approvals of technical and ESIA/IEE reports during planning, as highlighted in section 5.2.3, and insufficient or unaccountable supervision during construction, despite engagement of various state agencies for oversight of a dam project.

Instead of focusing on issues of technical capacity, in interviews, officials from provincial branch offices of MEM in Sekong and Attapeu believed its respective ministry at a national level had strong intentions to seek to update the 2017 Electricity Law, in order to push for more control over hydropower investment at the smaller end of the scale, of under 15 MW (interview PG6, November 2018; PG9, September 2018). This economic interest may be evidenced by the fact there are 243 small-scale hydropower projects nationwide (see Table 9),

of which 132 projects have installed capacity between 5 MW and 15 MW, and 101 projects have installed capacity below 5 MW (MEM 2016). Therefore, there is a significant number of planned projects with a generation capacity of between 5 MW and 15 MW, which may have influenced the decision towards political recentralisation of authority over dam approvals, coupled with the decreasing number of larger-scale projects. The move of national MEM to have more control over smaller scale of hydropower projects for its economic interest can refer to Creak's (2014, p. 160) argument:

> Overlooking corruption on their own patch, party leaders blame local and provincial officials for siphoning off the fruits of development. These problems are not new for the central government, but the stakes have mounted with growing stakes of foreign investment.

Table 9 **Small-scale (0.5–15 MW) hydropower projects in Laos**

Project status	**Construction**	**CA**	**PDA**	**MOU with approved feasibility study**	**MOU with ongoing feasibility study**	**Total**
No. projects	11	7	31	14	180	243
Capacity (MW)	124	115	224	90	1,557	2,110

Source: A summary from the statistics of hydropower projects in Laos (MEM 2016)

The post-2017 recentralisation of control over hydropower development can have negative implications for many provincial governments, especially the branch offices of MEM, MPI, and MoNRE, because there are limited viable projects below 5 MW in their provinces. For example, according to a summary of hydropower development in Attapeu and Sekong provinces in 2018, there were only two and seven small-scale projects, respectively, with installed capacity of 5 MW and below. The local branch offices of MEM, MoNRE, and MPI were closely concerned with their reduced power and responsibility. As one senior official from a provincial MEM office stated in an interview (interview PG6, November 2018):

> Despite the implementation of "3-build" (*sam sang*) development strategy of the Lao government, a respective ministry still controls and influences both small and large hydropower projects. The control does not allow its local branch offices to learn and build their long-term capacity and skills. There are only very few small hydropower

projects with the installed capacity of less than 5 MW. Thus, provincial governments do not have rights to approve and manage any project from now on.

From the interviewee's statement above, it is quite clear that the recentralisation of decision-making power on hydropower governance through the 2017 Electricity Law is in some tension with the LPRP's resolution of *sam sang* or *3-builds*[27], to delegate greater authority to provincial, district, and village levels (Creak 2014; Vongxay et al. 2017). However, Creak (2014, p. 160) notes: "The increased urgency of strengthening central control over local governance appears to be behind the government's whole-of-government Sam Sang*."*

The decentralisation and recentralisation of decision-making power in the hydropower sector discussed above indicates vertical structural institutional disconnect through legal characteristics, shaping uneven power interplay between state agencies at national and provincial levels. Failing to notice their own multiple deficiencies, national ministries such as MEM, MPI, and MoNRE blame their provincial branch offices for non-transparent approval of projects and limited technical capacity and oversight in project implementation. MEM uses its status as a national ministry to rewrite national legal instruments such as the 2017 Electricity Law, legitimising central ministries for more control over hydropower investment at smaller scales. Yet, the failures of dams of both large and small scales show that both the national ministries and their branch offices at the provincial level equally have deficiencies, including limited transparency, unaccountability, and inadequate enforcement of laws, in approval and supervision of dam development. Recentralisation may also not be the best choice for improving hydropower governance; rather, it could also be considered an unreasonable and unjust treatment of provincial governments, especially branch offices of MEM, MoNRE, and MPI, by disadvantaging them with reduced power and delegation to lower levels. Together, these have characterised a broader context of current ineffective hydropower governance in Laos. The next sub-section will provide further evidence of national-local power relations through non-transparent and non-accountable management of environmental and social funds.

[27] To build provinces as 'strategic units' (*houa nouai nyuttasat*), districts as 'comprehensively strong/enhanced capacity units' (*houa nouai khemkheng hopdan*) and villages as 'development units' (*houa nouai phattana*) (Creak 2014; Vongxay et al. 2017).

5.3.2 Environmental and social management funds and vertical scalar disconnect

Like the broader governance system in Laos, the hydropower sector is characterized by a hierarchical, top-down, and non-transparent decision-making process; whereby state authority and political power have remained under a highly centralised, socialist command structure (Singh 2012; Stuart-Fox 2006). This form of governance can be seen through the limited diversion of the dam projects' environmental and social management funds to local authorities. Here, I examine those key agencies who receive these funds, such as MoNRE and MAF, and their local branch offices, as well as some of the rent-seeking interests that lie behind this process. The analysis helps highlight another dynamic of vertical institutional disconnect, further contributing to the scalar disconnect concept (Suhardiman et al. 2012) and broader politics of scale in water governance (Daniell & Barreteau 2014; Dore & Lebel 2010).

According to project CAs, hydropower project owners are required to incorporate the costs of environmental and social safeguards into their project total costs. These costs include the funds for the government agencies, such as MoNRE and MAF and their branch offices at different levels for their regular monitoring and inspection regarding project's compliance to safeguards both during construction and operational stages. Details of funds for different activities are usually indicated in the SESOs, which should be provided as an annex to a project CA. These funds are supposed to be kept separate from the costs associated with compensation and resettlement activities.

Before the stipulation of the 2015 updated State Budget Law, the monitoring funds were transferred to MoNRE at the national level and used towards its mandate to manage the country's environmental and social safeguards. The funds also supported watershed management programs for the then Department of Forest Resources Management, which was under MoNRE between 2012 and 2016, with territorial jurisdictional authority to manage the protection and conservation of forest areas in Laos (Chokkalingam & Phanvilay 2015). MoNRE had responsibility for distributing funds onwards to its respective departments and provincial and district branch offices, for their regular monitoring, as per the approved environmental and social management plans (ESMPs) and project SESOs. According to ESMPs, funds are allocated separately for central, provincial, and district levels, and thus, the funds can be automatically transferred to each individual level.

However, in practice, for funds to be allocated towards regular monitoring activities, Provincial office of Natural Resources and Environment (PONRE) and District office of Natural Resources and Environment (DONRE) had to request and negotiate with central MoNRE through multi-layered and complicated bureaucratic procedures (interview PG3, November 2018). In the end, only very limited funds were decentralised and, in most cases, requests were not approved or were only reluctantly considered by central MoNRE (interview PG7, November 2018). This contested national-local relationship helps characterise the vertical institutional disconnect within individual ministries (Lu & Schönweger 2019) and the top-down and centrally controlled system of political power established by national ministries (see Stuart-Fox 2006). As a result of this pattern of limited fund distribution, one of the respondents from a provincial branch office of MoNRE (interview PG7, September 2018) noted that provincial and district branch offices of MoNRE could not carry out their own quarterly or monthly independent monitoring as per ESMPs and SESOs; instead, these offices were merely involved as participants in the half-yearly and/or special monitoring missions[28] conducted by staff from central MoNRE.

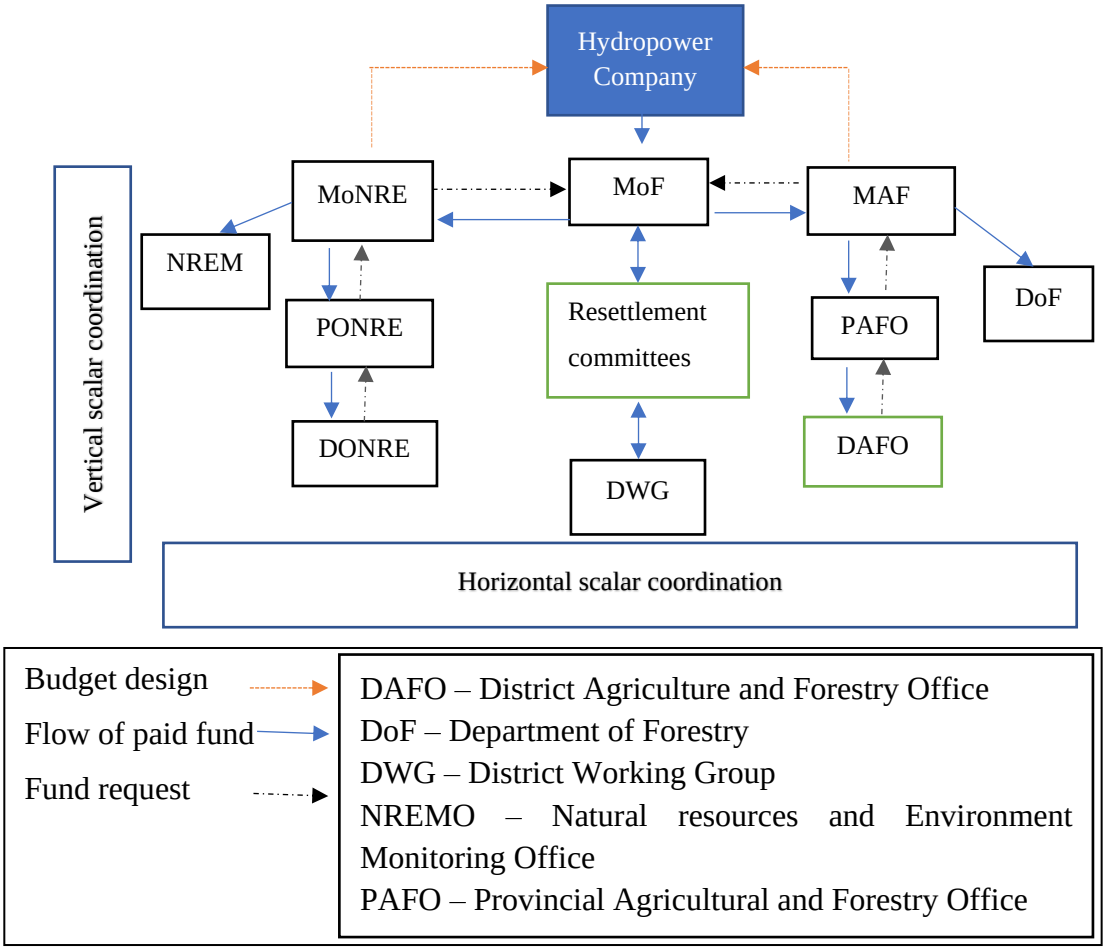
After stipulation of the updated State Budget Law, the GoL designated the ministry of finance to execute the state budgets related to development projects. As such, the safeguard monitoring funds have been redirected to MoF for presumably better control and management prior to allocating to relevant state agencies such as MoNRE and MAF[29] and further to its branches. One of my key informants from MEM (interview CG9, September 2018) anticipated that budget control by MoF would help improve the transparent and efficient budget spending and, in turn, improve the quality of monitoring. However, instead of solving the deficiencies of the past, it added yet more vertical disconnects between MoNRE and MAF and their local branches, due to the horizontal institutional disconnect between MoNRE or MAF and MoF. This disconnect was mainly due to the increasing hierarchical procedures, more documentation demands, obligations, and standards, all of which had not been strictly required and followed in past years (interview CG9, September 2018). The increasing hierarchical procedures and standard requirements became constraints for the local branch offices of MoNRE and MAF to access the funds. For example, the district branch offices must

[28] According to project ESMPs, the central MoNRE conducts only bi-quarterly monitoring.

[29] The Department of Forest Resources Management became a part of the Department of Forestry of MAF in 2016. MAF has to directly request funds for implementing watershed management plans from MoF prior to allocating to MAF and its branch offices at provincial and district levels.

submit their implementation plans with an estimated budget in a vertical direction to PONRE, then to the respective MoNRE at national level, and MoNRE then horizontally coordinates with MoF for consideration (interview PG3, November 2018). Like before 2017, each of these hierarchical moves can take up to a few weeks or months, and if the fund is approved, the fund may go downwards via the same pathway to DONRE (interview CG6, August 2018). Figure 14 shows the flows of environmental and social management flows from national to local agencies.

Figure 14 **Chart of fund flow for safeguard monitoring in the Lao hydropower sector**



Source: Author (based on information of the author's prior professional experience and key informants)

With increasing difficulties in accessing funds, one senior official from MoNRE stated in an interview:

> We [MoNRE] have to submit a budget plan to MOF to consider and proceed at the actual cost to be spent for our regular monitoring activities, although budget is allocated

> for MoNRE by project owners. We have experienced financial problems to carry out the activities [regular site visits for environmental and social monitoring and meetings with local affected communities] of hydropower projects on time. The consideration often delayed our monitoring activities, and in some cases, eventuating the cancelation of the monitoring due to long and complicated procedures, which disappoints developers (interview CG6, August 2018).

However, a senior official from MEM viewed that such delays and weak implementation of monitoring plans and difficulty accessing funds was due to MoNRE's inherent nature of non-transparency in spending and weak administrative capacity, especially budget planning (interview CG9, September 2018).

Similarly, several informants from power companies pointed out similar deficiencies of MoNRE and MAF. These informants said that they were not satisfied with the budget allocated for monitoring, including watershed protection, and that these agencies sometimes did not conduct actual monitoring despite agreed monitoring plans and transferred funds (interviews EC3, PC1, PC4, August 2018). As one management-level employee of a private power company noted:

> The responsible government agencies often wanted hydropower developers to transfer entire funds for environmental and social management funds to their agencies through a single transfer. In many cases, after being transferred, these agencies did not conduct actual monitoring as planned and agreed upon. Moreover, although there were a few monitoring missions, it is very hard or no subsequent monitoring reports of findings to us (interview PC1, August 2018).

The concerns over non-transparent and non-accountable fund spending, including watershed management were also debated, even with the WB-funded NT2 project that allocates US$1 million in annual funding to the GoL for the Nakai Nam Theun conservation program (see Singh 2014). The ineffective spending of monitoring funds of this and other hydropower projects can undermine project-based environmental protection measures and restoration of affected biodiversity.

It can be seen that the vertical scalar disconnect regarding fund allocation to local branches has remained unresolved, regardless of which ministry (MoNRE or MoF) at the national level controls the funds. The transparency and effective spending of public funds remain a

concerning policy issue for Laos. This is related to the politicised interests and agendas of responsible agencies or individuals that interfere with proper environmental and social regulation, as the agencies sometimes redirect the funds to other purposes (see Singh 2014). This is explained by both political and cultural norms of limited transparency and accountability in Laos. The under-allocation of funds to local branches also depicts the weaknesses of decentralisation in Laos (see Poppe 2004), and the enduring role of central control and top-down practice in Laos (Singh 2012; Stuart-Fox 2006). The norms and under-allocation of funds to local authorities have challenged environmentally and socially sustainable hydropower governance in Laos. Next, I further analyse horizontal and vertical interactions between key ministries and between national ministries and their local branch offices through inter-ministerial resettlement committees from two case studies in the Sekong Basin.

5.4 Resettlement committees and 'ceremonial participation' in Lao hydropower governance

In addition to a broader institutional disconnect discussed above, the disconnects (both horizontal and vertical) of Lao hydropower governance arise from project-specific multi-level resettlement task forces, known as 'resettlement committees' (*kana karmmakan nhokyaichatsan* in Lao). Theoretically, the committee's role is to promote cross-sector and multi-level effective coordination and cooperation in dam resettlement, with the objective to minimise the impacts of affected people and to promote effective livelihood reconstruction after resettlement. However, in my analysis, the interventions of the resettlement committees seem to be based upon their formal status as opposed to the quality of their actual interventions, and the participation of stakeholders remains 'ceremonial' rather than based upon increasing the quality of coordination and meaningful participation of wider stakeholders (see also Jusi 2013; Yong 2019). The following sub-sections provide more insight into the disconnected implementation of resettlement plans by resettlement committees from my two case study projects in the Sekong Basin.

5.4.1 Formal multi-level committee arrangements in hydropower resettlement

The establishment of multi-level resettlement committees with a hierarchical organisation of roles and responsibilities is crucial for any development project in Laos that involve

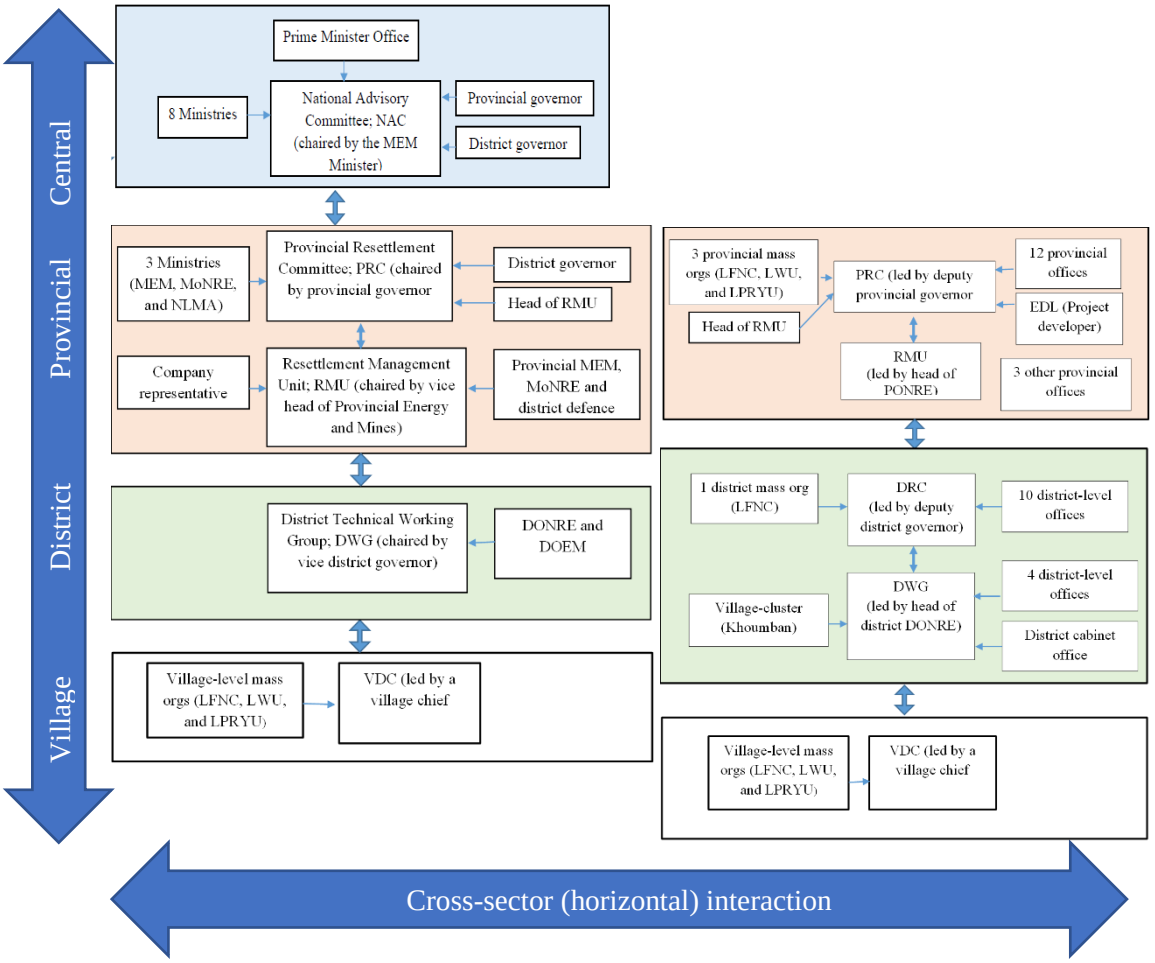
resettlement, including in the hydropower sector. The committee structure has shifted with changing legal requirements in different time periods. For example, despite being named 'Decree 192 /2005 on Compensation and Resettlement Management in Development Projects,' there were no articles or provisions related to the arrangement of resettlement committees in that Decree. This Decree is important because it is a primary legal reference for any development-induced resettlement in Laos. Meanwhile, the Decree 112/2010 on Environmental Impact Assessment specifies two hierarchical levels of committees: a National Steering Committee and Resettlement and Restoration of Living Condition Committee at the provincial level. In 2016, the Decree 84 (which replaced Decree 192) defines three-level resettlement committees. These are: the Provincial Committee for Compensation and Resettlement; the Management Unit for Compensation and Resettlement (commonly known as Resettlement Management Unit (RMU); and the District Operational Unit or District Working Group (DWG). Again, Decree 84 disregards the existing national-level committee (i.e., National Steering Committee) defined in the Decree 112. In recent years, given the nature of competing legal instruments as discussed in section 5.2.2, the 2017 Electricity Law and the LRO may have overridden these decrees through the proposal for vaguely structured multi-level resettlement committees. In fact, rather than solving the existing loopholes in the decrees, these two new laws appear to further complicate project-induced resettlement policy in Laos.

The hierarchies and agencies involved in resettlement committees are varied amongst the different hydropower (both IPP and SOE) projects in Laos. Instead of following the laws and decrees listed above, in reality, arrangements of resettlement committees are designed and negotiated on a project-by-project basis and incorporated into project CA (for the IPP projects). Unlike IPP projects, resettlement committee structures in state-owned projects tend to be arranged in different ways, which will be discussed in the following paragraphs. I contend that the establishment of such resettlement committees tends to focus on formality rather than the actual development of meaningful and effective forms of coordination. The hydropower resettlement of many projects, therefore, has often presented ineffective outcomes. The contested and uncoordinated practice of such committees can be seen in two case study projects in the Sekong Basin: the XKM1 and HLG projects, in Chapter 6.

According to a Lao language document for the XKM1 project, which commenced in 2008, the project's resettlement committee includes six scalar levels (see Figure 15). Based on the

author's experience, the establishment of such multiple levels and greater representation of agencies is also commonly practised in other IPP projects, including the NT2, Nam Ngiep 1, and Xe Pian-Xe Namnoy. Similar hierarchical committees were established for the HLG project, which commenced in 2011 (after the introduction of Decree 112), consisting of five scalar levels (see Figure 15).

Figure 15 **Diagram of the committees for resettlement management for the HLG (right) and XKM1 (left) projects**



DOEM – District Office of Energy and Mines
DRC – District Resettlement Committee
LFNC – Lao Front for National Construction
LPRYU – Lao People's Revolutionary Youth Union
LWU – Lao Women's Union
NLMA – National Land Management Authority
VDC – Village Development Committee

Source: Author (based on the appointment letters from the case study projects)

From Figure 15 above, despite some similar hierarchies and representation from official stakeholders, there are different aspects of arrangement in the two study projects. First, there is lead representation from the MEM and its branch offices at each level of the committee in the XKM1 project, whereas the Water Resources and Environmental Administration (currently MoNRE) and its branch offices (PONRE and DONRE at provincial and district levels, respectively) lead the resettlement committees for the HLG project. I note that the leading role of MEM in the resettlement committees for the XKM1 project since 2008 suggests the prolonged intention of MEM to have control over hydropower resettlement even before introduction of the 2017 Electricity Law. I suggest that the strategy behind this is because MEM wishes to control the flows of multi-million-dollar funds, especially for dam resettlement, from the hydropower companies, to MEM. The MEM's intention to control IPP-project resettlement funds is evident from its Ministerial Decision No 1605/August 2019, which gives rights to MEM to manage all community development funds, especially for resettled communities. The XKM 1, for instance, allocated US$7 million for its resettlement program and MEM and its branch offices led the programs at national, provincial, and district levels. The HLG project allocated about US$11 million for resettlement and livelihood restoration programs, of which EdL of MEM led and controlled the programs even though MONRE was assigned to lead the multi-level resettlement committee for HLG. MEM and MONRE sometimes had a struggle for control over resettlement funds and rent seeking opportunities.

Second, while there is a national-level committee in the XKM1 project, as with many other IPP projects in Laos, there is no national committee for the HLG project (or other EdL-backed projects). Presumably this is because of EdL's dual function, as both national-level state regulating agency, and a project developer in its own right. The engagement of national-level state agencies in the study projects can have several implications:

1) The state-/EdL-owned projects, including the HLG project, do not need to allocate budgets for regular social safeguard monitoring of national-level state agencies such as MoNRE, as practised in IPP projects.
2) As a result of the first, there is little or limited social safeguard monitoring, especially for resettlement and compensation issues for national-level agencies, such as in the HLG project.

3) The lack of the resettlement committee at the national level in the SOE projects can represent uneven treatment and policy implementation in IPP and state-owned projects. In other words, while there are governance issues in resettlement, including compensation, for both IPPs and state-owned projects, there is less effective oversight in state-owned projects. The different levels of oversight have certain impacts on resettlement outcomes (see Chapter 6).

Third, based on appointment letters (in the Lao language), the provincial governor of Attapeu province chaired the provincial resettlement committee (PRC) for the XKM1 project, which was endorsed by the Prime Minister. Conversely, the provincial governor of Sekong province endorsed the PRC for the state-owned HLG project and authorised his deputy governor as its chairperson. The appointment of the PRC chair for the HLG project by the provincial governor, in contrast with the XKM1, can help depict how the GoL pays less attention to, or puts aside dam resettlement concerns in, state-/EdL-owned projects. Without engagement of state agencies from national ministries in the HLG project it can undermine the oversight of national state agencies regarding resettlement governance. This also indicates uneven practice in hydropower governance policy in IPPs and state-owned projects.

Yet, despite the differences discussed above, the study projects experienced different characteristics of vertical institutional disconnect within their respective resettlement committees, which are detailed next.

5.4.2 Multi-level scalar disconnect in dam resettlement committees

Regardless of scalar committee hierarchies and which state agency (i.e., MEM or MoNRE) has a leading role in the resettlement committees, both the XKM1 (as an IPP project) and HLG (as a state-owned project) have experienced differing vertical institutional disconnects through conflicting interests between committees. In the HLG project, the institutional disconnect primarily resulted from the EdL-dominated authority and control over implementation of compensation and resettlement, with very limited engagement and ceremonial participation of the established resettlement committee, given its certain autonomous political and administrative power from the GoL (Barma & Oksen 2014). Conversely, the institutional disconnect regarding resettlement in the XKM1 project emerged within the resettlement committees themselves, mainly due to limited communication

between provincial and district levels; in short, "communication disconnect" (Lu & Schönweger 2019, p. 68) and power struggles between resettlement committee members at national and sub-national levels.

Ceremonial participation of the resettlement committee in the Houay Lamphan Gnai project

Rather than working in a cooperative manner through the established resettlement committee, my research identified that EdL staff worked directly with just a few individual committee members such as the committee chair and district-level committee members, to implement the resettlement, compensation, and provision of rice during a transition period. Other resettlement committee members, especially from PONREs and DONREs that were formally mandated to lead RMU and DWG, respectively, were rarely engaged (interviews PG7; PC8; DG1; DG3, September 2018). These informants further noted that engagement of PONRE and DONRE as well as MEM provincial and district branch offices in the resettlement committee structures is only formal and ceremonial. Rather, EdL staff dominated all programs related to resettlement and compensation.

Based on informal conversations with officials in Thateng District and one dozen villagers in the resettlement site of the HLG project, the EdL representatives and the district committee members occasionally exercised improper, personal forms of power, disregarding the resettlement and compensation policies. Their misuse of power included non-transparent and poorly implemented compensation, resettlement, and transition-period assistance (interview PG8, September 2018). As a result, some resettlers' families did not receive compensation for some of their affected assets, and there was insufficient housing for all displaced families. These problems have in turn contributed to ongoing livelihood vulnerability of HHs in the Ban Houay Lamphan resettlement site (as discussed further in Chapter 6). Many resettlement committee members at district and provincial levels voiced discontent with such disconnected implementation (interviews PG7; PG8; DG1; DG3, September 2018). Subsequently, the project manager in charge of this project from EdL, who was also a member of the RMU, was replaced by a new EdL manager, with the former being seconded to the EdL Headquarter in Vientiane Capital without further disciplinary action (interview PC5, October 2018). The same informant added that the replacement occurred only after most of the compensation activities, and large extent resettlement works in the HLG projects, had been completed.

I note that limited engagement of key resettlement committee members from scalar levels and wider groups, particularly from provincial and district branch offices of MoNRE and MEM in the HLG project, as in other EdL's projects, can be seen as "deliberate exclusion" (Warner 2006, p. 30; see also Chapters 2 and 6). The deliberate exclusion of these committee members can help reduce the oversights from wider groups of people in the EdL's implementation of resettlement and compensation. Besides, EdL could have anticipated that exclusion can help lessen the number of actors in its project regarding rent seeking. There is a possibility that EdL intends to exclude these members, especially from PONRE and DONRE, because EdL has perceived that it has a large environmental and social department in its headquarter for about two decades (interviews SE2; SE4, August 2018; see also ADB 2005b). The department has been equipped with staff that were well trained on social and environmental safeguards since the 1990s through ADB support (ADB 2005b).

The vertical institutional disconnect of multi-level committee in the Xekaman 1 project

The limited coordination between committees at scalar levels was also evident in the XKM1 project. According to the appointment letter and applicable legal instruments, the DWG is mandated to facilitate and oversee the implementation of resettlement, compensation, and livelihood restoration plans, which are carried out by the project developer or its contractors, and it has to report progress to its more senior-level committees, such as the RMU and PRC (see also article 22 of Decree 84/2016).

However, in practice, some levels of committees have vested interests and misuse their power in decision making at an official capacity and authority for their personal gain (i.e., corruption and rent seeking), by securing various high-cost contracts (see Table 10) that deliver poor or cheap-quality services for livelihood restoration programs, without coordination with other levels. Given these contracts, the DWG and the Agricultural and Forestry and Lao Women's Union of Sanxay District have become the company's primary contractors to carry out livelihood restoration programs. The developer of the XKM1 project should have contracted private firm(s) to carry out these programs, while the local government should have supervised and monitored the compliance of the developers and its contractors. In contrast, the reverse occurred, and the developer controlled and monitored the DWG/district government via the contractual terms regarding the progress and quality of the programs.

Table 10 **The contracts between XKM1 and the Sanxay district government for livelihood restoration and social development programs**

No	Contract names	Value (US$, rounded)	Signing date
1	Site preparation and land development for the Souksavang-Darkbru resettlement site	$512,500	10 Jan 2017
2	Agricultural extension services for the Souksavang-Darkbru resettlement site-phase 1	$18,900	15 Aug 2017
3	Agricultural extension services for the Souksavang-Darkbru resettlement site-phase 2	$239,600	29 Sept 2017
4	Site preparation and land development for the Houay Doum resettlement site	$220,200	12 Sept 2017
5	Gender support program in seven target resettled villages	$49,400	20 Dec 2017
6	Agricultural extension services for the Houay Doum resettlement site	$153,700	9 April 2018

Lack of proper coordination of resettlement committees across scalar levels, misuse of their power, non-transparent spending and lack of auditing systems of the contracted budgets, and inadequate supervision from RMU and PRC, resulted in significant implementation problems with most of the contracted works. A key informant from the XKM1 project said that the DWG and branch office of MAF at district level failed to fulfil most of the contracts, and that the project received regular complaints from resettled people in Ban Samarkkee resettlement site (interview PC4, November 2018). Given the poor performance of the contracts and ineffective spending of the allocated budget, the XKM 1 developer took some budget for the items 2, 4, and 6 in Table 10 back from the DWG, despite uncertainty of what the developer would do with the budget. A member of the resettlement committee at the provincial level contended that it had not known about the contracts; however, it was later reported to the RMU, but only after controversy arose after the DWG was unable to fulfil the agreements (interviews PG6; PC4, November 2018). This informant contended that this undermined the power of the RMU and DWG to push the XKM1 developer to comply with CA requirements, especially livelihood restoration programs, adding:

> A mistake of the government side is that the district government and DWG have contracts with the Xekaman 1 company to carry out livelihood restoration programs. Thus, we [the XKM1 RMU] cannot push the company to comply with some CA requirements and other related regulations (interview PG6, November 2018).

These empirical findings suggest how the ineffective resettlement management process in the two case studies was characterized by nature of corrupt practices by a certain level or section of resettlement management system for their own economic gain, in the context of valuable resettlement-related budgets. This has shaped poor coordination between higher and lower levels of resettlement committees. Such practices and poor vertical coordination support broader assertions in the existing scholarship of institutional/scalar disconnect in Laos (Lu & Schönweger 2019; Suhardiman et al. 2012). The vertical and horizontal institutional disconnects and infights between committees also mainly result from narrow economic and political interests of smaller groups, which limit the participation of wider stakeholders and their interests (Matthews 2012). Such limited participation is discussed in the next section, especially through aspects of deliberate exclusion and ceremonial public participation.

As with a multi-level and multi-stakeholder water governance concept (e.g., Daniell et al. 2014; Dore & Lebel 2010; Dore 2014; Moss & Newig 2010), a formal and complex multiple-level (national, provincial, district, and village levels) resettlement committee structure with wider stakeholders in their respective levels is formed for each case study project. However, the empirical evidence from the two case study projects analysed above has illustrated two aspects that contrast with the concept. First, rather than better coordination and cooperation, there is uncoordinated and competitive interaction between scalar levels, both in IPP and state-owned projects, in implementation of resettlement programs. Such interaction could have arisen from political and economic interests and benefits of the member agencies at various levels, given multi-million-dollar resettlement funds. Second, a multi-level and multi-stakeholder concept in the resettlement committee structures in the two case study projects, as in other dam projects and broader hydropower governance in Laos, focuses on multiple state agencies, senior project staff, and village authorities. In some cases, especially in state-owned projects, there is "deliberate exclusion" (Warner 2006, p. 30) of even key state agencies during implementation. The engagement of agencies in resettlement committee structures is only ceremonial or performative in compliance with national laws, including the 2017 Electricity Law. In this circumstance, these agencies lack even political space to interact or compete with other actors such as EdL staff. A combination of institutional disconnect of multi-level resettlement committees, and a lack of meaningful stakeholder engagement, has shaped ineffective hydropower resettlement and the broader hydropower governance regime in Laos. Vertical and horizontal scalar disconnects at national, provincial, and district levels, especially through resettlement committees, undermined the quality of resettlement outcomes

in the two case study villages, resulting in livelihood concerns at the community level—lowest scalar level of analysis in this thesis.

5.5 Conclusion

To further good governance and sustainability of hydropower, the Lao government has established a framework for hydropower institutional arrangements, including the involvement of stakeholders from multiple sectors and scalar levels (administrative scales) via their mandates and various levels of legal instruments (several regulation scales). The government further sets up special inter-ministerial committees such as national and provincial investment committees, and project-specific multi-level resettlement committees to support the arrangements. These arrangements are for performative purposes to satisfy safeguards while enabling business as usual. Theoretically, the institutional arrangements and legal instruments are there to ensure effective cross-sector and multi-level coordination and, subsequently, good hydropower governance in Laos. However, the empirical evidence presented above has suggested multiple dynamics of structural institutional disconnect between the hydropower-related ministries, instead of a well-coordinated manner of planning and implementing hydropower projects. The disconnect has emerged both in horizontal and vertical directions between key ministries and levels, namely MEM, MoNRE, MPI, MAF, and MoF.

In a horizontal direction, there is competing political power in decision making of hydropower projects. This can be characterised through overlapping mandates and competing legal status in the project approval processes, especially in overlooking the importance of social and environmental policies. This is shaped by the unequal power relations between MEM, MPI, and MoNRE, in which the two powerful ministries view MoNRE as a subordinate agency. This results in the disregarding or marginalisation of MoNRE's environmental and social standards at key stages of hydropower development. These inter-ministerial power plays are ultimately related to the party-state's greater priority on economic sectors such as hydropower than social and environmental realms, putting MoNRE in a structurally weak political position in terms of the enforcement of its standards. I note that the lower priority given to the environmental sector may indicate limited genuine political power that the Lao party-state gives to MoNRE. In addition, the horizontal disconnect is further shaped through competing legal instruments between MEM, MoNRE, and MAF, regarding

dam resettlement-related programs, presumably in pursuit of rent-seeking opportunities, given projects' substantial resettlement and compensation budgets. Arguably, these dynamics of horizontal institutional disconnect emerge due to the MEM's assertation to have full, or at least near absolute, authority in the hydropower sector.

Besides horizontal direction, the governance of hydropower in Laos has also faced politics of vertical scalar disconnect between national ministries and their local branch offices at provincial and district levels. Given the evidence discussed in this chapter, national ministries often take political-economic advantages from their respective local branch offices. This can be depicted through several characteristics, which contradict the GoL's somewhat obscure three-builds (*sam sang*) policy. These include: back and forth decentralisation and recentralisation of authority to provincial governments governing small hydropower scales; poor allocation of safeguard monitoring and watershed protection funds to provincial and district branch offices by their vertical respective ministries; and uncoordinated planning and implementation of resettlement and livelihood restoration by multi-level resettlement committees for rent-seeking opportunities.

My analysis suggests that the limited political will of Lao state agencies to coordinate within and between state agencies across scalar levels, and the limited meaningful participation of wider stakeholders through a deliberative process are key drivers of current contested institutional disconnect, despite the LPRP's democratic centralism. Such disconnect helps contribute to an existing debate of scalar disconnect in hydropower regulation in Laos (see Suhardiman et al. 2012) and broader politics of scales in water governance (Daniell & Barreteau 2014; Dore & Lebel 2010). This chapter also adds important insights to the existing scholarship of public participation in hydropower governance (see Yong 2019), through a lens of deliberate exclusion and ceremonial public participation in Laos. Based on the analysis above, this chapter argues that the structural institutional disconnect, along with the inter-ministerial power plays, is fixable by increasing the political will to improve rule of law, transparency, and accountability of an inter-ministerial investment committee and key hydropower-related ministries, in Laos' hydropower governance regime, especially in social dimensions. Socially, such institutional disconnect, especially through multi-level resettlement committees, significantly shapes dam resettlers' livelihood vulnerability, which is discussed through the two case study projects in Chapter 6.

Chapter 6 Multi-purpose Resettlement and Livelihood Vulnerability of Ethnic Minority People in the Sekong Basin, Laos

6.0 Introduction

While dam resettlement can help improve some physical infrastructure and public services, many dam resettlers worldwide have reported becoming more vulnerable and worse-off than before resettlement (Cernea & Mathur 2008; Kirchherr et al. 2019; Scudder 2005; WCD 2000a). In Laos, evidence of post-resettlement livelihood changes and vulnerability is well-presented in the post-resettlement analytical literature (see e.g., Baird 2013; Barney 2007; Blake & Barney 2018; Delang & Toro 2011; Kura et al. 2017). Such evidence is well documented for the MDB-backed or Western investors-financed projects. However, regional and domestic investors-financed projects, such as Vietnamese IPP and Lao SOE projects are relatively under-studied, although the developers of these projects are seen as having weaker social safeguard policies than MDB-backed projects (Chapter 4; see also Middleton et al. 2009). There is also an inadequate understanding in Lao studies of how vertical and horizontal scalar disconnects at national, provincial, and district levels can have implications on livelihood vulnerability and poverty dynamics of resettlers at the community level.

Post-resettlement livelihood outcomes and levels of vulnerability and precarity of resettlers are linked to the purposes of dam resettlement. The main justifications for population resettlement relate to the need to relocate people from reservoir impoundment areas and other structures of a dam project (WCD 2000a), or to serve additional purposes of a government, control over people and spaces for governability (Rogers & Wilmsen 2020; Vanclay 2017). In the hydropower-specific context, I refer to this phenomenon as ‘multi-purpose resettlement’, as defined in Chapter 2. Yet, there has been a limited critical debate on how multi-purpose resettlement further improves or complicates disruptions for dam resettlers’ livelihood restoration efforts.

In this chapter, I examine the post-resettlement livelihood changes of two ethnic minority communities that were subjected to multi-purpose resettlements through SOE and IPP projects in the Sekong Basin, analysing the dynamics of poverty. The first is Ban Houay Lamphan Gnai, which consolidated two communities of the same ethnic Mon-Khmer

subgroup, the Katu. The communities were consolidated with the construction of the the 88-MW Houay Lamphan Gnai dam, which is a SOE project. Meanwhile the second community, Ban Samarkkee, is a consolidated village of three former ethnic communities of two Mon-Khmer subgroups, Yae and Alak. These three communities were resettled from the 290-MW Xekaman 1, which is IPP project. The two projects engaged multi-level resettlement committees to oversee implementation of resettlement plans, as presented in Figure 15.

This chapter argues that dam resettlement has helped reduce some of the dimensions of "old poverty" (Rigg 2005, p. 25) in the study villages, such as limited access to physical infrastructure and public services. However, approximately 75% and 45% of surveyed HHs in Ban Houay Lamphan and Ban Samarkkee[30], respectively, have struggled to regain their pre-project level of subsistence-dominated livelihoods. I argue that the GoL's multi-purpose resettlement policy, and ineffective resettlement practice, complicates resettlers' capacity to restore their livelihoods, while also exposing them to new dimensions of poverty or precarity. These new dimensions include unsustainable debt, increasing food insecurity, uncertain income sources, and growing needs for cash expenditure. The policy has restricted resettlers' access to pre-project sources of 'natural capital,' including land for agriculture, which help support sustainable livelihoods (Scoones 1998). Overall, multi-purpose resettlement can complicate and worsen resettlers' livelihoods because its different objectives of multi-purpose resettlement are largely in conflict with each other.

In the next section, I provide a summary of pre-project migrations of the two study communities. Section 6.2 analyses the characteristics and politics of 'multi-purpose resettlement' in the hydropower sector, which the GoL has adopted in pursuit of its state interests, including focal site development and catchment protection. Section 6.3 then outlines how the GoL claims that access to improved infrastructure (albeit sub-standard quality) is proof of resettlers' improved livelihoods, while underestimating some other essential factors for livelihoods, such as access to agricultural land, forests and living aquatic resources. Section 6.4 highlights the changes in land ownership status of resettlers due to the gap between policy and practice relating to compensation for land and crop losses, shaping livelihood vulnerability of resettlers. Section 6.5 documents the actual changes in access to natural resources of resettlers after resettlement. I contend that such changes have adversely

[30] The village names are pseudonyms

affected resettlers' livelihoods, notably food insecurity, given forest products and living aquatic resources are important components of the rural Lao people's diet. Then, Section 6.6 summarises the empirical evidence of the characteristics of old poverty and new poverty of the study communities and outlines how local outcomes could be improved through reforms to resettlement practice. The last section illustrates the levels of resettlers' self-perceived satisfaction regarding livelihood outcomes.

6.1 Pre-project migration histories of the study villages

This section will give an overview of the study villages' pre-project migrations, from 1970 to 2016. To a large extent, their past migrations influenced the resettlers' decision of whether or not to follow the resettlement committees' proposed resettlement plans, which will be discussed in section 6.2. The resettlement histories of both Ban Houay Lamphan and Ban Samarkhee are complex and need to be described in some detail.

The Houay Lamphan resettlement site combines two former minority Katu ethnic villages located along the Lamphan river, in Thateng District, Sekong: Ban Kone and Ban Pao. The people from these villages had originally moved from earlier, smaller villages or hamlets, located about 200 km away, in upland Kaleum District, near the Vietnamese border, in the 1970s. The elderly people in Houay Lamphan told me that their community itself initiated the 1970s migration from Kaleum to Thateng District. Their migration was mainly due to remoteness from markets and health-care centres, food insecurity, and a desire to follow their kin and neighbouring Katu communities who fled Kaleum even earlier, during the late 1960s, during the time of the Second Indochina War (interviews, RV_23; RV_25, October 2018; see also Goudineau 1997). While my elderly informants claimed that the 1970s migration was villager-initiated (i.e., voluntary), it is also likely that their migration was facilitated due to political connections with Pathet Lao (i.e., the current GoL). Baird (2017) finds that the Katu communities in this area of Laos strongly supported the revolutionary Pathet Lao forces during the Indochina War (also personal correspondence, Ian G. Baird, July 2020).

Upon arrival in Thateng, the Katu migrants of the 1970s to Thateng District initially joined other, mainly Katu communities, before they established two new villages on the banks[31] of

[31] Ban Pao on the left bank and Ban Khon on the right bank

the Houay Lamphan River in 1983 and 1985, forming Ban Pao and Ban Khon, respectively, based on kinship ties. Then, due to the initiation of the HLG hydropower project in 2014, these two villages were resettled and merged into the community that I call 'Ban Houay Lamphan'.

As for in Ban Houay Lamphan, the Ban Samarkkee resettlement site is in Sanxay District, Attapeu province. It is a focal site development village that consolidates two villages (Dak 1 and Dak 2). Before engaging in multi-purpose resettlement, the villages had been involved in multiple migrations from their homelands within Sanxay District. The causes of their migration include the impacts of the Indochina War in the late 1960s, cholera epidemics (*loklabat ahiwa* in Lao), as well as the GoL's planning processes for hydropower development in the Sekong Basin during the 1990s, including the XKM1 project (Baird & Shoemaker 2008; Probe International 1997). Given this proposed project, both communities relocated their villages, but did not receive any support from the GoL or the developer for their relocation during the 1990s, although such relocation was a direct consequence of the project (interview RV2_5, November 2018). To make the XKM1 project more attractive to investors, the government agencies claimed that the relocations of Dak 1 and Dak 2 were part of the GoL's internal resettlement program for eradication of swidden practice, rather than impacts of planning for the XKM1 dam (Baird & Shoemaker 2008; also, personal communication with Baird, July 2020). Yet, in the end, in 2017 and 2018, the residents of Dak 1 and Dak 2 had to move to the current resettlement site, which I refer to as 'Ban Samarkkee', following the terms of the original XKM1 Concession Agreement, which will be detailed next.

6.2 The politics of multi-purpose resettlement for hydropower in the Sekong Basin

In hydropower projects, dam resettlement usually involves a technical and expert-based process of relocating the displaced people from certain locations for the requirements of reservoir impoundment. Nevertheless, some hydropower resettlements are used as opportunities for furthering additional governments' social, political, economic, governmental, and environmental conservation goals and interests (Rogers & Wilmsen 2020). The analysis of multi-purpose resettlement is useful to understand the fuller picture of the resettlers' post-resettlement livelihood predicament and forms of vulnerability and precarity. In this thesis, such vulnerability and precarity are linked to 'sub-standard quality of

resettlement', which is characterised by delivery of poor housing (materials and construction engineering practice) and unfunctional utilities such as water supply, gaps between social obligations of the case study developers and their inadequate provision of agricultural lands and livelihoods restoration programs. Such vulnerability and precarity of resettlers and sub-standard resettlement are largely linked to vertically and horizontally scalar disconnects of agencies.

6.2.1 Ceremonial public participation of resettlers in resettlement planning

The planning for the Ban Houay Lamphan resettlement site

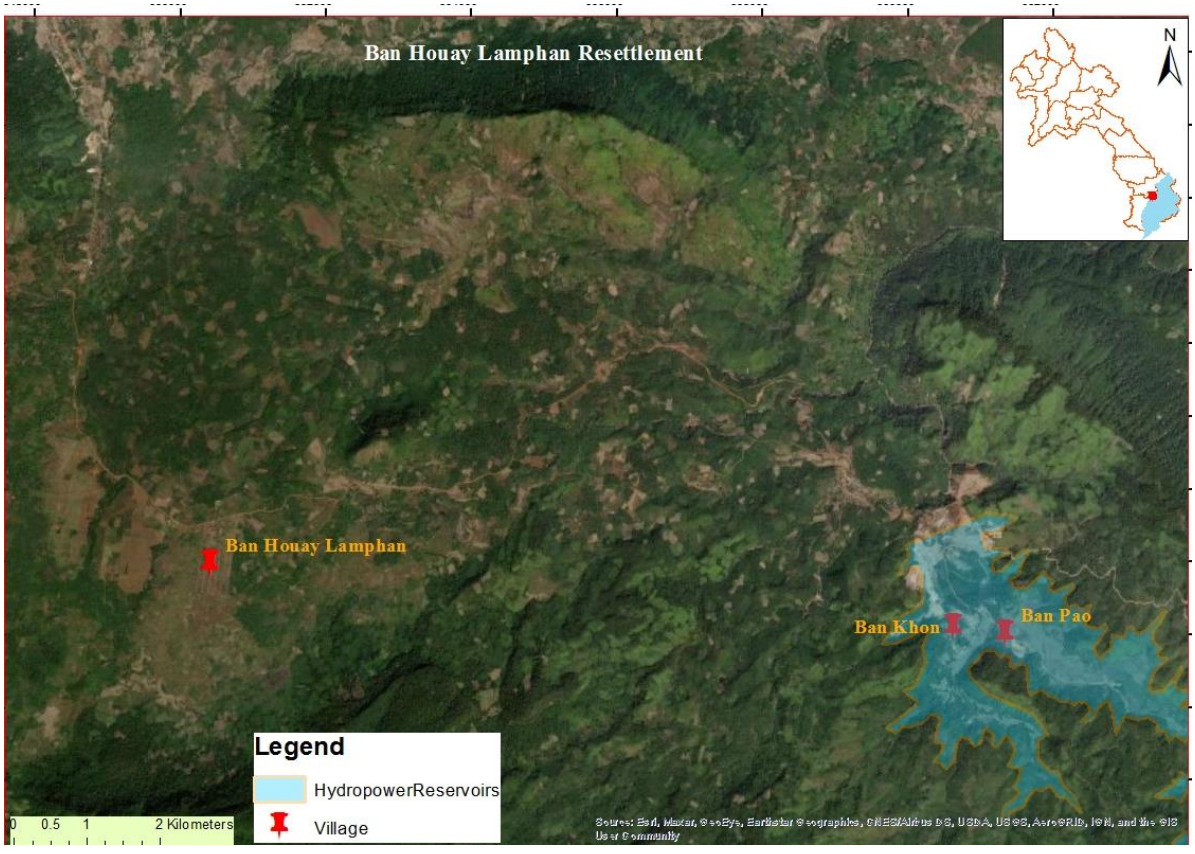
Similar to other hydropower projects in Laos, including the WB-backed NT2 project (see Virtanen 2006), there is limited meaningful or inclusive engagement of affected people and host communities in resettlement planning for the study villages. According to the FGDs I conducted in Ban Houay Lamphan (FGDs RV1_27; RV1_29, October 2018), the resettlement committee for the HLG project (see Chapter 5) engaged villagers from Khon and Pao villages in various formal public consultations regarding resettlement planning and villagers' preferred locations for resettlement.[32] However, these villagers reported that the consultations and engagement were more ceremonial and not genuine because the committee did not actually give serious consideration to resettlers' voices and concerns and their desired locations for resettlement. Such ceremonial public participation can be seen as "tokenism", in which people are informed, consulted, and placated, but the decision remains in the hands of powerholders (i.e., the resettlement committee) (Arnstein 1969, p. 217).

In my *post-facto* community FGDs in Ban Houay Lamphan (RV1_23; RV1_27, October 2018), villagers indicated their wish to be relocated anywhere within their old village territories, while outside reservoir inundation zones. The HLG resettlement plan report (MEM 2010, p. 109) similarly states: "92% of AHs [affected households] want to relocate with their existing village." These same FGDs, as well as in other semi-structured interviews that villagers participated in, identified how villagers' choices were based on several important rationales. First, they wished to remain within their community territory so they could maintain access to their cultivation lands and crops (which the loss of access to was not

[32] In this thesis, I use the term 'relocation' for moving affected villagers to a new spot within their old village territory, while 'resettlement' refers to moving affected villagers far away from their old village territory.

compensated, discussed in section 6.4.2). Second, they wished to maintain reliable access to and control over the natural resources within their old village territories. Third, they had prior information of insufficient land availability and limited access to natural resources (including no access to water resources) in the project's proposed resettlement location. Their preferences to be relocated within their old village territory was justifiable and logical, especially given the access to their uncompensated agricultural land and crops and rich natural resources in the old village territory. However, regardless of the communities' views on their preferred site of relocation, this was disregarded by the resettlement committee of the HLG project, who claimed that the communities' proposed sites for relocation were within the HLG project's dam catchment protection zone (which would be converted into legal 'protection forest' under the Forestry Law). Eventually, Khon and Pao villagers were resettled at the current Houay Lamphan resettlement site (see Figure 16).

Figure 16 **The map of Ban Houay Lamphan resettlement site**

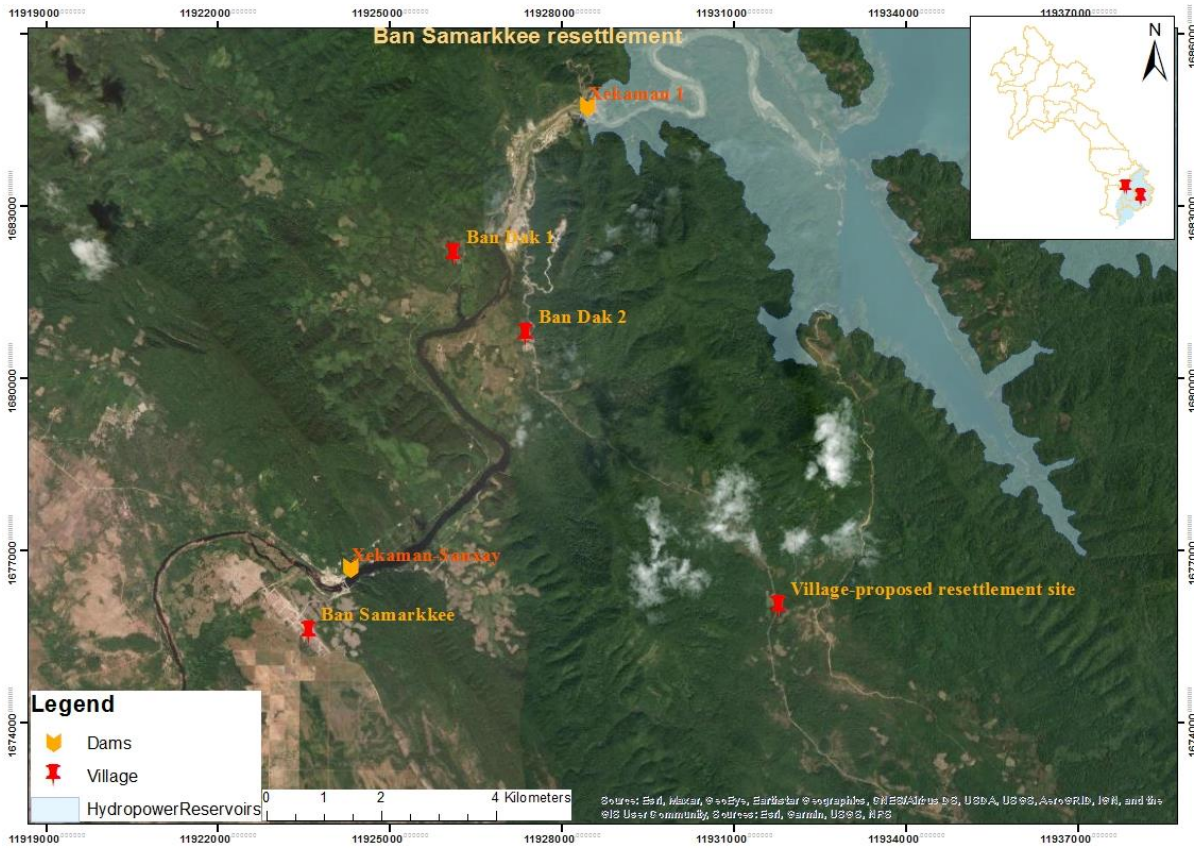


Source: Author (April 2021)

The planning for the Ban Samarkkee resettlement site

Similar to the HLG project, the multi-level resettlement committee for the XKM1 project (see Chapter 5) conducted consultations through a 'ceremonial' public participation process with Dak 1 and Dak 2 villagers. As with the HLG project, to formalise the resettlement process, the committee asked the Dak 1 and Dak 2 villagers to request their preferred resettlement sites. In response, the villagers stated their intention to be resettled near to their old village territory, not far from the Dong Amphan National Protected Area. Their intention was primarily to retain their access to the forest and living aquatic resources and to access land for swidden agriculture, in the old village territory (interviews RV2_10; RV2_13, November 2018). However, instead, the committee insisted that the affected communities accept the RMU's prioritised sites without the communities' consensus (interviews RV2_2; RV2_12, November 2018). According to FGDs, the committees claimed that the communities' proposed areas were located within the Dong Amphan National Protected Area and the XKM1 project catchment protection zone (FGD RV2_12, November 2018). The committees insisted that the Dak 1 and Dak 2 villagers had to be resettled to the current location of Ban Samarkkee resettlement site (see Figure 17).

Figure 17 **The map of Ban Samarkkee resettlement site**



Source: Author (April 2021)

The exclusion of host communities in dam resettlement

One of the key characteristics of ineffective hydropower governance, especially related to resettlement, is a lack of inclusive engagement of wider stakeholders, especially host communities. The developers and resettlement committees of the two study projects did not engage the communities that hosted affected villagers. According to my conversations with both the host village headman and the resettlers (interviews RV2_14; RV2_15, November 2018), the XKM1 resettlement committee did not engage them both during ESIA and resettlement planning and implementation. Excluding this host community could have been a root cause of the ongoing land conflict between resettled and host communities at Ban Samarkkee resettlement site, which will be elaborated on in section 6.4.3. I received similar information through informal conversations with the host villagers of Ban Houay Lamphan.

Regardless of the modality of the hydropower developer and governance regime (i.e., IPP and state-owned), the two study communities had similar experiences in resettlement planning. The

resettlement committees for the two study projects arranged such consultations for more a bureaucratic formality, fulfilling 'ceremonial' purposes and the required procedures, as defined in national regulations; in short, ceremonial public participation (see also Chapter 2). The committees did not actively consider and potentially incorporate genuine inputs from stakeholders, especially affected communities, into decision-making processes (see Virtanen 2006, Yong 2019). The ceremonial stakeholder engagement in Laos can be framed through Arnstein's (1969, p. 218) argument regarding consultations that "people [participants] are primarily perceived as statistical abstractions, and participation is measured by how many come to meetings, take brochures home, or answer a questionnaire". Moreover, a lack of engagement of host communities in resettlement planning in the study projects can characterise Warner's (2006, p. 30) "deliberate exclusion". The nature of stakeholder engagement discussed above does not align with national regulatory frameworks such as the 2013 Guidelines on Public Involvement, which requires a development project to engage all stakeholders, including host communities and other development agencies in a project vicinity. In addition, project developers and concerned state agencies need to adequately listen to affected people's voices, respond to their concerns, and give them freedom and real power to participate in decision making on livelihood issues. Next, I shift to how the committees use narratives of watershed catchment protection for hydropower dams to relocate communities outside their old village territories.

6.2.2 Hydropower catchment zones as a tool for multi-purpose resettlement

As conceptualised in Figure 4 above, the GoL has adopted several narratives for internal resettlement in Laos (see Baird & Shoemaker 2007; Baird et al. 2009; Évrard & Goudineau 2004). As Khammany Inthirath, a former minister of Energy and Mines, is quoted: "there are indirect benefits from projects such as development of infrastructure such as roads, transmission lines, water basins, water canals under dams and other facilities which create convenience for ethnic groups. The people can use these facilities and contribute to promoting the production of goods and services as well as boosting tourism. The facilities also facilitate [*sic.*] the implementation of policies on gathering several small villages into a large village, building a small district in rural areas, thereby reducing the gaps between cities and rural areas" (Vientiane Times, 2019). The GoL, primarily through multi-level resettlement committees, has adopted the narrative of 'hydropower project catchment protection' as a broad and often vague justification in hydropower resettlement.

In the HLG project, the resettlement committees insisted the Khon and Pao villagers be resettled outside their old village territory (now a part of the claimed catchment zone for the HLG project). Despite the desire specified in section 6.2.1 above, these villagers were pushed out of the zone, and resettled at the RMU's prioritized site (i.e., the current Houay Lamphan resettlement site) without the communities' consensus (FGDs RV1_27; RV1_28; interviews RV1_23, October 2018). The site is about 12 km from the catchment protection zone. The HLG project and resettlement committees claimed that resettlement within the project catchment zone could produce negative consequences, including erosion, sedimentation, and water depletion, due to slash and burn agricultural activities (interview PC5; see also MEM 2010, p. 107). Based on my three visits to the locations of Khon and Pao, the small farm holders in these villages protected their local forests to ensure the quality of their cardamom and coffee agroforestry (see Figure 18). I witnessed such evidence on the ground, which seems to be in contrast with the project developer and resettlement committee's claim outlined above. The evidence supports Vandergeest's (2003) argument that swidden practice does not necessarily equate to destroying forests, while instead commercial logging and other infrastructure are often more destructive to forests in Laos.

Figure 18 **Traditional shade-grown coffee (top) and cardamom (bottom) agroforestry plantations observed at Ban Khon**

Source: Author (23 October 2018)

Similar to the claims made in the HLG project, the resettlement committees for the XKM1 project claimed that the locations requested by the Dak 1 and Dak 2 villagers are close to the Dong Ampham Protected Area, and in the catchment protection zone of the XKM1 project (interviews PG3; DG6, November 2018). This is evident from a billboard erected with the title: 'Protection Forest Watershed Area of Sekaman [Xekaman] Hydro-power Dam'; (see Figure 19). However, similarly to the HLG project, the government's assumption that swidden practices create soil erosion and affect water flow that could then affect hydropower dam operation and catchment protection does not seem to be based on empirical evidence. Meanwhile, other communities within and nearby the XKM1 project catchment, including the people from the centre of Sanxay District, still widely continue the swidden practices, which can be seen on the ground. Despite the resettlement policy, the resettlers in Ban Samarkkee have still been returning to their old village territory and continuing their swidden practice, because of insufficient land, poor soil, and land use conflicts, and failed livelihood support programs in their new resettlement site. The proliferation of dam reservoir catchment protection zones and NPAs across Laos has constrained swidden agricultural territories and access to forest resources both for cash and non-cash purposes, especially for dam resttlers.

Figure 19 **Billboard of the Xekaman 1 Catchment Protection**

Source: Author (10 November 2018)

Yet, the claims of the resettlement committees and developers of the two study projects are in contrast with many other dam resettlement programs in Laos, which have taken place within dam catchments and even near reservoirs. These are evident even with the WB-backed and best-practice model projects such the NT2 project (McDowell et al. 2014, 2015) and the Theun Hinboun Expansion project (see Kura et al. 2017), apparently with few impacts for reservoir storage and generation. From my field observations at the old villages of the two study villages, the non-resettled villages near the reservoirs of the two study projects still continue their swidden practice in the same catchment areas. The claims also align with Vandergeest's (2003, p. 53) argument on the GoL's various assumptions, that: "Swidden agriculture (1) causes poverty, (2) is becoming unsustainable given increasing population densities, (3) destroys forests, and (4) reduces water available for lowland agriculture." The narratives of catchment protection can be characterized as eviction for environmental conservation (Brockington & Igoe 2006), for "claiming the exclusive right to adjudicate access to land and other resources" (Vandergeest 2003, p. 48) by local state agencies and the developers of study projects.

Rather than acting out of concern for watershed protection, I interpret that the resettlement committees for the two projects had already decided the study villagers had to be resettled to

the current location of Ban Houay Lamphan and Ban Samarkkee resettlement sites, prior to the 'village consultation' process. My interpretation draws on four possible interests of the committee that seemed to be in play. First, the Sanxay District government had previously tried to resettle the residents of these two villages to their present location in 2009, in the aftermath of a severe flood (see section 6.1). Second, the district and provincial governments in these two projects also had the intention to merge small separate villages into a larger community, thereby fulfilling the GoL's ongoing focal site development efforts (interview PG5, November 2018). This can inform the government's broad rural development policy through focal site development programs, has remained in practice, especially since the 1990s, even though many if not most of such programs failed and has been criticised for its coercive approaches and poor resettlement outcomes, largely due to insufficient agricultural land and limited public services (Dwyer 2017). The third set of interests of the committees in the two study projects is linked with the GoL's interests in watershed/catchment protection, elimination of shifting cultivation and promotion of lowland rice practices. Indeed, such rural population relocation or resettlement programs related to upland-lowland agricultural practice, watershed protection, access to public services, and other discourses were introduced during the second half of 20th century in the "Zomia" region (including Laos) (Van Schendel 2002). Despite, little success of such programs, the GoL is still keen to implement them. Fourth, the promotion of wage labour for cash income generation in large scale farms (i.e., the massive HAGL agribusiness plantation, located next to the Ban Samarkkee resettlement site; and a Vietnamese company-owned coffee plantation, which is close to the Ban Houay Lamphan resettlement site). Together, these help characterise the GoL's classic state upland-lowland internal resettlement logic, integrating upland ethnic minorities into mainstream of the dominant national and economic model, as Baird and Shoemaker (2005, 2007) and Vandergeest (2003) have argued.

However, these different interests and objectives of government agencies attached to multi-purpose resettlement are unpragmatic because there are limited natural resources and productive lands in a new resettlement site, coupled with ineffective implementation of resettlement plans. The interests and objectives also contradict each other, especially between rhetoric of catchment protection zoning and forest degradation due to resettlers' return to their village territories, which become part of declared watersheds, for upland cultivation due to lack of productive land and natural at resettlement sites (Baird 2013; Khammin 2000). Rather than successful resettlement and improved livelihoods of resettlers, as with internal

resettlement, the GoL uses nation building as a political propaganda and narratives to support its justifications of mult-purpose resettlement programs. Such propaganda can help legitimise the GoL's state territorialisation and control over land and resources. Such territorialisation can also benefit the GoL to capitalise such resources through large-scale land concessions, especially under concept of the 'turning land into capital' (Baird 2011; Kenney-Lazar 2012). Meanwhile, the local villagers, especially those whose lost their lands to GoL's granted land concessions for large-scale agribusiness and other resources development projects receive little or no income from concessions due to limited and unjust employment opportunities despite government agencies' claim of significant job opportunities for local communities (Dwyer 2013). The insistence of the resettlement committees in eviction for multi-purpose resettlement without proper justification and justices resulted in rare instances of local resistance from the study communities, which will be examined in the next section.

6.2.3 A rare episode of local resistance to multi-purpose resettlement

Unlike in many other countries, it is very rare to see overt local resistance or protests to hydropower resettlement in Laos, either violent or non-violent. Yeophantong (2020) has documented evidence of local resistance to dam resettlement in Laos for the EdL-owned Nam Mang 3 project, where about 40 ethnic Hmong villagers were armed with sticks and some guns against EdL staff. In this section, I examine evidence of local resistance against state power, especially against resettlement committees, from the study projects, regarding the multi-purpose resettlement plan.

According to the FGD with villagers in Ban Houay Lamphan (RV1_27, October 2018) the resettlement committee for the HLG project faced local non-violent resistance from the village headmen and community members of Pao village, who initially refused to move out from the old village territory in 2013. These villagers indicated that there were two primary motives for resistance. First, the resettlement committee for the HLG project told them that the project would not compensate their assets, especially crops, which were not flooded by the maximum level of reservoir inundation (i.e., above 280 MSL) (see subsequent section 6.4.2). Second, they would not be resettled within their old village territory, but to the current Houay Lamphan resettlement site, which is about 12 km from their old village locations, as mentioned, due to a catchment protection zone. With such distance, there is no doubt that the asset owners could feel hopeless and uncertain with their regular return visits to maintain their

old farms, due to associated costs, time, and the need for a boat to cross the new HLG reservoir.

In response to the resistance, the HLG project resettlement committees invoked the political power of party-state (*pak-lat*) to exert pressure on the community to accept the resettlement plan, and to fulfil the government's multi-purpose resettlement goal (FGDs RV1_23; RV1_28, October 2018). Unsurprisingly, as is common practice in Laos, the members in the FGDs added that committees used the language and implied threat of 'political re-education'[33] (*seuksa neokit karnmeuang*) with those headmen and villagers to quell resistance. Yet, without strong local political leadership and support, the lack of support from outsiders such as NGOs, and given the exercise of state power and strategies, it was not successful. This is due to limited power to counter the state, in a context in which any direct resistance to party policies is prohibited (see Creak & Barney 2018; Stuart-Fox 2005). The Pao community eventually had to follow the committee's resettlement plan.

In the XKM1 project, I did not uncover direct resistance regarding the resettlement plan from Dak 1 and Dak 2 villagers before resettlement. The lack of direct resistance to resettlement could have been due to the fact that their old village land is subject to both the XKM reservoir impoundment and natural flooding during extreme typhoon weather events, including in 2009 as mentioned. Moreover, unlike in Ban Khon and Pao, in Dak 1 and Dak 2 villagers did not have legal land use rights, and no practice of permanent cash cropping, thus they were only entitled for compensation through the loss of some scattered teak and fruit trees.

However, the resettlement committee and developers of the XKM1 faced direct resistance from many Brao villagers from a host community. These villagers claimed ownership of the majority of the agricultural land (both swidden rice and proposed irrigated land) that the committee allocated to Ban Samarkkee. District-level resettlement committee members (interviews DG5; DG7, November 2018) confirmed that they encountered these Brao villagers who were armed with farming knives and axes. The village headman of the host community (interview RV2_14, November 2018) told me that the XKM1 company and district authorities did not consult or engage the landowners regarding land acquisition and

[33] The Pathet Lao (i.e., the current LPRP) launched political re-education (*samana or seminar* in Lao language) when it first came into power in 1975, sending political opponents to the LPRP to re-education camps where these opponents (referred to as *pattikan*, or 'reactionaries') experienced significant hardships (Évrard 2011).

even resettlement planning. As a result, these landowners were angry and used different strategies to protect their land ownership. This headman added that his villagers had owned such part of the land for more than 15 years before resettlement with either land title or tax documents. Indeed, the resettlement action plan of the XKM1 project (XKM1PC 2011, p. 55) also indicates and acknowledges the ownership of host villagers on their claimed land. Given resistance to the committee and several confrontations between host and resettled villagers, many resettled HHs in Ban Samarkkee have refused to use the allocated swidden rice land to avoid conflicts with host villagers. A committee member (interview DG7, November 2019) told me that the resettlement committee proposed to either find new plots of land or cash compensation for these landowners. However, the same village headman contended that his villagers did not receive either new plots of land or cash. This could have been a factor of delay in land allocation and the overall resettlement program in Ban Samarkkee site.

The different characteristics related to multi-purpose resettlement presented above depict how the party-state actors exercised their efforts and political power to insist on affected people following a multi-purpose resettlement plan for the GoL's agendas (Baird & Shoemaker 2007; Blake & Barney 2018). In some cases, for example, the HLG project, the local state actors even used threat-implied language like 'political re-education' to resisting resettlers to achieve multiple purposes, paying less attention to the peoples' voices and their future livelihood concerns. Moreover, the mechanism by which the state actors handled the resistance and neglected the community's voices points to the limited space for communities (and civil society) to voice their concerns, and their limited level of participation in the political arena and decision-making process in Laos (Creak & Barney 2018; Hirsch 2006; Jusi 2013). Together, these factors enabled the resettlement committees to establish focal resettlement sites for the study communities for the GoL's interests in multi-purpose resettlement, which is discussed below. However, the resistance of host villagers in the XKM1 project suggests that excluding host communities from resettlement planning and decision making can undermine not only resettlement progress, but also the political power of state agencies, especially resettlement committees.

6.3 Post-resettlement access to improved infrastructure and services

In Laos, limited access to improved (or 'permanent') housing, public infrastructure (including access roads, market, piped water, and electricity) and services (including education and

access to healthcare) is characterized as poverty (Chamberlain 2007; Rigg 2005). In this section, I analyse how the GoL frames access to basic infrastructure and public services in the resettlement sites as a mechanism for poverty reduction and narratives of the 'development village'.

6.3.1 Access to infrastructure and services: eradication of (old) poverty

While limited access to public infrastructure and services is an indication of poverty under Lao government criteria, the access to such is an essential basis and rationale for the GoL to determine whether a village has achieved 'poverty reduction', according to the Decree 285/2009 on Poverty and Well-being Criteria[34]. As practised in other hydropower projects in Laos, developers of the two study projects provided improved housing and public infrastructure and services at their respective resettlement sites (see Table 11 below).

Table 11 **A summary of infrastructure and public services in the study villages**

Project social obligations	**HLG**		**XKM1**	
	Proposed	Practised	Proposed	Practised
Housing entitlement				
House entitlement	1/family	1/HH	1/family	1/family
Kitchens/HH	1	1	1	1
Rice barns/HH	1	0	1	1
Latrines/HH	1	1 (very simple)	1	1 (standard)
Infrastructure and services				
School buildings	2	2	2	2
Healthcare centre	1	1	1	1
Village meeting hall and office	1	1	1	1
Cemetery	1	1	1	1
Market place building	1	1	1	1
The access road between district centre and resettlement site	1	Paved road[a]	1	Paved road
The road within resettlement site	Unspecified	Dirt without drainage	paved	Paved with drainage

[34] These are: 1) strong village leadership; 2) political awareness; 3) legal case free village; 4) 85% of households being developed households [based on the similar criteria defined for the developed village]; 5) production collectives and revolving funds; 6) access to permanent domicile and stable living resources; 7) good urban plan; 8) access to all-weather road; 9) access to electricity; 10) healthcare model village; 11) complete primary education; 12) cultural village; and 13) village office or hall.

Irrigation system	No	No	1	Yes[b]
Waste disposal system	No	No	1	0
Public utilities				
Water supply	1 tap/15 HHs	3 taps (entire village)	1/HH	Every HH**
Electrification	Every HH	Every HH	Every HH	Every HH

Note: [a]This is a part of the 12-km ADB-financed road project, [b]These were not in operation during the study. Source: Author's field survey (October–December 2018), compared to the XKM1 social obligation (2011) and the HLG resettlement plan (2010)

Given the provision of such physical structures, 98% and 72% of HHs in Ban Samarkkee and Ban Houay Lamphan, respectively, indicated in my surveys that they now had access to better public services and basic infrastructure, as listed in Table 11 above. Meanwhile, 96% and 54% of HHs surveyed in Ban Samarkkee and Ban Houay Lamphan, respectively, confirmed that they now had better housing. Based on review of the baseline study of HLG (MEM 2010) and site visit to the existing housing structures found at the old villages of Dark 1 and Dark 2 of XKM 1, prior to resettlement almost half of resettlers in Ban Dark 1 and 2 did not have good and 'permanent' houses. Meanwhile, about 60% in Ban Kone and Ban Pao villagers had permanent housing structure. Regarding public services and utilities, resettlers of both case studies accessed solar power for some households (solar system), primary school (grades 1-3), distance from health care service centres, and reliance on water from rivers (for Dark 1 and Dark 2) and some deep wells (for Ban Kone and Ban Pao). Thus, the above-mentioned figures seem to be realistic. The main causes of the gap of satisfaction in these two study villages will be discussed in subsequent sections.

Given this relative improvement of infrastructure (albeit often poorly constructed and insufficient), government agencies at national, provincial, and district levels, especially at resettlement committees, proudly claim that the resettlers in the resettlement sites had better livelihoods and had 'graduated from poverty' (interviews CG8; SE2; SE4; PG2; DG8, September 2018). This can be evidenced at Ban Houay Lamphan, which the district government of Thateng District had already declared as a *Ban Pattana Hopdarn* (a developed village) in 2015 (see Figure 20), just a year after resettlement. There is little doubt that a similar declaration will be made for Ban Samarkkee as a *ban pattana* after completion of their resettlement program.

Figure 20 **The certificate of 'developed village' declaration for Ban Houay Lamphan**

Source: Author (October 2018)

The criteria, which are defined in Article 8 of the 2009 Decree on Poverty and Wellbeing, seem to focus on social and political concerns, and access to infrastructure dominates. Similarly, the claims above present the GoL's understanding that a lack of such physical infrastructure and services is an important indication of poverty, and its primary focus of poverty reduction is thus on the provision of physical infrastructure (see Chamberlain 2007). In other words, this means addressing the circumstances of "old poverty" (Rigg 2005). Meanwhile, other crucial dimensions of livelihoods of rural Lao people, such as reliable access to production land and natural resources, which Scoones (1998, 2015) locates within sustainable livelihood frameworks, as well as food insecurity, are largely underestimated. Limited access to land and natural resources constrains efforts of resettlers in the study villages to restore even their pre-project level of livelihoods. These resources are important for income generation, food for daily consumption, material for building houses and other structures. Next, I will indicate some aspects of sub-standard infrastructure.

6.3.2 Sub-standard quality of houses and services in the study villages

Despite the government's claims of improved housing and public utilities, resettlers in the two study villages experienced similar sub-standard quality of delivered housing and utilities. Sub-standard quality of housing and utilities discussed in this thesis refers to poor quality of construction materials and inadequate construction engineering supervision, low quality of utilities provided to the two case studies, contributing to overall sub-standard quality of resettlement outcomes. Firstly, in the FGDs conducted in Ban Samarkkee (FGDs RV2_10; RV2_12, November 2018), the group members told me that their houses were uninhabitable a few months after moving in 2018, mainly due to poor construction materials: low-quality wood and concrete. Their house windows and doors could not be closed, were even falling apart, and some concrete floors were also cracked (see Figure 21).

Figure 21 **An example of sub-standard door and window frames in Ban Samarkkee**

Source: Author (November 2018)

In Ban Houay Lamphan, besides insufficient houses for many families, every HH in this village that was entitled to housing suffered from inappropriate housing design and construction. The resettlers in this village consider the HLG project's housing design as inappropriate to their Katu cultural and spiritual beliefs (interviews RV1_7; RV1_15; RV1_27; RV1_30, October 2018). According to the Katu's spiritual leader in Ban Houay Lamphan, a kitchen cannot be located under the house because the smoke from the kitchen

can disturb and anger the family's ancestral spirits, leading to the potential for illness or bad luck to the family members. Indeed, installation of open fires underneath the main living quarters of a house not only presents a health risk due to smoke, but also a fire danger). Subsequently, about 80% of house owners had to update and re-arrange their houses following their traditional Katu cultural practice (see Figure 22). This re-design cost each house owner around 3–10 million kip in extra costs (about US$370–1,200[35]), including not just construction and material costs but also the sacrifice of a large four-legged animal (usually a buffalo or cow), for completing the required spiritual rituals. Some HHs were in debt (see section 6.7) to cover such costs.

Figure 22 **The HLG project-built (left) and villager-modified kitchens (right) in Ban Houay Lamphan**

Source: Author (October 2018)

Besides sub-standard housing, both study villages faced problems with water (*nam lin*) shortage at their resettlement sites. For example, despite only three water taps for Ban Houay Lamphan of more than 200 HHs, according to a FGD, these taps broke down in October 2015 after just approximately six months of operation (FGD RV1_26, October 2018). With the failed *nam lin*, the villagers requested speedy repairs in both verbal and written communications. After one month of waiting patiently, and after silence and no solutions from either EdL or the resettlement committees, individual HHs in Ban Houay Lamphan had to instal pumped wells at their own cost (of about 4 million kip or about US$500), largely shared by two or three HHs/well. Similarly, the resettlers in Ban Samarkkee experienced water shortages for several months (from June–November 2018) due to the failure of the open canal that delivered water from the Xekaman 0 reservoir to feed the water supply to the new

[35] Lao currency: US$1 = 8,095.95 kip at the exchange rate of December 2014 when the compensation took place.

village location (interviews RV2_2; RV2_8; RV2_11, November 2018). The shortage was also evident during my first field visit to this village. Despite the raised voices and complaints made by the resettled communities, the XKM1 developer and the resettlement committee neglected to fix the problem. This problem was only (by happenstance) addressed quickly, just a day prior to a short site visit of a Lao Deputy Prime Minister to the resettlement site on 2 November 2018 (interview RV2_4, November 2018), as part of his mission on the XKM1 project. The low quality of facilities and unaddressed problems represent weak social obligations of the project developers of the two case studies, while also depicting the disconnected multiple-level resettlement committees established under the two case studies.

The silence and neglect on critical issues such as basic water supply in the two study projects is an obvious and unacceptable failure of resettlement practice, and highlights unaccountability of state actors, especially the multi-level resettlement committees, who are supposed to protect the rights of their citizens, and non-compliance of developers who are supposed to adhere to their corporate social obligations, as defined in the project SESO for XKM 1(XKM1PC 2011) and resettlement action plans for HLG (MEM 2010). Although there are similarities regarding the provision of physical infrastructure and failures discussed in this sub-section, the next section will highlight some of the unequal social outcomes observed in the study projects.

6.3.3 Unequal enforcement of social policies in the Lao hydropower resettlement

Despite similarities, Table 11 also shows a certain contrast between the IPP and SOE projects in their treatment of resettled communities. Housing entitlement in Ban Samarkkee is family-based; in contrast, the state-owned HLG project, as with its other projects, offered household-based entitlements with different types or grades[36] of housing, regardless of the number of families in the house (see Table 11). As a result, 23 families did not receive houses and they had to build their own houses at the new resettlement site. Given the examples, it is my view

[36] Houses of between two to four bedrooms were offered to resettlers. The entitlement was based on several criteria in the old village. For example: (1) a HH of more than one family with separate 'family books' (i.e. official books that register family members and as Lao citizens and can often be used with ID cards), but with few HH members, received a single house; (2) a HH of more than one family with separate family books, and with many HH members, received two houses; (3) a HH of three families and different family books, with a large house and many HH members received two houses in the new resettlement (meaning two families still have to share a new house); (4) a HH of a family and more than ten HH members received a type-3 house (4 bedrooms); and (5) those with a large original home, but few HH members received a new three-bedroom house.

that the enforcement of social safeguard policies on resettlement is not evenly practised between IPP and state-owned projects, and characterises an uneven, varying pattern of project-by-project policy implementation in Lao hydropower governance (Milattanapheng 2006). This is apparent from the fact that state-owned projects are not required to produce a SESO agreement, which, in the case of IPP projects, is attached to a project Concession Agreement (see the Electricity Law 2011, 2017). The uneven practice in IPP and state-owned projects also characterises a disparity between policy and practice (see also Lawrence 2008; Singh 2012), and a broader context of the current ineffective hydropower governance regime in Laos (Lawrence 2009; Middleton et al. 2009; Suhardiman & Giordano 2014).

6.4 The post-resettlement changes in land ownership due to deficient compensation

In this section, I examine the changes of resettlers' land ownership status and how compensation practice has implications on the changes, drawing on Vietnamese company-owned IPP projects, and the Lao SOE projects, especially under influence of weak cross-sectoral coordination across levels. The analysis of changes in land ownership will be useful to understand post-resettlement livelihood outcomes and precarity, given land is a crucially important asset for the subsistence and sufficiency of livelihoods in rural Lao communities (Chamberlain 2007).

6.4.1 The chronic problems of land-for-land compensation in dam resettlement

Like many other IPP and SOE projects in Laos, the two study communities could not secure adequate arable land for agricultural production in the new resettlement sites. This inadequacy is due primarily to the study project developers' failure to deliver these communities with adequate areas of productive agricultural land as per their obligations. These obligations are defined in the project CA for the XKM1. Unlike IPP projects, SOE projects such as HLG are not required to have a CA, but the Resettlement and Ethnic Minorities People's Plan for the HLG approved, by MoNRE, clearly defines developers' social obligations. Table 12 shows the gaps between the social obligations and actual practice by the two study projects. These gaps are part of sub-standard resettlement outcomes.

Table 12 **Comparison of obligations and reality on land-for-land compensation**

List	(State-owned) HLG project		(IPP) XKM1 project	
	Commitment	**Reality**	**Commitment**	**Reality**
Overall land for resettlement area both for agriculture and structure (hectare)				
	400	181	3,000	1,500
Land to be allocated for each individual HH				
1	1.0-ha rain-fed bunded terrace	0	1.0-ha irrigated paddy	0
2	0.5-ha orchard/coffee/cardamom	0.16/ Person	1.0-ha irrigated bunded rice terraces	1
3	0.5-ha garden for crops	0	0.08-ha garden	0
4	1.0-ha NTFP garden development	0	2.0-ha forage land	0
5	1.25-ha grazing land	0	2.0-ha forest for NTFPs	0
6	50 community fishponds	0	0.003-ha fishpond/HH	0
Total	**About 4/HH**	**0.16/Person**	**About 6/HH**	**1/HH**

Source: Author's interviews and field observation (October–December 2018) for the 'reality' column

The problems of insufficient land allocation in the two study projects arose from at least two underlying factors. First is associated with the nature of institutional disconnect across state agencies at various levels and limited stakeholder engagement (see Chapter 5) in resettlement planning and implementation. According to interviews with two resettlement committee members (interviews PG3; DG5, November 2018), the initially proposed land of about 200 hectares (including 98 hectares designed for irrigated rice paddy) for Ban Samarkkee was leased to a Vietnamese agribusiness company, HAGL, by the then provincial-level Land Management Authority. These two committee members added that this authority did not coordinate or even inform provincial and district branch offices of the Ministry of Energy and Mines (MEM) that led the multi-level resettlement committees for the XKM1 project about this transaction. Similarly, in the HLG project, there were originally proposed lands of about 400 hectares for the resettlement site. However, the government of Thateng District allocated about 100 hectares of good soil to a village of about 35 HHs that came from the Kaleum District through, internal resettlement policy of Sekong province, in addition to the district officials' acquisition (FGD RV1_23, October 2018).

Second, land insufficiency directly links to the projects' poor engagement of host communities in resettlement planning, as outlined in section 6.2. In Ban Samarkkee, the XKM1 project deliberately excluded the host community that owned the land and other common resources within the demarcated area (i.e., 200 hectares) for the resettlement site. This confused scenario has led to the current impasse, a three-way land conflict between the resettled community, the host community and an agribusiness company. These problems have resulted in cross-sectoral cumulative impacts and conflicts (see Baird & Barney 2017). These conflicts involve the hydropower and tree plantation sectors, producing a series of overlapping claims on the same plots of land in the Ban Samarkkee resettlement site. In the Houay Lamphan resettlement site, many villagers from host communities claimed ownership of some parts of 400 hectares and these villagers were not consulted during the planning. Eventually, after the claims of host villagers and allocation for internal resettlement, the land for resettlement site (infrastructure and agricultural production) at Ban Houay Lamphan remains at only 181 hectares (see Table 12).

In principle, if available land is not sufficient in the resettlement sites, the study projects should follow a cash-for-land approach so that the resettlers can purchase new plots of land. Such an approach is stipulated in the national regulations in Laos and international standards (see Chapter 2). In the case of the HLG project, the resettlers' allocated piece of land (either 10 million kip/person or 0.16 hectare/person) has a much lower value and smaller size than their original land holdings and the proposed four hectares, as indicated in Table 12. This under-compensation for land value has had significant implications for villagers' livelihoods in their new resettlement site, where they have been forced to purchase additional land, at a high land price. Unfortunately, about 30% of resettled HHs in Ban Houay Lamphan could not afford to purchase new plot(s) of land because they received low or no compensation as a result of unjust and non-transparent compensation, as highlighted below.

6.4.2 Negotiation-based compensation for crop and tree losses in the Sekong Basin

In many countries, resettlement compensation schemes are characterized by limited transparency and lack of meaningful engagement of affected people (Cernea & Mathur 2008). In this section I highlight how the two case study dam projects engaged in a negotiation-based compensation approach for the study communities, in the context of limited literacy of the asset owners, who are also members of a national ethnic minority.

Compensation in the XKM1 project

According to the surveys of 71 HHs in Ban Samarkkee, 39 HHs from this village were entitled to compensation for lost assets, mostly teak and fruit trees. The compensated HHs said that the compensation entitlement process was relatively straightforward. The compensated values in Ban Samarkkee varied from 50,000 kip to 20 million kip, with the median compensation of 0.7 million kip (or US$87.5). These villagers added that the compensation did not involve government officials. An informant from the XKM1 Power Company (PC4, November 2018) similarly confirmed that the asset evaluation and compensation for affected assets were not complicated, and the resettlement committee allowed the company to carry these out directly with affected people. The FGDs in this village confirmed (FGDs RV2_10; RV2_12, November 2018) that their assets were evaluated and compensated based on the local market price. The resettlement committees' trust of the XKM1 developer regarding compensation reveals the decision-making power of private actors in planning and implementing hydropower projects in Laos. Given such decision-making power, Suhardiman and Giordano (2014, p. 984) describe these actors as the GoL's "informal agents", supporting the GoL's strong interests in hydropower development, despite contradicting its own rules and institutions established to ensure social and environmental best practices. This can be evidenced by the examples of some hydropower projects proceeding without following the MoNRE's environmental and social safeguard requirements, as highlighted in Chapter 5.

Compensation in the HLG project

In the state-owned HLG project, there were several forms of unjust and non-transparent compensation entitlement reported. First, based on FGDs, the developer (i.e., EdL) for the HLG project failed to follow their commitment to compensate all affected crops (mostly coffee and cardamom), both below and above the elevation of 280 MSL[37] (mean sea level) (FGD RV1_23; RV1_25, October 2018). In practice, the EdL changed the compensation policy to compensate only for assets below 280 MSL, which were inundated by the HLG reservoir, and decided to disregard any community assets above this elevation. EdL informed

[37] This is the HLG project design for the maximum water level for its reservoir inundation—23 HHs only owned coffee and cardamom plantations above this level whilst other HHs had plantations both above and below this level.

the asset owners that if they owned land and crop trees above the 280 MSL elevation that they would maintain their ownership rights, rather than receiving financial or in-kind compensation. Second, to maintain their land and crops, EdL further planned to provide 98 boats (MEM 2010, p. 88), to allow residents to cross the reservoir to the far shoreline, to access their upland plots of coffee and cardamom. But even five years after their resettlement, no boats have been provided.

Third, notwithstanding their eligibility for compensation, the 141 affected HHs that had crops and land below 280 MSL experienced non-transparent practices of asset valuation for compensation of crop losses. The resettlement committee for HLG project did not adequately explain or disclose information of asset values to affected people. Instead, valuation was largely based on affected persons' ability and strategies to negotiate with EdL staff and resettlement committee representatives. In FGDs and semi-structured interviews (RV1_1; RV1_5; RV1_8; RV1_13; RV1_27; RV1_28, October 2018), my informants reported that instead of adopting a common standard, the valuation for compensation proceeded through negotiations between the affected persons and the project staff and a few committee members (from district level). As one of the male FGD members confirmed:

> Each asset owner was involved in detailed surveys for asset loss, but valuation and compensation rates depend on an individual's ability to negotiate with the project. Hence, different owners received different compensation values despite very similar or same losses of same crop types and land size (FGD RV1_27, October 2018).

In addition, given the nature of the ethnic minority populations of the study communities, the limited literacy and understanding of the Lao language of the Katu people, especially women, meant the negotiation-based compensation substantially marginalised the female-headed affected HHs. One of the female-head of a HH in the same community gave an example of negotiation-based compensation for cardamom:

> The valuation of cardamom never reached over 60% of crop density [crop value]. People can get 60% density mostly through tough negotiation with very fluent Lao language, otherwise, only 20–30%, especially for the female-headed families. For example, I received only a 30% count for my cardamom plantation because of my limited Lao language to negotiate with *visakarn* [company staff] (interview RV1_28, October 2018).

Similar to cardamom, the EdL also underestimated the density of coffee trees, as one village informant (interview RV1_9 October 2018) contended:

> For compensation, EdL officers did not calculate the number of trees planted in a plot of land, instead following averaged number of coffee trees per hectare by EdL and district officers [district-level resettlement committee members]. For example, I had about 500 coffee trees in one of my plantations, but the officers gave me only 300 trees.

The statements above differ from the statement from an EdL staff member who told me that everything followed the standards of resettlement committees and insisted that there had been negotiation because the assets' owners had asked for higher crop density (i.e., had over-estimated the value of their crop holdings) (interview SE5, October 2018). Similarly, an official from the Agriculture and Forestry Office of Thateng District, who was the HLG resettlement committee member (interview DG1, October 2018), contended that the estimation, especially for coffee, was based on the coffee cropping standard of 4x4 m row or about a rate of 600 trees/hectare. As a result, the affected coffee was compensated at this rate. However, the statements of the office and EdL officials do not match with the standard of the Coffee Research and Multiplication Centre under the National Agriculture and Forestry Research Institute, Ministry of Agriculture and Forestry (personal communication with an official in this centre, 2 October 2020). The centre's standard for coffee trees is 1,100 trees/hectare (for Robusta coffee) and between 3,000–5,000 trees/hectare (for Arabica coffee).

Consequently, given unjust compensation, 23 (mostly from Ban Khon) out of 164 households surveyed were not compensated. Meanwhile, the remaining 141 HHs were partly or fully compensated, given their land and crops were above and below the elevation of 280 MSL. The cash compensation values significantly varied amongst the resettled HHs in Ban Houay Lamphan. The values ranged from zero (for those 23 HHs mentioned above) to about 470 million kip, with a median value of about 100 million kip.

Some existing scholarship on resettlement and livelihood reconstruction (see e.g., Cernea & Mathur 2008; Delang et al. 2013) notes that the asset-based compensation for resettled groups is sometimes unable to support the re-building of livelihoods to a pre-project level. However, drawing upon the evidence from the two study communities above, especially from Ban Houay Lamphan, the compensated cash for lost assets is a very crucial asset representing financial capital (see Scoones 1998) for livelihood restoration of resettlers, post-resettlement.

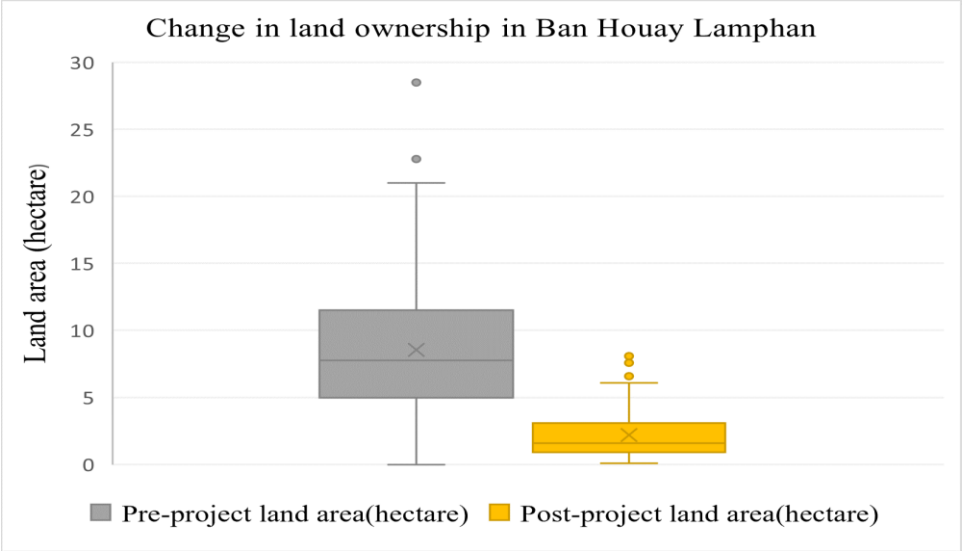
This is supported by the fact that HHs use the compensation cash to buy new plot(s) of agricultural land in the new resettlement site, resulting in uneven opportunity in land ownership and livelihood restoration capability.

6.4.3 Reduced land size and quality after resettlement

As a result of ineffective land-for-land compensation policy in both study projects, there have been changes in the land ownership status in the study villages, notably in Ban Houay Lamphan. According to the surveys in Ban Houay Lamphan, there was a dramatic decrease in HH median land area, from about 7 hectares before resettlement[38], to only about 2 hectares after resettlement, as shown in Figure 23 below. Based on review of the HLG EIA (MEM 2010, p. 77), in the old villages, Ban Kone and Ban Pao together had paddy rice of 150 hectares, including some plots with irrigated water. The 49% of the surveys had land area greater than 2 hectares because they received high cash compensation, as discussed in 6.3.2 above, and some of them could buy land for either rice and/or economic crops such as coffee and cardamom. Meanwhile, 12% of the respondents reported that they were able to purchase only one or two plots of land of small size for coffee or cardamom cropping, but not rice paddy, in addition to the allocated 0.16 hectare/person. Nevertheless, some of these respondents added that they needed to add their money that they saved in their old village to buy such a new plot of land.

[38] The resettlement plan for the HLG project indicates that the average family land ownership for Ban Pao and Ban Khon was about 5 ha and 6 ha/family respectively (MEM 2010, p. 107). The lowland rice paddies and land for cash crops such as coffee and cardamom in these two original villages had tax receipts and land use documents.

Figure 23 **Pre- and post-resettlement land ownership status of Ban Houay Lamphan**



Source: Author's surveys (October-December 2018)

In contrast, in Ban Samarkkee, the land ownership remains comparatively unchanged both in size and land use type (i.e., swidden land). In this village, as indicated in section 6.4.1, every HH received a 1-hectare plot, which is a similar size of their pre-resettlement holdings (during the period 2016–2017) with an average size of 1.0–1.5 hectare/HH/year (with customary or informal land rights). Such as size of upland rice cultivation can still be seen in their old village territories, where they still practice after resettlement. However, the resettlers in this village were very concerned about the allocated land because of two main changes. First, they could not secure areas of productive land for swidden agriculture of rice in five-to-seven-year rotation fallow cycles, as they practised before resettlement (interview RV2_2, November 2018; see also Kenney-Lazar 2013, p. 18 for sustainable fallow cycles in Laos). Second, the newly allocated land in their resettlement site was very unproductive due to poor quality of soil. Meanwhile, the remaining entitlement of 1-hectare of irrigated rice paddy for each HH has been delayed, mainly due to the ongoing land conflicts with the nearby agribusiness company, HAGL, as well as land conflicts with the host villagers, as discussed in section 6.4.1. Until late 2020, the resettled HHs in Ban Samarkkee did not receive and has been highly uncertain whether they will receive such 1-hectare of irrigated rice paddy. Like in other resettlement sites in Laos (see e.g., Blake & Barney 2018), based on my observation at the site in Ban Samarkkee in January 2020, the irrigation infrastructure and the land will be unlikely to function well as promised, partly due to the topography and poor soil quality of the area to be irrigated.

The evidence from the two study communities discussed above clearly reveals that the land-for-land replacement or cash-for-land process was ineffective and a major concern in both IPP and SOE projects. The concerns were further compounded by unjust, and under-compensation for crop losses, especially in the SOE project, which have unequally marginalised different groups of resettlers in this project. Such inadequate land allocation has been documented in existing studies (Baird & Shoemaker 2005; Delang & Toro 2011), suggesting that resettlers often receive unproductive land (ownership of which is still often disputed), while host communities and other development projects maintain control over agriculturally productive areas (which are often limited in any case). However, despite their important role in control over common resources, these stakeholders are often excluded from resettlement planning. The inadequate allocation of productive land and unjust compensation (in Ban Houay Lamphan) have clearly had substantial consequences on incomes and food security, and negatively affected the overall livelihoods of resettled people. Rather than eliminating, or at least reducing, some characteristics of old poverty such as "low income" and "meagre lives" (Rigg 2005, p. 25), dam resettlement has further escalated such old poverty. Overall, land allocation has been a prolonged and highly contested issue with dam resettlement in Laos over the last few decades, and indeed going back to the first dam project at Nam Ngum 1 in 1971. However, establishment of resettlement committees at different scales and improved regulatory and institutional and institutional frameworks does not seem to help address the issue.

6.5 Post-resettlement changes in access to natural resources

Dam resettlement under the GoL's multiple purposes, especially dam catchment protection and focal site development, has marginalised the resettlers' livelihoods in both study communities, due primarily to limited access to natural resources. These resources such as forests and living aquatic products are essential for livelihoods for the rural Lao communities (see Chamberlain 2007; Van Der Meer Simo et al. 2019). By engaging the resettlers in multi-purpose resettlement, this section examines how the rights of resettlers of the study communities to access natural resources have been restricted.

6.5.1 Restricted access to living aquatic resources: the project reservoir fishery

One of the main drivers of livelihood vulnerability is associated with limited access to living aquatic resources, especially fish, following resettlement. Prior to resettlement, such products were primary food sources for daily consumption, in addition to cash income (especially for Ban Samarkkee), and such environmental livelihoods remain important today in both study villages. However, the people in these villages have experienced a significant decline in fish catch, even for household consumption, especially in Ban Houay Lamphan, resulting in a social-ecological relational change in the two study communities.

In Ban Houay Lamphan, the resettlers now cannot access the river year-round for their fishing and other river products, which is a significant disadvantage to them. Although fisheries in the HLG reservoir are not restricted, the barriers to their access include the excessive time and costs associated with the longer distance to travel to the lake, and also the lack of access to boats to allow fishing. Meanwhile, the HLG project promised to provide 98 boats for access to reservoir fishery and forest resources in the old village territory and 50 community fishponds (see MEM 2010, p. 88 and p. A-4). Yet, according to the local interviews (RV1_23, RV1_27, RV1_28, October 2018) and the author's follow-up field visit in early 2020, none of these commitments had been delivered to Houay Lamphan villagers. Rather, their fish for household consumption is now purchased from the market in the township of Thateng District, compared to their pre-resettlement good access to river products from local rivers, including Houay Lamphan Gnai River, for daily consumption (MEM 2010).

Unlike Ban Houay Lamphan, it is quite fortunate for Ban Samarkkee villagers that they can still access living aquatic products, particularly fish. However, their fishing now mostly takes place downstream of the XKM0, but with limited fish because of the XKM1 and XKM0 dam structures. The high fluctuation of water level due to the electricity production regime between day and night, following power demand in Vietnam, further potentially adds a significant decline of fish in the downstream. Meanwhile, the highly productive new fishery within the XKM1 reservoir has been exclusively granted to private concessionaires and major business interests[39] by the Sanxay District government, in exchange with a monthly fee of 50

[39] The Fisheries and Aquaculture Law 2009 does not specify the rights and management mechanism of reservoir fisheries and aquaculture. Instead, a hydropower developer has rights over reservoir and activities related to

million kip (about US$5,500) (personal interview with concessionaire informants at the XKM1 reservoir, November 2018). The concessionaires (at least four) did not engage any villagers from Ban Samarkkee as workers, who are supposed to benefit from reservoir fisheries as practise in other hydropower projects; the NT2 project as an example (McDowell et al. 2014). Rather, the concessionaires hired more than 80 skilled fishermen and their families from villages close to the Nam Ngum 1 dam reservoir in Vientiane province, to develop capture-and-cage fishery businesses. The businesses were run in an unsustainable manner due to improper fishery management systems such as lack of fishing zoning, no restriction of spawning season, and use of all fishing tools, leading to rapidly deteriorating fish population and species and a decline of aquatic ecosystems and biodiversity. As a result of the limited fishery opportunities and decline of fish population, according to my household surveys in this village, the median annual fish catch per HH in Ban Samarkkee villagers dropped from 200 kg before resettlement in 2016, to 60 kg[40] after resettlement in 2018. Like in the HLG project, the XKM1 project developers' promised fishponds (see Table 12) to Ban Samarkkee villagers were also not seen during the author's follow-up field visit in January 2020. I note that the significant drop of fish catches for Ban Samarkkee and the loss of access to fishery for Ban Houay Lampan villagers can result in significant implications for the villagers' protein intake and food security.

6.5.2 Restricted access to forest resources due to loss of village territory

The livelihoods of resettlers in the two study communities have been disadvantaged by limited access to forest resources after resettlement. There is a large gap of pre- and post-resettlement access to forest products both for cash and non-cash purposes. The gap can be seen from the evidence seen at the old village territories and at the new resettlement sites. Such evidence can also refer to the baseline data presented in the EIA documents of HLG (MEM 2010) and XKM 1 (Xekaman Power Company 2011). In Ban Houay Lamphan, agro-forest areas (mostly shade-grown coffee agroforestry plantations) within and near this village are the property of individuals from the host communities, officials from the Thateng Township, and coffee plantation companies' concessionaires. Many villagers stated that they

reservoir, including fisheries, under their CA. Thus, the XKM1 Company may have agreed with the Sanxay District for private concessionaires for the fisheries in the XKM1 reservoir.

[40] These estimates for fish consumption were generated based on the average weight of fish catch, mainly during the wet season (based on the surveys of 71 HHs in Ban Samarkkee).

require permission from the property owners even for collecting firewood, bamboo shoots, and wild vegetables, all of which were freely available in their old villages (interviews RV1_15; RV1_27; RV1_28, October 2018). Similarly, Ban Samarkkee villagers cannot access forest products nearby to their settlement because land was granted to and cleared by a company for a large-scale agribusiness firm (the large Vietnamese conglomerate HAGL) or are claimed by the host communities. The limited access to common forest for resettlers is also evident in other dam resettlement sites; for example, the Houay Ho resettlement site (Delang & Toro 2011; Khamin 2000) and the Theun Hinboun Expansion project (Blake & Barney 2018).

Given the scarcity of forest products in the resettlement sites, returning to their old village territory for resource collection has been essential in the short- and medium- term for resettlers, and could remain so in the long term. Return re-visits remain possible for Ban Samarkkee residents, despite the approximately 5–7 km distance and associated costs of travel by motorbike or tractor. Meanwhile, return visits for Ban Houay Lamphan villagers have become more restricted than Ban Samarkkee due to greater distance (about 12 km), associated costs and time, and a lack of boats to cross the HLG reservoir. Given a certain distance from Houay Lamphan resettlement site, some villagers set up temporary structures (see Figure 24) for their few days' stay, for collecting forest products and fish. A similar tendency of returning to the old village territory to collect natural resources and for farming has also been evidenced in previous studies in the Sekong Basin, from the Houay Ho project for instance (see e.g., Baird 2013; Delang & Toro 2011; Khamin 2000).

Figure 24 **Temporary structures found at old villages of Ban Pao**

Source: Author (October 2018)

However, despite differences in terms of their return visits to their old village territories, these two study villages have faced similar constraints for their return visits. Besides, they have limited or no rights to claim and have control over natural resources and land in the old village territories, because both study villages were moved outside of their village territories. This newly 'vacant' land in the old village has attracted other nearby communities to seize de facto control over the old village territories, to utilise and claim ownership over the emptied territories and resources. For example, in the HLG Project area, the village authority of the nearby community (which was not resettled) is collecting a tax on broom grass collection from the residents of Ban Houay Lamphan, who return to collect forest products, including broom grass, from their own plantations in their old village area (interviews, RV1_3; RV1_27, October 2018). Besides, the district government of Thateng has restrictions for resettled villagers in access to their old village territories, which have now become part of the HLG dam catchment protection (RFA 2021c). In addition to their loss of rights in the old village territory, their claims within their new resettlement sites remain unclear and uncertain.

The evidence discussed above characterises how resettlers lost their access to natural resources that contributed to their livelihoods prior to resettlement. The losses resulted in significant implications for the study villagers' food security and broader livelihoods. Similar to other rural communities in Laos, the natural capital may be more important for the study

communities than the other four capitals defined in Scoones' (1998) sustainable livelihood frameworks. Here, I present the implications of this for increased vulnerability or old poverty while producing precarity or new poverty (Rigg et al. 2016; Rigg 2005; see also Chapter 2), as analysed below.

6.6 Old and new forms of poverty of resettlers in the study villages

Drawing on the idea of new and old poverty (Rigg et al. 2016; Rigg 2005), this section examines how multi-purpose resettlement and changes in access to natural capital, including land, have exposed the study communities to vulnerability and precarity. The analysis of vulnerability and precarity aims to improve our understanding of old and new forms of poverty, and to what extent and how multi-purpose resettlement as well multi-level scales of resettlement committees supports and constrains sustainable livelihoods of resettled people. I develop these ideas through economic (income sources, income level, expenditure) transitions, food insecurity, and political and socio-cultural contexts in the following sub-sections.

6.6.1 New and old forms of poverty

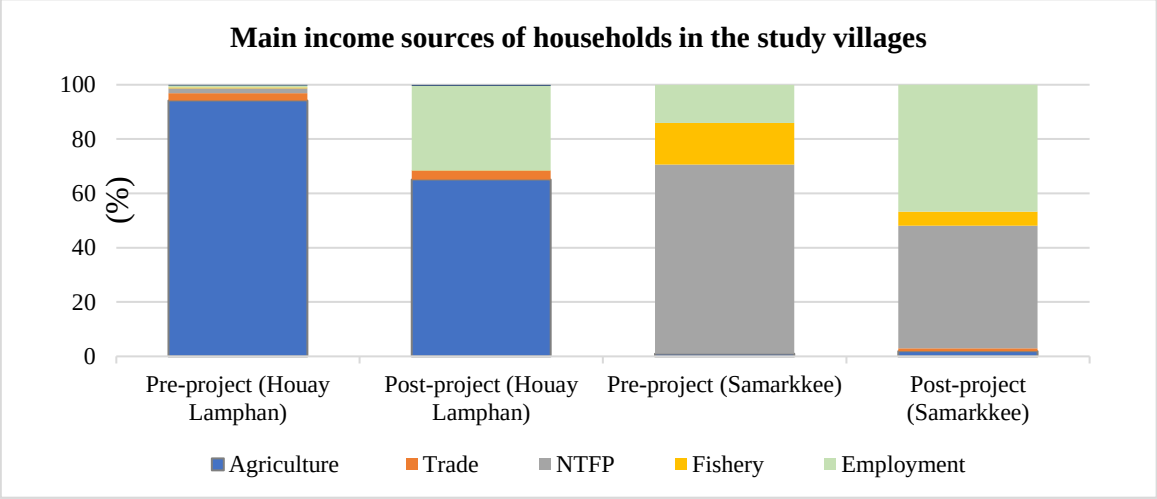
Longitudinal studies (see e.g., Barney 2007; Bui & Schreinemachers 2011; Kura et al 2017; Wilmsen 2016) suggest that resettlers can experience new economic and livelihood vulnerabilities. Resettlers can experience not only a reduced range of income sources and lower income levels than pre-resettlement (see e.g., Kura et al. 2017), but also their increased expenditure for their livelihoods (McDowell et al. 2014, 2015). In both study villages, I document a clear economic transformation post-resettlement in three key areas: cash income sources; income levels; and expenditure.

Transformation of income sources

There is a major shift of main income sources of resettled HHs in both study villages. In Ban Houay Lamphan, according to my surveys of 164 HHs, the pre-resettlement economy of Ban Houay Lamphan was agricultural-dominated, organized through smallholder farming of cash crops such as coffee and cardamom. Post-resettlement, this has largely been replaced by wage labouring (see Figure 25) in the large Vietnamese coffee plantation situated next to the resettlement site. There is also a similar transformation in Ban Samarkkee, but from a natural

resources-dominated source of income to wage labouring, in the huge 10,000+ hectare Vietnamese corporate agribusiness plantation of HAGL.

Figure 25 **Pre- and post-resettlement household income sources of the study villages (median averages)**



Source: Author's surveys (October–December 2018)

From Figure 25 above, the contribution of agriculture (coffee and cardamom) to household cash income in Ban Houay Lamphan substantially decreased, from a median contribution of about 95% prior to resettlement to only about 60% post resettlement. The decrease is mostly a result of the dramatic decline in household land ownership, as highlighted in section 6.4 above. Moreover, only 25% (or 41) of HHs in this village now source their full income from smallholder cash cropping, compared to 77% before resettlement. These 41 HHs are those who received greater compensation cash from their assets (see 6.3.2 above) and invested in new plots of lands for coffee and cardamom cropping (see 6.3.3 above) in the new resettlement site. Meanwhile, the cash income for other 75% (or 123) of HHs that received smaller or no cash payouts, moved to add in wage labour to their reduced smallholder cash cropping holding.

Meanwhile, in Ban Samarkkee, the number of HHs engaged in seasonal wage labouring in the Vietnamese farm of HAGL increased from 40% before resettlement to about 60% after resettlement. Notably, about 50% of these employed HHs in Ban Samarkkee now fully rely on plantation wage labour because of limited opportunities for their fishing activities; the HHs

engaged in fishing for cash income dropped from 65% before resettlement to only 25%. The median contribution of income from fishing dropped from 20% to 10% after resettlement. Similarly, the median income from forest products decreased from 70% to about 45% after resettlement. The decrease is to a large extent a consequence of the GoL's lease of forest land near the Ban Samarkkee resettlement site to the Vietnamese investor, HAGL, for rubber plantation (see Kenney-Lazar 2012).

The resettlers in both study projects are quite fortunate that the large-scale agribusinesses were established near their resettlement sites and provide the resettlers with employment opportunities[41] (see Figure 26). This may also have played an important role in the government's strategy to relocate the affected people to this site, targeting the resettlers to become "wage-earning workers" for Laos' modern agribusiness economy, despite the low wage rates and poor labouring conditions (Baird 2011, p. 19). For example, employment for coffee cherry collection usually lasts from October to December, with daily rates between 40,000-150,000 kip (or US$5–19)/day, depending on the actual quantity of coffee cherries that they can harvest each day. Similarly, in Ban Samarkkee, the daily wage from this farm is a fixed rate of 40,000 kip (or US$5) /day, compared to a standard daily minimum wage of US$3.6 / day[42], for harvesting and weeding in the HAGL plantations. Yet, the increase of people in farm labouring and increasing contribution from these sources does not imply an increase in overall income level, because of inconsistent and short-term employment, low social protections, and increasing competition with host communities.

However, on-farm laboring has implications on gender dynamics after resettlement in the two case studies. Due to lack of livelihood options, especially limited forest and river products for their daily consumption, villagers heavily rely on on-farm paid labouring at large-scale rubber and coffee plantations nearby their resettlement. Importantly, according to FGDs (RV1_21, RVi_27, and RV1_28) and participant observations, almost 90% of daily workers engaged in on-farm paid labouring from Ban Houay Lamphan working at coffee plantations are women. According to the FGDs, this is partly because women have better skills and capacity to pick much more coffee cherries, earning more money. Meanwhile men largely stayed home because there are no forests and rivers for their hunting and fishing activities after resettlement, as they

[41] The median number of working age adults per HH between 16-60 years old is 2.0 and 3.5 in Ban Samarkkee and Ban Houay Lamphan, respectively.
[42] https://theaseanpost.com/article/minimum-wage-across-southeast-asia

used to practise in their old villages. Some of labourers are female children who were illegally employed, leading to a tendency towards school drop-out. Some parents argued that their children need to help earning money otherwise they could not have enough rice to eat due to lack of land for their own crop production and increasing reliance on market.

Figure 26 **Villagers of different ages from Ban Houay Lamphan on their way to Vietnamese-coffee plantation (left) and on their duty at a Vietnamese coffee plantation (right)**

Source: Author (26 October 2018)

Similarly, most women in Ban Samarkkee, especially the households without *tuk-tuk* tractors or motorbikes, have faced increasing vulnerability and inequality after resettlement. Women in this village travel at a great distance for collection of firewood and forest products for daily consumption, in addition to their greater distance for traveling to their upland rice during cropping seasons at their old villages. Besides, women represent a vast majority of seasonal paid on-farm labouring workers at Vietnamese rubber and agribusiness plantations to earn cash income, apart from their daily busy housework (Figure 27). These have burdened workload on women.

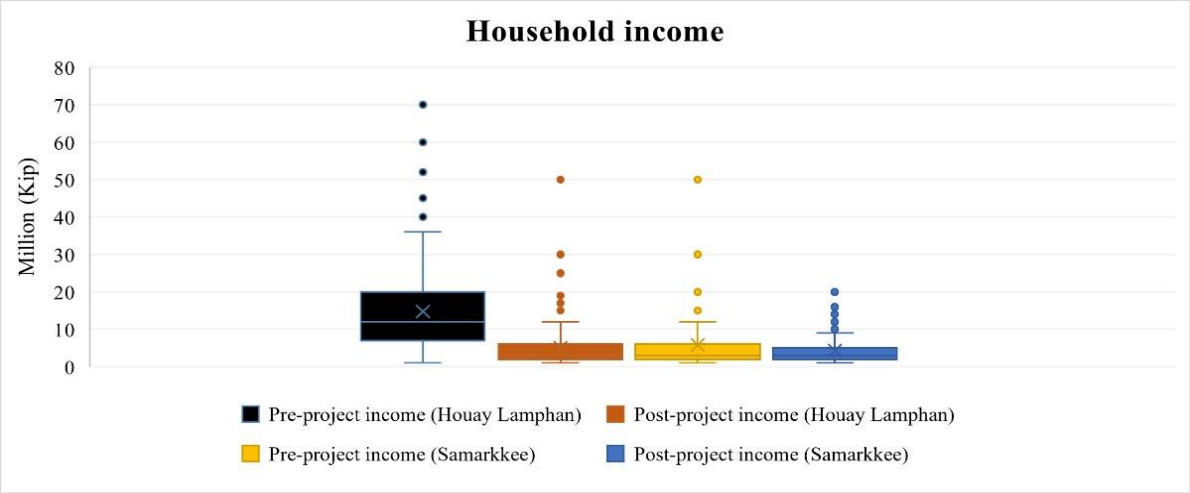
Figure 27 **Rice milling with a wooden mortar and pestle by a woman (left) and transportation of cultivated rice from upland rice field from their old village (right) at the Ban Samarkkee resettlement site.**

Source: Author (26 October 2018)

Transformation of income levels

The post-resettlement changes in income sources discussed above have unequal economic impacts, particularly income levels, amongst different groups of people, notably in Ban Houay Lamphan (see Figure 27). In Ban Houay Lamphan, the overall cash income of the surveys considerably decreased from a median income level of 7 million kip (or about US$875) pre-resettlement to only about 3 million kip (or about US$375) post-resettlement. Meanwhile in Ban Samarkkee, the overall income level of surveyed (71) HHs remained largely unchanged at a median level of 3 million kip (or about US$375)/year/HH. This level could be the lowest income level in rural Laos. The (median) average overall income levels of resettlers have notably decreased more post-resettlement Ban Houay Lamphan than in Ban Samarkkee, while overall income levels in Ban Samarkkee remained quite unchanged (see Figure 28).

Figure 28 **Pre- and post-resettlement household cash income level of the study villages**



Source: Author's surveys (October–December 2018)

In Ban Houay Lamphan, the dramatic decrease of income level represents more than 57% of their median income after four years of resettlement. This is a steeper decline than the findings of Kura et al. (2017, p. 143) for the Theun Hinboun Expansion project, in which the resettlers' level of cash income dropped a 43% decline after three years of resettlement. Other studies (see Sparkes 2014a, 2014b) assert that the resettlers from the Theun Hinboun Expansion project enjoy improved livelihoods post-resettlement. However, Sparkes' assertations seems to present the developers' view of this project, and has been challenged by Blake and Barney (2018). There was a dramatic decline of income level in Ban Houay Lamphan because the majority of villagers can only continue very limited smallholder cash cropping of coffee and cardamom, due mostly to a significant decrease of the size of household agricultural plots post-resettlement, as discussed. This has been the situation of previous projects such as the WB-steered NT2 project, of which Scudder (2020) found that the income of previously categorized as economically non-vulnerable HHs in the NT2 resettled villages dropped, along with their increasing debt.

As with some other IPP projects in Laos, the XKM1 Company's social obligations stipulated in the Concession Agreement (XKM1PC 2011, p. 39) included income targets[43] of 110% and 150% of baseline income levels within two and ten years respectively after resettlement. To meet the targets, the income level needs to grow about 10% every two years, largely through agricultural extension programs. However, most of the programs have failed, due mainly to

[43] Unlike in IPP projects, income target is not set for state-owned or EdL projects, including the HLG project.

insufficient land, but also due to poor implementation of the programs by district agencies (see Chapter 5). These income targets are also vaguely structured because the project developers neither studied nor indicated the baseline household-level cash income in the agreement. Moreover, although it is still quite early to confirm changes to income, I foresee that it is unlikely that their income will increase in any significant manner, and there are no prospects on the horizon that could make this possible. This is due to numerous challenges such as limited agricultural land, restricted access to natural resources, and uncertain labour opportunities with low social protection support, as discussed above.

Overall, although more people in both study villages have some income from wage labouring, this income source cannot substitute their pre-resettlement income levels. In Ban Samarkkee, this income source only barely substitutes for their pre-resettlement natural resources-dominated income. In Ban Houay Lamphan, very limited income from labouring is very much less of a substitute for their pre-resettlement agriculture-dominated income, leaving them no further ahead. Importantly, through wage labouring, resettlers significantly lost their livelihood autonomy and experienced exposure to new hazards through exposure to agricultural pesticides, which is precarity or new poverty (Rigg et al. 2016, p. 66). The changes in income challenged the resettlers' livelihood and poverty risks because of increasing expenditure on food, especially in Ban Houay Lamphan, which will be highlighted below.

Changes in household expenditure

Drawing upon the surveys of the two study communities, the resettlers in both study villages experienced growing expenditure requirements, especially for food, while experiencing decreasing incomes, which can re-produce livelihood vulnerability and create new poverty risks for resettlers. Based on my household surveys, the respondents from Ban Samarkkee reported the relative median household annual expenditure as unchanged both before and after resettlement, at about 2 million kip (or US$250). The expenditure also matches their median income levels before and after resettlement. I interpret that the unchanged expenditure levels can be primarily attributed to the two-year (2017 to the end of 2019) transitional assistance provided by the XKM1 project, especially 30 kg of milled rice/person/month. Unchanged expenditure levels are compounded with some opportunities to access natural resources such as fish and wild food for household consumption, as discussed in section 6.4.

In contrast, the resettlers in Ban Houay Lamphan experienced rising expenditures post-resettlement, given their heavy reliance on markets for their foods. Based on household surveys in Ban Houay Lamphan, 97% of the HHs reported that they have become entirely or partly dependent on food sourced from local markets in Thateng District, including fish, meat, vegetables, and fruits. This figure is the mirror opposite of the 92% who obtained environmental (non-cash) livelihoods from forests, rivers, and agricultural-based crops when they were in the old villages. Importantly, 50% of HHs surveyed, especially those who partly earned income from smallholder cropping and wage labour, spent all of their income without maintaining savings. Moreover, 27 HHs in Ban Houay Lamphan, especially those that did not receive compensation, had greater expenditure requirements than income and, as a result, have fallen into debt to other villagers. The increased cash expenditures, in Ban Houay Lamphan appears to arise from their limited access to natural resources and insufficiency of household-grown crops, notably rice, due to decrease of agricultural land after resettlement.

The increasing expenditure and a substantial decline in cash income after resettlement creates a dynamic of new forms of poverty of resettlers' livelihoods, especially in Ban Houay Lamphan. These new forms of poverty of dam resettlers are additional to Rigg's (2005) conception of new poverty as mentally and instrumentally created insufficiency and dearth due to modernization (Rigg 2005; see also Chapter 2). These forms of poverty are also influenced by external forces through dam resettlement, such as insufficient compensation of crop and land loss, and restricted access to forest and river products due to dam catchment protection. The increased expenditure with decreased income further exacerbated old poverty of simple and meagre lives of subsistent-dominated livelihoods (Rigg 2005) of resettlers, due to increasing food security concerns.

6.6.2 Increasing concerns over food security

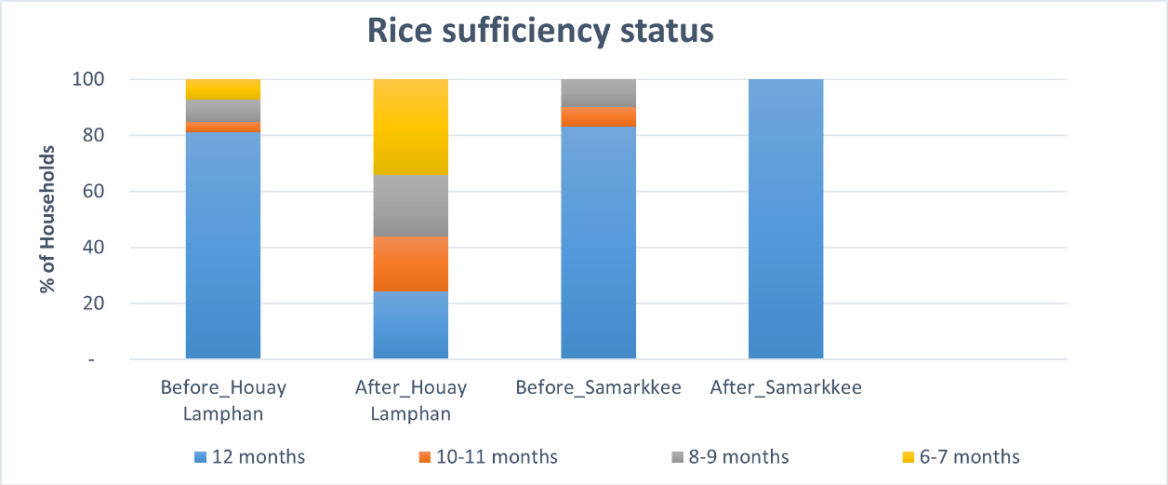
Food insecurity is one of the eight risks caused by development-induced displacement that can impoverish displaced people (Cernea 1997). Food insecurity is also one of the poverty dimensions (McCarthy 2020). This section examines the changes in food security due to limited and restricted access to land for staple crops and restricted access to natural resources that can be both non-cash and cash income to supplement rice deficits and protein (Rigg 2005; Van Der Meer Simo et al. 2019).

The resettlers in both study villages reported instances of food insecurity, especially insufficient rice, which is the primary diet in Laos. In Ban Houay Lamphan, the HLG project provided 20 kg/person/month of rice for 26 months (August 2013–October 2015) as part of the transition-period livelihood support program[44]. However, according to FGDs, since the end of this program, resettled HHs have been unevenly vulnerable to food insecurity, especially between the HHs with high, low, and without compensation (FGDs RV1_25; RV1_28, October 2018). The surveys in this village show that more than 75% of HHs, compared to about 18% before resettlement, reported experiencing insufficiency from their household-grown rice, and becoming increasingly dependent on purchased rice. Rice insufficiency is directly associated with inadequate land-for-land replacement (see section 6.3.3). Post resettlement, only 24% of HHs can secure their household-grown rice from their new rice paddies near the new resettlement site. These HHs can secure new rice paddies because of their high cash compensation, as discussed early.

In contrast, during my surveys in late November and December 2018, no HH in Ban Samarkkee reported having rice shortages, compared to 17% of HH surveyed before resettlement (see Figure 29). This is because the village was still in its two-year transitional assistance period, as discussed, in addition to their household-grown rice from swidden practice in their old village territory.

[44] The HLP resettlement plan (MEM 2010) originally proposed transitional livelihood support, especially rice, for up to six years.

Figure 29 **Pre- and post-resettlement rice security in the study villages**



Source: Author's survey (October–December 2018)

However, 65% of the surveys in this village reported worries about their future food security, predicting that they are like to suffer from rice insufficiency after the end of the company transition-period assistance if they do not receive the planned functional irrigated rice paddies. Their prediction makes logical sense given their entitlements to just a one-hectare plot of upland dry rice with very unproductive soil quality, and, in any case, traditional swidden agriculture for rice cannot be repeated in the same plot for more than one season (see section 6.4.3). For example, according to the household surveys, in 2018 only about 20 of the total 71 surveys in Ban Samarkkee were successfully able to grow rice on these plots, with pitiful yields of a median 0.2 tonnes/hectare. As a result, the allocated land was abandoned (see Figure 30), and since 2019 the villagers returned to their old village territory for swidden rice cropping.

Figure 30 **Abandoned, infertile 'swidden' land allocated to the resettlers in Ban Samarkkee**

Source: Author (04 January 2020)

In addition to household-grown crops, collection of forest and living aquatic products for daily consumption also plays a critical role in the livelihoods of the rural communities in Laos (see Chamberlain 2007; Rigg 2005; Van Der Meer Simo et al. 2019), both before and after resettlement. However, as discussed early, Ban Samarkkee villagers retain some access to environmental livelihoods (albeit greater distance), which helps reduce some level of food security, whereas such livelihoods are not available for Ban Houay Lamphan villagers, as discussed in section 6.5. The increased (for Ban Houay Lamphan) and predicted (for Ban Samarkkee) food insecurity can be characterized as another dynamic of new forms of poverty or precarity, intensifying the old poverty or vulnerability. Resettlers have experienced these negative post-resettlement poverty dynamics, including food insecurity, largely due to limited access to reliable natural resources, decreased agricultural land for production, decline of income while facing increasing expenditure requirements. The hydropower development and consequent poverty dynamics align with the WB's (2017e and 2021) reports, which find that there is a relatively low contribution of resources exploitation, including hydropower, to national poverty reduction.

6.6.3 Social and political precarity

Multi-purpose resettlement, especially consolidation of two or more villages into a designated resettlement site, can support governments' efforts of poverty reduction goals (see Chapter 2). However, villagers in consolidated resettlement sites can be exposed to new forms of political, socio-cultural, and environmental challenges after resettlement, in addition to the economic precarity and food insecurity as mentioned. The exposure can be vital for the case where resettlement consolidated different ethnicities and cultures, coupled with poor studies, and understanding of their cultural backgrounds, for resettlement planning. Table 13 provides a summary of key characteristics old and new poverty in the study villages.

Table 13 **A summary of key characteristics of precarity and vulnerability**

Ban Houay Lamphan		**Ban Samarkkee**	
Old poverty/Vulnerability	New poverty/Precarity	Old poverty/vulnerability	New poverty/Precarity
Economy			
• Low income (a small number of HHs) • Limited access to credit • Cash crops-dominated income sources for all HHs • Spatial distance from town and limited access to some government services and amenities for economic development	• Dramatic decrease of income level for all HHs • Engagement of about 60% of HHs in unsustainable debts, mainly for food • Engagement of significant number of HHs in shorter-term on-farm labouring for income generation • Dramatic growth in expenditure on food • Significant decline in HH's land area for coffee and cardamom	• Low income • Natural resources-dominated income source • Poor village • Spatial distance from a town and limited access to government services and amenities for economic development	• Low income • Labouring-dominated income sources with uncertainty • Increasing expenditure for petrol to go back to old village territory for collecting natural resource products and swidden rice cultivation • Decline in HH's land area for rice cropping
Food security			
• Insufficiency from household-grown rice (18% of surveyed HHs) • Natural resources-sourced food and protein • Shifting cultivation of small (about 25%) • Dependency on household-grown rice and natural resource-based food	• Insufficiency from household-grown rice (75% of surveyed HHs) • Market-dependent rice and food due to very limited access to natural resources • Inadequate production land and poor soil for rice and other crops	• Swidden rice cultivation • Rice shortage for small number of HHs	• Greater distance for swidden rice cultivation at old village territories • Significant decrease of fish catches[a] • Greater distance to forests and rivers for food and income generation
Political and socio-cultural challenges			

• Spatial isolation from the mainstream Lao ethnic population • Gender inequality between women and men • Spatial distance from health service centre	• Resettlement in the territory of host communities, and lack of resettled village's own administrative territory • Intra-village political power conflicts between the leaders of two communities to dominate village administration for their own community interests • Increase of inter-village conflicts in access to common resources • Decline in use of Katu's minority language because of spatial location close to the district township • Growing socioeconomic inequality (between compensated and uncompensated HHs) • Emergence of thefts and spread of illicit drug uses • Increased women's work overload through their involvement in on-farm wage labouring	• Spatial isolation from the mainstream Lao ethnic population • Gender inequality between women and men • Adult illiteracy • Spatial isolation from health service centre	• Resettlement in the territory of host communities, and lack of resettled village's own administrative territory • Intra-village politics between three communities in a resettlement site • Increase of intra-and inter-village conflicts in access to common resources • Decline of Alak and Yeh minority ethic language because of intra-community communication through the national Lao language • Increased women's work overload through their involvement in on-farm wage labouring
	Environment		
		Natural flood-prone communities	Mental-health problems due to risks and fears of possible dam collapse, given the

		location of resettlement site below the XKM0 and XKM1

Note: [a]The decrease is due partly due to no access to reservoir fishery and decline of fish population at downstream, given the fluctuation of hourly water level as a result of the relations between power demand in Vietnam and production regime at the XKM1 station.

Source: Author's analysis

While the XKM1 resettlement program seems to benefit and marginalise resettled HHs in Ban Samarkkee at similar levels, the uneven benefits and marginalisation between HHs within Ban Houay Lamphan are notable. In Ban Houay Lamphan, the families/HHs that received high compensation for asset losses and land-for-cash compensation can purchase sufficient agricultural land. These HHs can maintain good income levels from their purchased coffee and cardamom plantations. They can also source sufficient rice from their new rice paddies, securing food (see Box 1). In contrast, the HHs that receive no or low compensation for their asset losses, coupled with inadequate land with poor quality, are notably exposed to a wide range of precarity such as economic vulnerability, unsustainable debt, and food insecurity (see Box 2).

Box 1: "Improved livelihoods despite some challenges"

A man who heads a household of 11 household members indicates that the livelihoods of his family are improved. He said that his family received about 300 million kip for compensation of irrigated rice paddy, coffee, and cardamom plantations, crop losses. He added that in his old village his family owned many plots of agricultural land with a total land area of 21 hectares, thus, he received high compensation. At the resettlement, he received a type-3 house (four bedrooms). His family also received another 110 million kip [10 million/person instead of 0.16 hectare/person] because of unavailability of agricultural land. After resettlement, given high compensation, his family could afford to buy either existing coffee, rice paddy, and cardamom plantations or new land plots to grow such crops, totalling about 8 hectares, in addition to a truck. He indicated that the annual income of his family considerably decreased from about 50 million to about 35 million kip a year partly because his coffee and cardamom trees are still young. His current income was mostly from the existing coffee plantations that have already given cherries. "We also spend much higher money for our foods, even vegetable and fish because we do not have forests and rivers close to resettlement site". However, he added, in general the livelihoods after resettlement are better because now his family has a better house, a truck, motorbikes and also close to a town, hospital, and schools although they have to rely on market for their food and more expenses (interview RV1_2, 13 October 2018)

Box 2: "I am poor in my old village, but much poorer after resettlement"

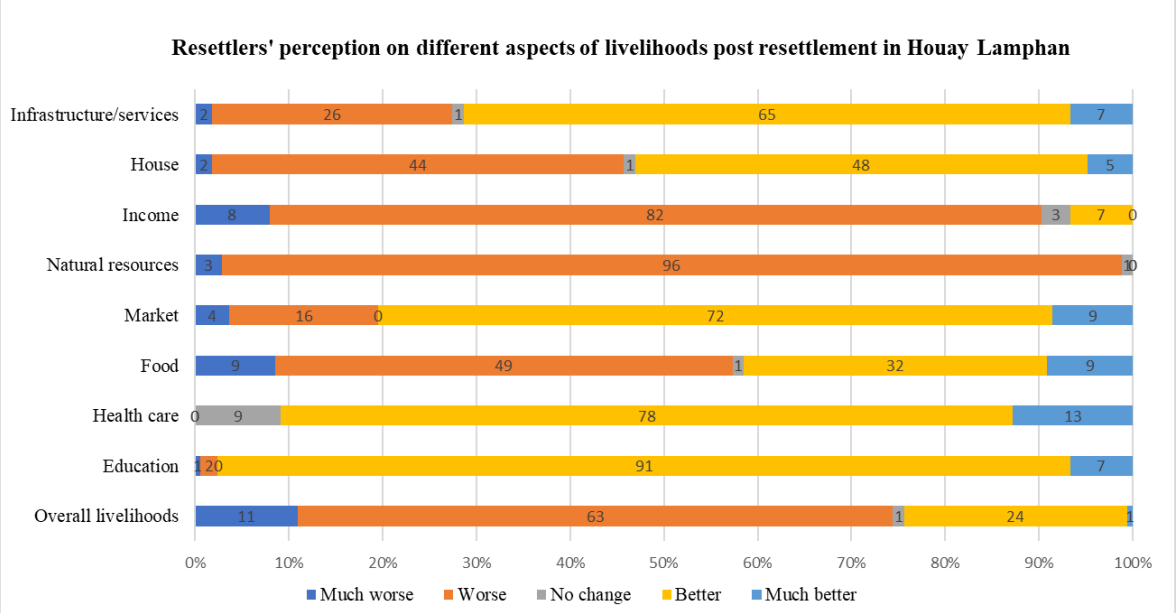
A married man with three very young children said that the resettlement due to the Houay Lamphan Gnai project has made his family status as one of the poorest families before resettlement worse. The resettlement has marginalized this poor family. Like other families in Ban Khon and Pao, before resettlement, EdL—the developer of the HLG—told him that any family will receive a house at a new resettlement site if a family has a family book although it shared a house with another family. EdL planned to not only allocate sufficient agricultural land [4 hectares], but also compensate all affected assets. However, during the resettlement implementation, his family did not receive a house, thus he built a 4x5 m house next to the house of his brother who received a house. His affected assets were also not compensated because these assets were inundated by the project reservoir. For production land, the family received only 0.6 hectare [0.16 hectare/person] of very stony land just next to the Houay Lamphan resettlement site. He said that after resettlement, his family only relied on a daily wage, either from the Vietnamese coffee plantation or other families' plantations, if available, to exchange with daily wage of 30,000-40,000 kip/day, but such a wage cannot afford to purchase rice and food. Thus, his family often needs to ask for rice from siblings and borrow money in exchange for labouring. Importantly and worse, his family, like other people in the resettlement site, cannot freely collect bamboo shoots, wild vegetables, and firewood in the vicinity of the resettlement site. He needs to get permission from landowners because all lands around the resettlement site belong to host villagers. In the old village, he could find forest and living aquatic products for daily consumption. So, he said, "My family become poorer than my poverty before resettlement." (Interview RV1_21, 15 October 2018)

These different experiences of old and new poverty and unevenly benefits and disadvantages, of different groups of people within and across research sites resulted in different perceptions amongst the sites, as discussed below.

6.7 Self-perceived satisfaction for overall livelihood outcome of the study resettlers

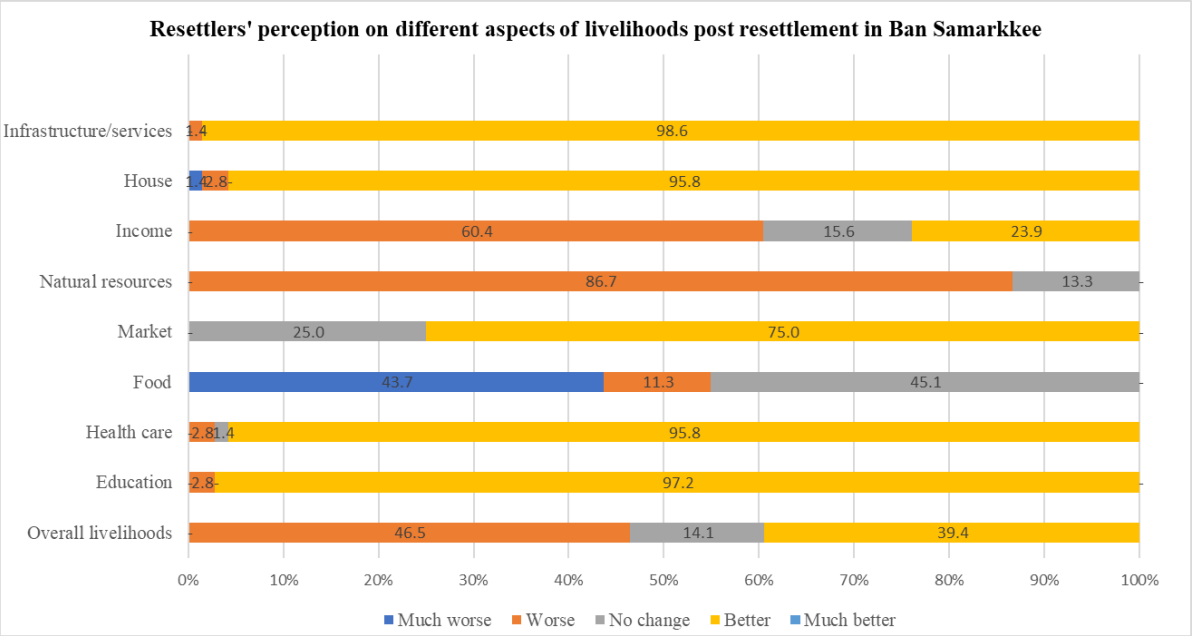
This penultimate section provides the comparative perception of the surveyed HHs in the two study communities toward the livelihood outcomes in different aspects after resettlement (see Figure 31 for Houay Lamphan and Figure 32 for Samarkkee). The information is derived from the surveys of 164 HHs in Ban Houay Lamphan and 71 HHs in Ban Samarkkee.

Figure 31 **Perception on livelihood outcomes in Ban Houay Lamphan**



Source: Author's survey (October–December 2018)

Figure 32 **Perception on livelihood outcomes in Ban Samarkkee**



Source: Author's survey (October–December 2018)

From the different indicators shown in Figure 30 and Figure 31 above, the surveys reveal that a large number of resettlers in both study villages perceived better access to education, healthcare, and infrastructure. However, approximately 75% of the respondents in Ban Houay Lamphan and about 45% of the respondents in Ban Samarkkee are not satisfied with the overall livelihood outcomes after resettlement. The high levels of dissatisfaction well correlate with a decline in their income levels and restricted access to natural resources and agricultural land. About 90% and 60% of respondents in Ban Houay Lamphan and Ban Samarkkee, respectively, indicated that they are not satisfied with resettlement because of their income decreases. Besides, 99% of respondents in Ban Houay Lamphan, compared to 85% in Ban Samarkkee, reported that they have faced limited access to forest and river products for their daily consumption.

Given the comparative analysis above, the number of HHs that perceived positive changes for different livelihood outcomes is quite high in Samarkkee, compared to Ban Houay Lamphan. This suggests that resettlers in Ban Samarkkee seem to have better retained several aspects of their pre-project level of livelihoods than those in Ban Houay Lamphan. There are several underlying factors, which are comparatively analysed throughout this chapter, that shaped the higher level of satisfaction in Samarkkee than in Ban Houay Lamphan. Yet, it is quite early to

confirm this because the surveys in Ban Samarkkee were conducted just one year following resettlement.

I further interpret that lower satisfaction levels in Ban Houay Lamphan characterise weaker implementation of social safeguard policies in the state-owned HLG project. As discussed in Chapter 5, the state-owned projects do not require standard social obligations because they do not need to have a concession agreement. Moreover, there are very little or limited monitoring and audits of state agencies in state-owned projects. Likewise, from the two study communities, I view that implementation and enforcement of environmental and social safeguards vary widely on a project-by-project basis and are often based on negotiation between the government and projects (Milattanapheng 2006). Next, I will draw my conclusion of this chapter.

6.8 Conclusion

This chapter has examined the post-resettlement livelihoods of resettlers in the two study villages belonging to the Katu, Alak, and Yae ethnic minority groups in the Sekong Basin resettled under the GoL's multi-purpose resettlement programs. The study villages represent the IPP and state-owned hydropower projects in Laos, which are under-studied in the scholarly literature. The empirical evidence from the study villages makes it clear that dam resettlement, especially under multi-purpose resettlement, both in IPP and state-owned projects, can help reduce some of the specific infrastructural dimensions of old poverty such as new housing, new roads connecting to district centres and markets, electricity, improved schools, and healthcare stations (Chamberlain 2007; Rigg 2005). As a result, the resettlers in the study village have "materially superior modern lives" (Delang & Toro 2011, p. 577). Access to such infrastructure and services also helps the GoL meet its declared poverty reduction targets, seen in the official designation of one of the study villages as a 'developed village', and a designation pending for the other village. Yet, several components of the provided infrastructure are either not properly functional or insufficient.

However, the reduction of such dimensions of poverty and multi-purpose resettlement for the GoL's agendas does not adequately account for crucial aspects of the occupational pluriactivity for livelihood strategies of rural Lao communities: diverse agricultural activities supplemented with a collection of forest and river products (Rigg 2005). Besides, the different

purposes attached to multi-purpose resettlement seem to be in conflict with each other, significantly compromising resettlers' capacity to reconstruct their livelihoods. As a result, about 75% and 45% of participants for Ban Houay Lamphan and Ban Samarkkee, respectively perceived becoming more vulnerable to poverty than before resettlement. The resettlers in the study villages realised that they could not even retain their pre-project level of subsistence and sufficiency, or "simple lives" or "old poverty" (Rigg 2005, p. 25). Rather, they have experienced new forms of poverty or precarity, influenced by external forces relating to multi-purpose resettlement. These include: increasing food insecurity; decreasing income levels; uncertain income sources and increasing expenditure; intra- and inter-community social and political tensions; exposure to chemical hazards in wage farm labouring; and fears of dam collapse (for Ban Samarkkee). Some of these can characterise precarity or new poverty in Rigg et al. (2016, p. 66). These dynamics of livelihood changes due to hydropower resettlement can provide empirical evidence and support Rigg's (2016) analysis of how the resource-led growth model in Laos has re-produced inequality and poverty, especially for upland communities.

These new forms of vulnerability and causes of dissatisfaction of resettlers are primarily attributable to the inadequacy of agricultural land both for food supply and/or cash income. The land inadequacy in both case studies clearly reflects the fact that only unproductive land may still be available for resettlers; yet, mostly the land allocated to resettlers is already claimed by the host community villagers (Baird & Shoemaker 2005; Delang & Toro 2011), and there are other extensive land-acquired projects such as large-scale agribusiness over allocated land plots as witnessed in the two study communities. This compounds the restricted access to natural resources after resettlement despite the significance of such resources as both non-cash and cash income sources for rural Lao people's livelihoods (Chamberlain 2007; Van Der Meer Simo et al. 2019). These are consequences of ineffective and unpragmatic implementation of multi-purpose resettlement and unjust compensation, especially in the state-owned HLG project. These are also largely contributed to scalar disconnect at national, provincial and district scalar levels, as refracted through resettlement committees established for dam projects.

The comparative analysis from the two case studies and figures (75% and 45% above) further reveals that dam resettlement disproportionately economically and socially benefits and marginalises different groups of resettled people. Across the study villages, there was a

substantial decrease in land ownership from a median size of seven and a half to two hectares, coupled with a significant decline of median household income from seven to three million kip in Ban Houay Lamphan, whereas these seem to be unchanged in Ban Samarkkee. Moreover, the Ban Houay Lamphan villagers were faced with the EdL's lack of contractual obligations (i.e., the CA and its social and environmental obligations) and weaker enforcement of legal instruments and policies, especially compensation, housing entitlement, and livelihood restoration support, than in Ban Samarkkee. Within the community, the disproportionate benefits and marginalization in Ban Houay Lamphan largely resulted from unjust and non-transparent compensation. The evidence from the two study projects depicts the differences in the corporate social obligation and uneven implementation of national policies, social safeguards more specifically, between state-owned and IPP projects, and the nature of project-by-project policy implementation (Milattanapheng 2006).

This chapter has enhanced our understanding of dam resettlement impacts, by highlighting how multi-purpose resettlement, serving governments' multiple (social, economic, political, and environmental) agendas, can make the impacts worse for resettlers than mere resettlement from the project reservoir impoundment areas. The problems of unpragmatic multi-purpose resettlement indeed should not have occurred these days because such problems have already been well documented in past projects since the late 1990s, indeed starting with the first major IPP project in Laos—the Houay Ho project (Baird 2013; Delang & Toro 2011; Khamin 2000). The GoL, especially its multi-level resettlement committees, should have learned the deficiencies of the past projects because there has been significant improvement in legal instruments and institutional arrangements, especially on social safeguards, since then up to now. However, many current hydropower projects, including the two case studies, seem to repeat the past and replicate ongoing mistakes and deficiencies of dam resettlement.

The problems of ineffective (multi-purpose) dam resettlement, and subsequent worse-off livelihoods and new poverty largely result from the institutional and regulatory disconnect of state agencies across levels (see Chapter 5) and lack of inclusive stakeholder engagement in planning and implementing multi-purpose resettlement. The disconnected resettlement planning is further contested by ineffective monitoring of developers' compliance to their social obligations and national policies, especially in the state-owned projects (see Chapter 4), resulting in a "policy-practice divide" (Singh 2012, p. 7). The disconnect and ineffective regulatory practices have resulted in overlapping claims between communities and across

sectors over the land to be used for resettlement site development. Together, these characterise the current debate on the ineffective hydropower governance regime in Laos, regardless of whether the projects are IPP or state-owned. This ineffective hydropower governance demonstrates the challenge of the GoL's policy and efforts for sustainable hydropower development, especially in social realms. These dynamics of multi-level scalar disconnect in relations to political-economic interests of actors at regional, national, subnational levels in development of natural resources, and social-ecological relational changes and adverse livelihood transformation at the community level can be understood through following the "chains of explanation" of Blaikie and Brookfield (1987).

Chapter 7 Conclusion: the Challenges of Sustainable Hydropower in Laos

7.0 Introduction

In this thesis, I have examined the influence of different actors and drivers in the contested political economy of hydropower development and governance and traced how these forces shape and constrain the livelihoods of dam resettlers in Laos. Using the concepts and tools of political ecology, I have identified and analysed this using a multiple scales and multiple levels approach. At the broad Mekong Region level, I investigated the relationship between regional energy demand and energy forecasting, and identified a number of key consequences for Laos related to rapid and imprudent hydropower expansion, with the country to become a regional powershed state. At the national and subnational levels, I outlined how state institutional fragmentation, both in horizontal and vertical dimensions, and regulatory disconnects in hydropower governance, especially relating to safeguard policies, result in ineffective hydropower governance. At the community level, I have analysed the livelihood vulnerability and precarity of dam resettlers in two case study communities, which were moved under multi-purpose resettlement schemes. This analytical approach has allowed for a critical and systematic discussion of hydropower governance issues that emerge at community, sub-national, national, and regional levels, which are inter-linked. The next section summarises key findings of the thesis. Section 7.2 outlines the policy implications of the thesis, while section 7.3 presents the limitations of the thesis and suggests potential avenues for future research.

7.1 The key findings of the thesis

7.1.1 The political economy of Mekong hydropower: pitfalls of rapid dam building

As with other Mekong countries, key electricity demand forecasts in Laos have presented a picture of significant and continuous growth. Yet, the country's projections, coupled with imprudent overexpansion of generation capacity, especially for domestic demand, have strayed significantly from the actual demand and supply, especially since 2016. In Chapter 4, I highlighted the contested hydropower discourse in Laos and the wider Mekong Region through two key points: ongoing substantial oversupply of domestic electricity; and major economic implications for Laos as an indirect backlash of inadequate/sub-optimal regional power interconnection and over-optimism of hydropower development. These points have not

been fully documented and debated in the existing scholarly debate on energy economics and regional power interconnection in the Mekong Region (Baird & Quastel 2015; Chattranond 2018; Lei 2010; Middleton 2012; Middleton & Allouche 2016) and in the wider ASEAN context (Owen et al. 2019). Tracing this helped improve our understanding of the broader production of energy-scapes in the region, especially given that Laos is the centre of current hydropower development for the region and the net power export country in the region.

While Laos does not seem to have oversupply and overexpansion problems with hydropower projects that are aimed specifically for secured export markets, the country has experienced a significant oversupply of domestic electricity, and this is partly and indirectly linked to the enthusiasm for an export orientation, not backed up by sales contracts and export transmission capacity.

There seems to be a prevailing ethos for the energy regulators in Laos of 'build first, find a market later'. The financial success of export-based electricity projects—with secured sales and evacuation infrastructure in place, over-optimism, and construction profit due to risk-shifting to opaque quasi-state corporate entities—seems to have led decision makers in Laos' energy sector to approve numerous additional power projects targeting the monopoly of domestic purchaser and distributor, EdL[45] (see Chapter 4). The GoL has also secured the construction and planning of such approved projects through fixed-term take-or-pay contracts, despite the country's small size of domestic electricity demand, lack of complete nationwide grid systems, and high degree of market uncertainty as to whether the purchaser, EdL, has the capacity to on-sell. I note that some leaders' personal economic interests and their political influence may have driven the signing of such contracts. Rather than political power within EdL, leaders within ministries such as from MEM and MPI, or even higher levels, that have business connections with hydropower investors, could have played a crucial role to advise EdL managers to sign take-or-pay contracts while discounting potential economic risks. These dynamics of the political economy of hydropower, coupled with strong foreign and domestic investors' interests in lucrative hydropower, have resulted in overexpansion in hydropower projects targeting the domestic market, exposing Laos to substantial oversupply. The existing capacity of this I estimate to be at 190% over actual domestic demand for 2020. This

[45] In the future, EdL will also have regional electricity distribution opportunities and responsibility when current export-oriented IPP projects are transferred to the GoL, when the concession of these projects come to the end.

oversupply will not be addressed unless large domestic demand or foreign markets can be realised.

There is no question that the hydropower surge and Lao position as a powershed has contributed to national economic growth and broad socioeconomic development at the national level in Laos. This contribution has been captured through GDP statistics, especially through the investment in hydropower-related infrastructure projects, and maintaining high investment in the power sector for GDP growth remains an over-riding priority for Lao decision makers. GoL export earnings from electricity sales remain low at present, due to the nature of the concession contracts, which postpone greater state revenues into the future. Yet, recently, the GoL has also had to deal with major pitfalls from the rapid expansion and economic over-optimism of domestically-generated electricity capacity. Given EdL's role as the domestic distribution and off-taking monopoly, this has created a major financial crunch, as the state utility has struggled to sell the electricity generated from some projects for domestic supply, including the 1,200 MW Nam Ou cascade. The resulting situation of domestic oversupply, coupled with EdL's rapid expansion of expensive transmission networks and hydropower projects, has exposed EdL and by extension the Lao government to a significant sovereign debt, representing up to two thirds of national debt (Barney & Souksakoun 2021; Financial Times 2020). Consequently, the GoL has been forced to restructure the Lao electricity utility, and to privatise two state-owned banks and other state assets. While these measures might help the public energy sector to lower its debt pressure, the measures would still be difficult to fully avoid a debt restructuring, and potentially, a default.

These issues indicate how different foreign and national hydropower investors and various underlying factors, especially under the GoL's ambition to become the Mekong Region powershed for over-optimistic revenue generation, have created a political economic architecture of hydropower development that has moved beyond ensuring domestic energy security and a sustainable flow of future earnings, but instead has introduced new financial risks in Laos. These risks may further compromise the country's effort to meet a key criterion of the United Nations framework for graduating from Least Developed Country status, particularly the economic vulnerability index (UN 2020). The empirical evidence presented in this thesis has demonstrated the country's ineffective hydropower governance regime, thereby challenging the GoL's policy on sustainable hydropower development, which promotes equal

importance of social, environmental, and economic terms. However, while it is an important rhetorical policy instrument, this policy is neither supported by any decrees or laws nor effectively implemented. On these points, this thesis makes an important and novel contribution to the critical scholarly literature on the Lao and Mekong Region hydropower development paradigms.

7.1.2 The rise of Lao domestic hydropower actors and implications

The increasing role of domestic investors in the Lao energy market, especially from the private sector, has important implications for the existing water and hydropower governance regime in Laos and the Mekong Region more broadly. This thesis has highlighted a major shift from first and second waves actors, involving Western and MDB-backed projects, and regionally backed projects, to domestic hydropower investors or a 'third wave'. These domestic actors have become involved in many dam projects of various scales, which are either in operation, under construction, or in the planning stages, both for domestic supply and exports. This shift reflects the GoL's support of Lao private and state-led corporate actors, to become more actively engaged in hydropower. The shift could also have linked to political and economic relationships between political leaders and third-wave actors. Their relationships can be evidenced from how the MOUs, power development plans, and power purchase agreements for many hydropower projects of various scales were signed or approved despite uncertainty of a power market, lack of comprehensive technical studies, and unclear financial status of third-wave actors. I have interpreted that the rise of domestic investors can help reduce the influence of foreign actors in the sector. Optimistically, the rise of domestic investors could indeed contribute to not only creating job opportunities (albeit small number, especially during the operation period) but also building skills and expertise for local Lao people in the longer term.

However, the rising role of domestic actors and investors also seems to have entailed certain pressures for the Lao state in relation to hydropower regulation and governance, including on social and environmental safeguard issues, in two important ways. First, I show how there are some IPP projects of medium and large scales in which domestic private developers are the sole owners, a new type of investment arrangement, without any equity shares from any state utility. This means that the GoL would benefit from such projects only at the end of their concession periods. In the worst scenario of ongoing budgetary and financial pressures, the

GoL may need to allow domestic actors to extend their concession periods for additional years. Such a scenario may also arise from the fact that the 2017 Electricity Law allows any IPP project to extend a fixed-term concession, but does not specify timelines for extensions. This could amount to a longer-term privatisation of public assets (i.e., rivers and catchment areas), to the disadvantage of the Lao state and the Lao public. Second, there is the tendency that domestic private actors might further undermine existing hydropower governance standards, which are already shaky in many respects, including through limited inclusive and responsible development, low transparency and accountability, and weak compliance to national social and environmental standards. Unlike the first and second waves of hydropower actors, whose projects are governed through national and international regulatory frameworks (Boer et al. 2016), projects of third waves are governed with national legal instruments, but with a large gap between regulations and implementation.

The evidence of the third wave highlighted above has contributed to the existing debate on political economy of hydropower in Laos and the Mekong Region, which has largely focused on the first and second waves (Kaisti & Kakonen 2012; Middleton et al. 2009; Souvannaseng 2019). The rise of the third-wave hydropower actors and their increasing investment capital and reshaped hydropower governance regime has also helped improve and update our understanding, which has argued that foreign actors have significantly influenced the hydropower sector in Laos, in terms of capital, knowledge and expertise, and hydropower regulation and governance regimes (Goldman 2005; Middleton et al. 2014; Suhardiman et al. 2011; Whitington 2012, 2018). The rise of the third wave and reshaped governance regime can also be linked to the existing debate on energy-scapes and energy economics beyond Laos the Mekong Region, given that Laos has already exported hydroelectricity to Malaysia and is in an advanced stage for export to Singapore, for the ASEAN Power Grid program (IEA 2019; Owen et al. 2019; The Straits Times 2021).

7.1.3 High-level but ineffective institutionalisation and competing regulations

Structural institutional fragmentation and regulatory disconnects (both in theory and practice) are pressing concerns for effective hydropower governance in Laos. As analysed in Chapter 5, there has been improved institutionalisation and legislation to support inclusive and cross-sector coordination for effective hydropower governance in Laos. Yet, as evidenced with the broader water governance for the Mekong Region (see Suhardiman et al. 2012), there are

contested and unequal power relations between key ministries regulating hydropower in Laos. Here, I emphasise my original contribution to knowledge on the national and sub-national institutional dynamics of Lao hydropower governance, through the following core points.

I argued that the regulatory disconnects in Lao hydropower largely emerges at the national level where key ministries that hold responsibility for hydropower regulation have overlapping laws and legal standards. For instance, as described in Chapter 5, MEM, MAF and MoNRE have competing legal instruments regarding hydropower resettlement governance. This thesis has also noted how rent-seeking interests and opportunities by different agencies from hydropower projects, the multi-million-dollar funding for hydropower resettlement programs for instance, seem to have incentivised and contributed to such overlapped legal instruments. Such competing political and regulatory power interactions and rent-seeking practices can help us understand the range of problems in hydropower and indeed across the broader resource governance sector in Laos and other developing countries. However, I have noted that the existing competing arrangement of regulatory instruments is only one of several root causes of the disconnects, and that there are also constraints with the effective enforcement of laws. This means better-aligned legal instruments alone will be unlikely to 'fix' the current situation of hydropower governance in Laos.

Meanwhile in Laos, institutional fragmentation occurs both in the horizontal direction—between ministries, and the vertical direction—between national and sub-national agencies. This thesis has highlighted the different characteristics of institutional disconnect, with a focus on safeguard issues. Horizontally, various ministries and their branch offices have formal mandates to engage in hydropower investment and governance. However, these mandates are in tension with, and in competition across, ministries. While revenue-generating agencies compete to dominate hydropower decisions, they have largely overlooked the safeguard requirements in the project approval processes. As evidenced in this thesis and other studies (ADB 2012; Lawrence 2008; Phaengsuwan 2018), many dam projects, at least in the past, received an ECC or even construction work on the ground prior to completion of the required ESIA studies. Besides, these agencies often view the country's environmental agency as a subordinate ministry as opposed to a partner stakeholder. MONRE's position is weak because top political leaders and policy makers view environmental and community protection in resource development as barriers to national development goals and objectives. The contested and unequal power relations of key agencies related to hydropower decisions in

Laos also extend the existing debate of scalar disconnects in water governance in the wider Mekong Region (see Suhardiman et al. 2012). In addition, the evidence of limited political will of state agencies on safeguard standards presented in this thesis highlights key challenges and obstacles for the broader discourse of sustainable hydropower.

Vertically, Laos' key legal and policy directives give certain political and administrative powers regarding decision-making power on hydropower projects to authorities and ministry branch offices at sub-national levels. However, in practice, and based on the evidence in this thesis and the existing literature on decentralisation in Laos (Keuleers & Sibounheuang 1999; Soukamneuth 2006), national ministries often take all means to recentralise or exert decision-making power where possible, for their political-economic interests. To justify their control, national ministries often claim that their branch offices have lower status in terms of technical capacity, transparency, and accountability, in the approval and regulation of dam projects, including safeguard issues. Meanwhile, sub-national agencies pointed out similarly ineffective hydropower governance by national ministries. The similar ineffective hydropower governance can be evidenced through the failure of four dam projects of different scales in the past five years in Laos. The evidence of vertical institutional disconnects on hydropower issues in this thesis has informed the existing literature on decentralisation by arguing that while these disconnects often move through a top-down direction, this thesis has identified bottom-up disconnect dynamics. This thesis has also noted that without meaningful and effective decentralisation of decision-making power, the national ministries can recentralise decision-making power where possible by restructuring national laws for their political-economic interests.

Overall, in Chapter 5, I have argued and contributed to existing literature on institutional disconnects, especially related to hydropower and water governance, in Laos and the wider Mekong Region (Suhardiman & Giordano 2014; Suhardiman et al. 2012) in two ways. First, on their own, better-aligned legal instruments and institutional mandates cannot fully address the institutional disconnects in Lao hydropower, if state actors at various levels do not also improve transparency and accountability, as well as their professional ethics. Second, the mere expanding of institutionalisation and legal instruments are not a solution for current ineffective hydropower governance unless the state actors improve the rule of law. My analysis of 'policy orders' from senior political leaders and multiple actors' interests in rent-seeking from lucrative hydropower is useful to better understand the current complexities of

contested hydropower and water governance across scales and levels in Laos and the Mekong Region more broadly (Daniell & Barreteau 2014; Dore & Lebel 2010). Rather than only in the hydropower sector, uncoordinated and competing dynamics of institutional disconnect across sectors and between national and sub-national levels have also been evident in the agricultural and land sectors in Laos (see Lu & Schönweger 2019). These insights developed in Chapter 5 therefore also make a set of original and important contributions to the broader understanding of the national and sub-national political context of (un)sustainable water and hydropower governance in contemporary Laos.

7.1.4 Multiple agendas of dam resettlement

The primary purpose of dam resettlement is to move settlements and populations to make a way for reservoir impoundment (Heming et al. 2001). Nevertheless, the evidence generated from the two study communities in this thesis, as well as insights drawn from other existing studies, such as research on the Houay Ho project in Laos (see also Delang & Toro 2011; Khamin 2000), indicates that dam resettlement also serves other purposes of government agencies, and this can have implications for dam resettlement outcomes. Informed by the literature on internal resettlement in Laos (Baird & Shoemaker 2007; Évrard & Baird 2017; Évrard & Goudineau 2004; Molland 2017) and elsewhere (Liu et al. 2018; Tan & Li 2013), this thesis has argued that government agencies resettled the two study communities to support and fulfil a more varied agenda, including facilitating access to public services (e.g., schools, hospitals, and markets), moving people closer to urban areas, the shift from upland to lowland agricultural practices, focal site development, urbanisation, forest and soil conservation, and poverty reduction policy. These can be considered as policy narratives, which governments deploy to delegitimate critics (Roe 1994). Government agencies in Laos have viewed limited access to public services, swidden agricultural practice, and natural resources-dependent livelihoods as the main characteristics of rural poverty (Baird & Shoemaker 2007; Chamberlain 2007; Rigg 2005). For the GoL, this in turn means that if government agencies can diminish these characteristics, they can eradicate or reduce poverty. So, it is not surprising that the provincial and district agencies declared many resettled villages, including Ban Houay Lamphan, one of the case study communities in this thesis, as a ‘developed’ village (in Lao, *ban phatthana*).

However, the planning and regulation of these multi-purpose resettlement schemes are often weak and highly contested, leading to sub-standard actual resettlement outcomes. The sub-standard resettlement outcomes can be justified by the gap between committed social obligations of the developers of two case studies and their delivery of inadequate and/or improper housing structures and sufficient agricultural lands for livelihood restoration, and other livelihoods restoration support programs. Chapter 6 in this thesis examined 'ceremonial public participation', and the failures of project developers to adhere to their social obligations as key underlying drivers for such contested multi-purpose resettlement. As with contested public participation in hydropower projects in the Mekong Region (see Yong 2019) and broader public participation literature (Arnstein 1969; Warner 2006), the government agencies and dam developers in Laos, including in the two case study projects, engaged and consulted affected people through formal meetings. However, they did not seriously consider the voice and concerns of affected people regarding resettlement locations, compensation entitlement, and post-resettlement livelihood concerns. This thesis has also provided evidence of how developers can deliberately exclude host community members in the two study villages in the process, despite the host community's ownership and rights over common resources. Such evidence can help improve our understanding of the existing literature on dam resettlement, especially regarding public participation, which has largely focused on resettled communities. The deliberate exclusion and lack of adequate and meaningful stakeholder engagement resulted in occasional and visible resistance both from resettled and host communities (Yeophantong 2020), which was also evident in the two study villages. The exclusion can also result in poorer resettlement outcomes because host communities do not want share with resettlers in access to natural resources and land for agricultural production. This thesis has also provided evidence from the two study villages that resettlement committees and developers can deliberately exclude host community members in the villages in the process, despite the host community's ownership and rights over common resources.

I have thus contributed to scholarly debate on dam resettlement by highlighting how governments' multiple purposes and objectives, including poverty reduction of local communities, attached to dam resettlement can further complicate it. The analysis of such multiple purposes is useful because multi-purpose resettlement can result in more adverse impacts on resettlers' livelihoods than reservoir resettlement. This is because resettled people are often moved far away from natural resources in their old village territories, which are not available, or at least are restricted, in a new resettlement site. The restricted access to natural

resources and agricultural land in a resettlement site largely resulted from the combination of two or more villages into a single village as part of state agencies' multi-purpose resettlement. Chapter 6 in this thesis has provided new and extensive empirical evidence for the problems and outcomes of multi-purpose resettlement for rural livelihoods in Laos.

7.1.5 Livelihood vulnerability and precarity

Lao government agencies have claimed successful resettlement outcomes in many dam projects, largely referring to the delivery of physical infrastructure. However, claims of success largely disregard not only the significance of many other crucial livelihood components but also the reality of livelihood problems, which emerged at resettlement sites. As presented in this thesis, about 75% of the respondents in Ban Houay Lamphan (from the SOE case project) and 45% Ban Samarkkee (from the IPP case project), reported in my interviews that they struggled to retain or restore pre-resettlement levels of semi-subsistence livelihoods, or old poverty, at least from the views of state agencies. I also observed and recorded how these villagers experienced new forms of poverty, or precarity.

The empirical findings and characteristics of livelihood vulnerability and precarity in this thesis link to several root causes. First, this thesis has shown that resettlers in the study villages can access certain types of post-resettlement livelihood alternatives, such as daily on-farm labouring with private plantation firms. However, their daily wages are low and labour options usually last only a few months a year with high uncertainty and competition, with people from many villages and districts. Meanwhile, plantation firms do not engage resettlers in longer-periods of on-farm labouring, such as tapping latex, ostensibly due to lack of skills from the villagers. These findings indicate how government agencies in Laos, like in many other developing countries, seem to have good intentions to diversify post-resettlement livelihoods of dam resettlers, especially through either on-farm or off-farm labouring opportunities. At least in theory, this could support livelihood restoration. Yet, in practice, many, if not most, dam projects not only pay little attention to deliver such opportunities, but also fail to train resettlers with skills that match and take advantage of the local markets available near a resettlement site, to help restore their livelihoods (Singer et al. 2015; Wilmsen 2016).

Second, like in many parts of the world, while project developers in Laos, including the two case study projects in this thesis, develop high-level social commitments in their project documents endorsed by state agencies, they failed to deliver most of their commitments (Scudder 2005). Such experience was clearly evidenced with the state-owned HLG project, one of the two case study projects, which did not provide any livelihood restoration program, with an exception of a very small plot of cattle grazing pilot scheme that completely failed. In many cases, while dam developers implemented some of their commitments, especially regarding livelihood support programs, the success rate is low due to a lack of proper planning and regulation, and insufficient budget for resettlement (Scudder 2005; Cernea & Mathur 2008). This is also the case for the Vietnamese company-owned IPP project, the XKM1, where its agricultural extensions programs for the resettlers in Ban Samarkkee have failed dismally. This is largely due to poor resettlement planning, unproductive soil and inadequate land entitlement, and non-functional irrigation facilities. The gaps between commitments and actual implementation mentioned above can have significant implications for resettlement outcomes. While different governments and international agencies, including WB, ADB, and World Commission on Dam, have improved safeguard standards, dam resettlement more specifically, successful resettlement has remained as little because these standards are not blinding requirements for all dam projects (McDonald-Wilmsen & Webber 2010), especially given that regional state and private banks have increasingly financed a vast majority of dam projects around the world.

Third, the degrees of livelihood vulnerability and precarity of dam resettlers in Laos and many other developing countries highly correlate with the levels of resettlers' access to natural resources, which are a very basic but most critical livelihood component for resettlers' livelihoods. Such a correlation is also clearly evident in the two study villages. As highlighted in Chapter 6, all of the families in the study villages faced significant constraints in securing access to adequate natural resources products in the vicinity of their new resettlement site. This is primarily due to: host community's claim of ownership and access over many such resources; private company's long-term concessions of large areas of land near resettlement sites for large-scale agribusiness; exclusive control over reservoir fisheries to private concessionaires, blocking the villagers in access to fishery opportunities in reservoirs; and state agencies' claim of other areas as hydropower watershed protection zones. These multiple dynamics of tenure conflicts and processes of state and private enclosure of land, water, and forest resources can help shed more light on the existing debate of dam resettlement as to why

dam resettlers can become economically vulnerable and precarious, leading to impoverishment risks (Cernea 1998). In this thesis, I argue that government agencies' multiple objectives in embracing a dam resettlement program significantly add more tensions to tenure conflicts and enclosure of natural resources and land to in reservoir resettlement.

In this thesis I have argued that the constraints discussed above not only undermined resettlers' ability to restore their pre-resettlement levels of livelihoods, but also produced new precarity. These include decreased income levels, increased expense for daily food, growing debt, food insecurity, and problems of intra- and inter-community relationships due to their conflicts in access to resources and socio-cultural difference. The empirical findings from a comparative analysis of old and new forms of poverty of dam resettlers presented in this thesis have helped improve the knowledge on dam resettlement by highlighting how private and state actors' political-economic forces and enclosure of natural resources in dam resettlement, especially under multi-purpose resettlement can result in vulnerability and precarity (see Rigg et al. 2016). In addition, the analysis of old and new forms of poverty in the thesis has contributed to the existing literature on resettlement, which has largely focused on post-resettlement or new forms of poverty with inadequate discussion regarding pre-project old poverty and livelihood vulnerability. Such analysis can help improve our understanding of to what extent and how resettlement can improve and worsen the livelihoods of dam resettlers, to support future dam resettlement planning. The post-resettlement livelihood vulnerability can also be understood through chain of explanation (Blaikie and Brookfield 1987) because such vulnerability is linked to a social-ecological change due to competing political-economic interests across scalar hierarchies and sectors in commodifying common resources such water resource for hydropower generation.

As an overall conclusion, the three-level analysis of hydropower governance of this thesis has indicated how different hydropower governance issues and actors interacted both within and across a particular geographical and jurisdictional scale. The GoL's ambition to export electricity to take advantage of perceived opportunities stepped-up from the Mekong and ASEAN regional power interconnection and strong promotion of investment in hydropower projects, resulted in rapid hydropower expansion. The rapid expansion together with weak rule of law and limited institutional capacity was both due to and resulted in ineffective hydropower governance, with uneven power interplays between key state agencies. While the expansion seemed to support national economic growth and benefit the LPRP for its political

legitimacy and durability, the fallacy and inadequate risk assessment for projects came at the cost of project affected people and the public purpose, with the latter a logical outcome of non-transparent take-or-pay contracts and debt accumulation.

However, ineffective governance has entailed not only unwanted oversupply of electricity and sovereign debt to the GoL, but also livelihood vulnerability of resettlers, and adverse impacts on ecosystems in Laos. These inter-linked hydropower governance issues and contested multi-level and cross-sectoral relations depict the challenges of a multi-level water governance approach in practice, both in the Mekong Region and elsewhere (Daniell & Barreteau 2014; Daniell et al. 2014; Dore & Lebel 2010; Moss & Newig 2010). The evidence also shows that water governance and infrastructure issues, including hydropower, can usefully be understood through the lens of political ecology; given the interdependence of social, political, economic, and cultural relations between different actors with uneven powers, they produce and transform ecosystems and local livelihoods (Matthews 2013; Swyngedouw 2009). Thus, this thesis has also contributed to the literature on the political ecology of water and hydropower. I developed an actor-based political ecology approach by combining political economy, analysis of horizontal and vertical state institutional disconnects, along with local property dispossession and livelihood analysis, through a multi-scaled approach.

The empirical evidence presented elsewhere in this thesis has demonstrated the challenges and constraints to materialise a sustainable hydropower discourse. More specially, the discourse aims to ensure reduction of poverty and protection of communities' livelihoods and their rights in access to resources (land, forest, and water), long-term economic viability at national and local levels, responsible environmental governance. However, while acknowledging some positive contributions to the country's national economic growth, the hydropower development in Laos has shown evidence of challenges for economic, social, environment, and technical sustainability. These challenges consist of oversupply domestic power—technical unsustainability, debt pressure in EdL and a sovereign debt crisis of the GoL, new forms of poverty and precarity, and ecological degradation. Ineffective governance, related to corruption in natural resources development such as hydropower, significantly challenges sustainability discourse. In overall, the sustainable hydropower discourse and relevant policies but are not embedded in policy and decision-making processes and inadequately implemented. Rather they are used as an instrument to support hydropower

proponents' interests to develop hydropower projects for their economic gain with limited benefits to local communities and public interests.

7.2 The policy implications and recommendations of the thesis

The findings in this thesis have implications for hydropower development policymakers at multiple scales and levels, as well as for investors and international donor agencies, in Laos and the Mekong Region. The evidence of ongoing drawbacks from the current hydropower development paradigm in Laos has demonstrated the increasing challenges and need to review the country's energy development policy. The drawbacks include a significant oversupply of electricity generation capacity, immense sovereign debt, and the resulting privatisation of a critical state utility asset. The 2018 collapse of the Saddle Dam D of the Xe Pian-Xe Nan Noy, with severe damage and fatalities, and a few other projects with lesser damage, and multiple forms of livelihood vulnerability of the resettlers in the study communities, provides more evidence of the drawbacks of rapid dam building coupled with inadequate oversight. Private investors and financiers also have experienced financial challenges when they cannot fully generate power as designed or lack markets to transmit their generated power. In some cases, the Xe Pian-Xe Namnoy for instance, developers and financiers can experience not only financial risks, but also loss of their reputation and trust.

These problems, which could be avoided, are the consequences of ineffective hydropower governance by both state agencies and investors. Key characteristics of ineffective governance include limited transparency and accountability, policy orders from top leaders in decision making, lack of political will of state actors at various levels to enforce laws, lack of effective monitoring, and a limited rule of law. These characteristics could also have come at the interests of hydropower investors who often pay little international best practice to maximise their investment profits. After the spate of four dam accidents in Laos, including the major Xe Pian-Xe Namnoy collapse, the GoL has attempted to reform key regulatory instruments, to deal with dam safety and to elevate dam development standards. Yet, the move seems to follow the environmental management strategies of "grow first, clean up later" (Rock & Angel 2005, p. 81). I have argued that the main solution for hydropower governance problems is not only to expand institutionalisation and laws, but also to improve the accountability, professional morals and ethics, and political will of designated state actors at various levels to act on laws effectively. Similarly, there is an urgent need for financiers and

financial analysts to uphold commitments to improve hydropower governance, not least to proper technical, financial, and safeguard due diligence of a candidate project, as opposed to underplaying or shifting risks.

Indeed, one of the challenges for currently (un)sustainable hydropower development in Laos is unequal power interplays between key state agencies involved in hydropower decisions. Laos has quite a well-articulated institutional and legal framework, which has been developed to ensure good governance of natural resources for sustainable development. In addition, each ministry has its autonomy and jurisdiction. However, because of a strong focus on simplistic economic aspects, where risks are underplayed and costs/benefits are inaccurately estimated and incorporated, there are asymmetries between development and sustainability of hydropower, and uneven inter-ministerial power relations between the environmental sector and other key sectors that generate national revenue. As highlighted in section 5.2, MEM and MPI hold a very powerful role in hydropower approval processes, and both agencies often avoid following social and environmental requirements. More generally, senior leaders and decision makers in revenue-generating ministries largely underestimate anticipated social and environmental consequences from development projects and have often promulgated a view that MoNRE and its mandates are an impediment to 'national development' (interviews CG4; CG6; CG7, August 2018). Yet, as also discussed in section 5.2, the weaker role and power of MoNRE in hydropower governance in Laos is a result either of MoNRE's weak technical capacity and limited willingness to implement its social and environmental safeguard policies, or of an intentional move by top political leaders to deliberately keep MoNRE weak, to help speed up development projects.

This thesis has extensively discussed dam resettlement and livelihood issues, which can inform better policy to improve dam resettlement in Laos. There has been steady progress in institutionalisation, legislation, and expertise regarding social safeguards in Laos over the past two decades, especially after the NT2 project. Government agencies also have considered hydropower development as a tool for poverty reduction. Yet, the empirical evidence from the two study communities in this thesis, and other existing studies, confirms that contemporary dam resettlement in Laos has, unfortunately, often replicated past mistakes of resettlement programs in Laos and elsewhere. The mistakes from the Houay Ho resettlement, which took place in the late-1990s, could have catalysed an improvement of dam resettlement responsible state agencies, especially resettlement committees in Laos. The critical and chronic mistakes

related to resettlement involve the inadequate allocation of agricultural land to dam resettlers, coupled with a lack of other alternative livelihood strategies.

For the overall hydropower development policy, the different forms and outcomes of livelihood precarity discussed in this thesis provide a stark contrast with the GoL's poverty reduction objectives. The divergence between state objectives and the practical outcomes is also seen in how the GoL portrays hydropower as a prominent driver for the national economy, but in reality, over expansion of hydropower electricity production capacity relative to markets, incentivised by sales contracts that shift the burden of risks onto quasi-state entities (EdL and Lao banks), has become the main source of sovereign debt of the nation.

7.3 Limitation of this thesis and future research

In this research, my multiple positionalities, as mentioned in Chapter 3, allowed me to earn and gain trust from key informants from state and non-state agencies, to discuss insights of critical issues related to hydropower development, especially related to social and environmental safeguards. These issues have largely remained sensitive, and it is relatively difficult for non-Lao researchers to access such insights of hydropower issues and other resources development projects in Laos. However, although I gained significant benefits from my positionalities to obtained insightful data, there are other challenges from my position as a local Lao researcher and government official to explicitly publish such sensitive issues, in comparison to foreign scholars. The limited freedom of research and challenges is quite common not only in Laos but in other single-party states such as China and Vietnam (see Turner 2013).

For the conceptual framework and areas of research, there are two main limitations that emerged in this thesis, which can be considered for future research to better understand the broader political ecology of hydropower.

First, for the broader hydropower governance context, in this thesis I have discussed the rise of the third wave or domestic Lao private hydropower actors and their increasing vital role in the Lao hydropower sector. However, I could not provide empirical evidence of how IPP projects both for domestic and export orientations led by these new Lao private actors are regulated, especially regarding safeguard standards. I note that there has not been any research

on a dam dominated by Lao domestic private investors. Indeed, by the end of 2020, these investors already operated 27 dam projects of different scales; they also invested in at least ten projects, which were under construction. Thus, future research on these types of projects in terms of local hydropower actors' financial arrangements, engagement of state and local actors, and interaction with national and international safeguard standards in their projects, would help improve our understanding of current hydropower and water governance regimes and energy-scape changes in Laos and the Mekong Region more broadly.

Second, this thesis engaged in a comparative analysis of resettlers' livelihood changes in relation to two hydropower projects with different regulation regimes, between state-run and IPP projects. Resettlement of Ban Samarkkee took place less than one year prior to the field research for this thesis, compared to about five years for Ban Houay Lamphan. In Ban Houay Lamphan, resettlers had lived in the resettlement for about five years by the time of my field research and may have understood and realised a fuller picture of resettlement outcomes. However, in Ban Samarkkee, the developer of the XKM1 project was still delivering transitional-period rice supports to the villagers, and the allocation of agricultural land was delayed due to land conflict with a host community. I forecast that the drawdown of rice support, and due to lack of production land, failed livelihood restoration programs, and the contested relations between host and resettled communities regarding land issues and access to natural resources, could increase resettlers' disatisfaction and heighten livelihood concerns. Thus, the obtained data from Ban Samarkkee may not fully represent the post-resettlement livelihood issues of the resettlers in this site, as the resettlement was in its comparatively early stages, and the resettlers of Ban Samarkkee may not have fully realised the actual and fuller scale of costs or benefits from resettlement. For future research of dam resettlement, especially for comparative analysis, researchers need to consider similar temporal scale of compared case study projects, and develop longitudinal studies to help understand the fuller picture of costs and benefits of dam resettlement.

This thesis argues that structural institutional disconnects, along with the inter-ministerial power plays, are fixable, with increased political will, to improve the rule of law, transparency, and the accountability of key hydropower-related ministries in the hydropower governance regime in Laos, especially in relation to safeguard issues. There is a need in Laos to move away from the political norms of senior officials' 'policy orders', towards a rule-based governance regime, with a separation between technical, financial and political powers

in hydropower decision making. Yet, the nature of party-state power relations, the structure of authoritarian political-administrative power, the limited political will to implement laws, and rent-seeking interests in a development project, can all constrain such a move. The improvement of hydropower governance and policy in Laos can help benefit wider groups of Lao people across sectors and levels—improving the livelihoods of resettlers, materialising poverty reduction objectives of national and sub-national state agencies, and moving towards an approach of sustainable hydropower in Laos and the Mekong Region more broadly, which genuinely engages with the social, economic, and environmental dimensions in an integrated manner.

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Appendix 1

List of key informants

No	Organization	Position	Code
1	Local environmental consultancy	Managing Director	EC1
2	Local environmental consultancy	Deputy Director	EC2
3	Local environmental consulting firm	Director	EC3
4	International environmental consultancy	Manager	EC4
5	International environmental consultancy	Consultant	EC5
6	International environmental consultancy	Consultant	EC6
7	Local environmental consultancy	Managing Director	EC7
8	National University	Researcher	AC
9	IUCN	Manager	IO1
10	World Bank	Consultant	IO2
11	IFC	Consultant	IO3
12	Mekong River Commission (MRC)	Consultant	IO4
13	World Wildlife Fund (WWF)	Consultant	IO5
14	MRC	Consultant	IO6
15	Power company	Division manager	PC1
16	Power company	Manager	PC2
17	Power company	Division Manager	PC3
18	Power Company	Deputy Managing Director	PC4
19	Power Company	Managing Director	PC5
20	State department at central level	Deputy Director General	CG1
21	State department at central level	Director of Division	CG2
22	State department at central level	Director General	CG3
23	State department at central level	Technical staff	CG4
24	State department at central level	Head of Division	CG5
25	State department at central level	Deputy Director General	CG6
26	State department at central level	Deputy Director	CG7
27	State department at central level	Director General	CG8
28	State department at central level	Deputy Director General	CG9
29	State department at central level	Deputy Director General	CG10
30	State department at central level	Director of Division	CG11
31	State department at central level	Director General	CG12
32	State department at central level	Deputy Director of Division	CG13
33	Provincial government department	Deputy Director of Section	PG1
34	Provincial government department	Deputy Director General	PG2
35	Provincial government department	Deputy Director General	PG3
36	Provincial government department	Deputy Director General	PG4

37	Provincial government department	Deputy Director of Section	PG5
38	Provincial government department	Director General	PG6
39	Provincial government department	Deputy Director General	PG7
40	Provincial government department	Director of Section	PG8
41	Provincial government department	Director General	PG9
42	Provincial government department	Director of Unit	DG1
43	Provincial government department	Deputy Director of the office	DG2
44	Provincial government department	Deputy Director of the office	DG3
45	Provincial government department	Deputy Director of the office	DG4
46	Provincial government department	Office Director	DG5
47	Provincial government department	Office Director	DG6
48	Provincial government department	Resettlement Committee member	DG7
49	Focal point development office	Head of the Focal Point	DG8
50	District-level government office	Senior official	DG9
51	State-owned Enterprise	Senior officer	SE1
52	State-owned Enterprise	Senior officer	SE2
53	State-owned Enterprise	Senior officer	SE3
54	State-owned Enterprise	Senior officer	SE4
56	Ban Hoauy Lamphan	Villagers	RV1
57	Ban Samarkkee	Villagers	RV2

Appendix 2

The household survey form for the research

<table>
<tr><td colspan="3">I. Survey information</td></tr>
<tr><td>Survey number:</td><td>Name of interviewer:</td><td>Date:
Time:</td></tr>
<tr><td>Village code:</td><td>Household number/code:</td><td>Interviewee contact number:</td></tr>
<tr><td colspan="3">II. Interviewee’s identification</td></tr>
<tr><td>2.1Name:</td><td rowspan="3">2.4 Ethnicity:
1= Brao 6= Katu
2= Kriang 7= Lavy
3= Nhaheun
4= Ta'Oi
5= Harak/Aluk
8= Oy 9= Yrou
10= Yae</td><td rowspan="3">2.5 Relationship to the family:
1= Husband,
2= Wife,
3= Father/mother,
4= Son/daughter,
5= Brother/sister
6= Others (specify)</td></tr>
<tr><td>2.2 Age:
1= 18-25, 2= 25-40, 3= 40-55, 4= 55-60, 5= >60</td></tr>
<tr><td>2.3 Household type:
1= Wealthy 2= Middle income
3= Poor/below poverty line</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="3">Willingness of respondent to the survey: 1= Fully participated, 2= Neglect to answer some questions
3= Intentionally withdrawn from the interview</td></tr>
</table>

III. Household demography							
	3.1	3.2	3.3	3.4	3.5	3.6	3.7
	Gender	Age	Relation to respondent	Education level	Religion	Primary occupation	Secondary occupation
Household members	1= Male 2= Female		1= Spouse 2= Father/Mother 3= Son/Daughter 4= Brother/Sister 5= Other	1= Illiterate 2= Not attending school 3= Elementary 4= Secodary 5= High school 6= College 7= University	1= Buddhism 2= Animism 3= Christian 4= Others	1= Agriculture 2= Aquaculture 3= Animal husbandry 4= Gardening 5= Seasonal employment 6= trading 7= Fishing 8= Public servant 9= Hired labourer 10= Pupil/Student 11= Other	
1							
2							
3							
4							
5							
6							
7							
8							

IV. Facilities and utilities for household

Types of utilities and facilities		List the selected option
4.1 Water use	**Washing** 1= Water supply 2= Namlin (in-househ tap) 3= Namlin (communal tap) 4= Stream/river 5= Communal wells 6= Private wells 7= Rainwater	
	Cooking 1= Water supply 2= Namlin (in-househ tap) 3= Namlin (communal tap) 4= Stream/river 5= Communal wells 6= Private wells 7= Rainwater	
	Bathing 1= Water supply 2= Namlin (in-househ tap) 3= Namlin (communal tap) 4= Stream/river 5= Communal wells 6= Private wells 7= Rainwater	
	Drinking 1= Boiled water 2= Unboiled water 3= Filtered water 4= Bottled water 5= Both unboiled and boiled water 6= Others	
Sanitary system	1= Ventilated improved pit (VIP) latrine 2= Simple pit latrine 3= No toilet	
	Cooking 1= Electricity 2= Generator 3= Solar energy 4= Battery 5= Biofuel-sourced energy 6= Gas	

Power	7= Firewood 8= Charcoal 9= Others	
	Lighting 1= Grid electricity 2= Generator 3= Solar energy 4= Battery 5= Biofuel-sourced energy 6= No energy supply	

IV. Household's property/physical asset (prior to and after resettlement)

4.1 Home-based assets								
Asset	Quantity	Asset		quantity		Asset	Quantity	
	Before	after		Before	after		before	after
1= Bicycle			11= Pump			21= Iron		
2= Motorbike			12= Satellite dish			22= Heater		
3= Car			13= Mobile phone			23= Water boiler		
4= Tractor			14= Home telephone			24= Microwave		
5= Generator			15= Bank saving money			25= Computer		
6= TV			16= VCD/DVD			26= Boat		
7= Radio			17= Speaker			27= Electric saw		
8= Electric fan			18= Rice cooker			28= Others		
9= Rice mill			19= Washing machine					
10= Fridge			20= Air-conditioner					

4.2 Land assets										
Number of land plot	Before resettlement: 1= 1 2= 2-3 3= 4-5 4= >5					After resettlement: 1= 1 2= 2-3 3= 4-5 4= >5				
Land plot no	1	2	3	4	5	1	2	3	4	5
Size of each plot (hectare)										

Type of Land ownership 1= Permanent 2= Temporary 3= Rent										
Land document 1= Land use certificate 2= Land use right 3= Land tax 4= Inherited land without document 5= Rent document 6= No document										
Regular use 1= Yes 2= No										
Type of agriculture 1= Upland cultivation 2= Lowland with rainfed 3= Lowland with irrigation										
Production/year (Kg/ha) 1= Rice 2= Maize 3= Coffee 3= Sugarcane 4= Cassava 5= Others										
4.3 Animal holding										
	1= Cow	2= Buffalo	3= Goat	4= Pig	5= Poultry	1= Cow	2= Buffalo	3= Goat	4= Pig	5= Poultry
Do you hold livestock 1= Yes 2= No										

If yes, how many										
If no, why (describe)										
Change of livestock population 1= Disease 2= Better management 3= Support by project 4= Buy more livestock										

4.4 House structure	Before resettlement	After resettlement
House size (m^2)		
House type 1= Concrete / cement house (2 floors) Before resettlement 2= Concrete / cement house 3= Wood / Cement house (2 floors) 4= Wood house (tin roof) 5= Wood / Bamboo house		
Roof 1= Tin 2= Tile 3= Thatch 4= Bamboo		
Ceiling 1= Cement 2= Wood 3= Bamboo 4= Nothing		
Wall 1= Cement 2= Wood 3= Bamboo		
Floor 1= Cement 2= Wood 3= Bamboo 4= Earth ground		

V. Natural resources/assets

Do you collect some natural resources? (If yes, please answer the questions where appropriate in this table-can select more than one option)

	Period (before or after resettlement)	Before	After

5.1 Water resources	Sources	1= Stream 2= River 3= Natural lakes/ponds 4= Rice filed		
	Products	1= Fish 2= Crab 3= Other animals 4= Weed/vegetable		
	Frequency of collection (Dry season)	1= Everyday 2= Twice/wee 3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Frequency of collection (wet season)	1= Everyday 2= Twice/week 3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Purpose of collection	1= Household consumption 2= Sale 3= Both		
	Estimated weight of collected product during a year: ……price/kg.....(kip). Total estimated value (calculated by the interviewer)			
5.2 NTFPs	Sources	1= Village production forests 2= Protected forests 3= Outside village boundary 4= Old agriculture land		
	Products	1= Vegetable 2= Mushroom 3= Bamboo 4= Wild root crop 5= Herb/medicine 6= Rattan 7= Other products		
	Frequency of collection (Dry season)	1= Everyday 2= Twice/week 3= Once/week 4= Twice/month 5= Once/month 6= Never		

	Frequency of collection (wet season)	1= Everyday 2= Twice/week 3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Purpose of collection	1= Household consumption 2= Sale 3= Both		
	Estimated weight of collected product during a year:……price/kg.....(kip). Total estimated value (calculated by the interviewer)			
5.3 TFPs	Sources	1= Village production forests 2= Protected forests 3= Outside village boundary 4= Old agriculture land		
	Products	1= Firewood 2= Timber 3= Handicraft (bamboo) 4= Other products		
	Frequency of collection (dry season)	1= Everyday 2= Twice/week 3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Frequency of collection (wet season)	1= Everyday 2= Twice/week 3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Purpose of collection	1= Household consumption 2= Sale 3= Both		
	Estimated weight of collected product during a year:……price/kg.....(kip). Total estimated value (calculated by the interviewer):			
5.4 Wild animals	Sources (ငတ္တ၍)	1= Village production forests 2= Protected forests 3= Outside village boundary 4= Old agriculture land		
	Products	1= Large wide animals 2= Small animals 3= Other products		
	Frequency of collection (Dry season)	1= Everyday 2= Twice/week		

		3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Frequency of collection (wet season)	1= Everyday 2= Twice/week 3= Once/week 4= Twice/month 5= Once/month 6= Never		
	Purpose of collection	1= Household consumption 2= Sale 3= Both		
	Estimated weight of collected product during a year:……price/kg .....(kip). Total estimated value (calculated by the interviewer)			

VII. Income and expenditure

Period (before and after resettlement)		**Before**	**After**	**Remark**
6.1 Income				
Estimated annual income levels (million kip) 1. <1 2. 1-5 3. 5-15 4. 15-30 5. 30-50 6. 50-100 7. >100				
Income sources	Agriculture	%	%	
	Trade	%	%	
	NTFP/TFP	%	%	
	Fishery	%	%	
	Handicraft	%	%	
	Transport	%	%	
	Employment	%	%	
6.2 Expenditure				
Annual expenditure (million kip) 1. <1 2. 1-5 3. 5-15 4.15-30 5. 30-50 6. 50-100 7. >100				
	Food	%	%	

Expenditure	Clothes	%	%	
	Furniture and appliance	%	%	
	Transportation	%	%	
	Agriculture	%	%	
	Education	%	%	
	Health	%	%	
	Electricity	%	%	
	Social welfare/activities	%	%	

VIII. Food security

Period (before or after resettlement)		**Before**	**After**
Is your household secured with rice for entire year? (If no, continue with next questions)	1= Yes 2= No		
How long can your households be secured with the self-grown rice?	1= 10 months 2= 9 months 3= 6 months 4= <3 months		
How does your household manage when you face the food/rice insufficiency?	1= Livelihoods sale 2= Laboring 3= Borrow money from others 4= Donation from others//state 5= Support from power company		
In addition to the rice, where does your household's daily food (crops, meat, and vegetable) come from?	1= 100% from market 2= 70% from market 3= 50% from market 4= 30% from market 5= 100% from household farming		

X. Hydropower development and livelihood transformation					
9.1. Evaluation of asset losses and compensation	1= Strongly disagree; 2=Disagree; 3= Not sure; disagree; 5= Strongly disagree				
	1	2	3	4	5
Your households were informed and engaged in the assessment and valuation of lost assets					
Valuation of land, crops, built structures was appropriate and acceptable					
Valuation and computation of lost assets was undertaken with the participation of your household and village authority					
Prior to the valuation and computation for compensation, were you given an opportunity to negotiate or raise your concerns					
All valuation and design of the unit price was carried out in deliberative processes of all stakeholders involved					
Measurement and assessment of asset losses was very accurate and reliable					
Affected households were engaged in designing and judging unit price for compensation					
your household received the same compensation unit price as other households for the same types of assets					
Every household were treated and compensated with the same standard					
The RMU for the project were very helpful to ensure transparent and accountable valuation and compensation					
The compensation for asset losses is reasonable and satisfactory					
All lost assets were compensated					
The compensation for all lost assets was taken place prior to resettlement					
Your household received replacement of lands in the old village with lands in the new villages with equitable size					
The RMU, district and provincial authorities were engaged in the compensation process					

9.2 Resettlement					
Your households and other were well informed about the resettlement plan					
You were given different alternative sites for resettlement					
Households and village authorities had visited the proposed sites for resettlement prior to the resettlement					
Houses and communal infrastructure and necessary facilities were prepared and ready for the affected household to move in					
Land allocation for agriculture and other uses were prepared prior to the resettlement					
The affected households are entitled with land titles (certificates) for the allocated lands					
Quality of the provided houses and facilities are satisfied with standard specified in the resettlement plan					
Actual resettlement implementation is consistent with the proposed plan					
9.3 Livelihood restoration					
The project provided the households with sufficient rice and other types of food during the transition period (3-5 years)					
The project/government has introduced diverse activities for livelihood restoration to the affected households					
Your family received adequate lowlands for cultivation					
The project has also provided some technical supports and skills for agricultural practice, fishery, off-farm livelihood activities					
In addition to allocated lands and technical skills, project also provided the households with financial support for livelihood restoration					

To ensure the effective restoration of the affected community, the project have regularly conducted monitoring and appraisal					
Quality of living standards of your households has been gradually improved/better off since we have moved to the new village					
9.4. Hydropower development and livelihood transformation					
A. Improvement of livelihoods					
Livelihoods become better off after resettlement than in the old village					
Better access to government services					
Better education for young people					
Improved health service					
Better food security					
Better access to market for trading					
More opportunities for employment for households					
More variety of income sources and resulting in higher household income					
A better house for household					
Better communal infrastructure and facilities					
More convenient transportation and access to the new village					
B. Access to resources					
Your household and others can collect more NTFP and TFP than in the old villages					
More forests for our community to collect and utilize forest resources					
Your household can catch more fish than in the old village					
It is more convenient for water use (for drinking, washing and bathing) compared in the old village					
Your household still relies on forests and rivers for our sources of food products					
You can earn more income from forest resources					
You can earn more income from water resources					
C. Land for agriculture production					
Sufficient land for agricultural production is provided by the projects					
More access to additional lands for agriculture, in addition to given by the project					
More low land agricultural land is available in the new village					
Increasing agricultural productivity					
More varieties of agricultural practices/cropping system					
Households can access better agricultural techniques and knowledge provided by the project					
Improved and assured food security for your household					
D. Social structure change					
Better relationship and connections among villagers and					
More income gaps among households					
Improved gender equality					
Reduced workload for women					
Local culture and traditions are maintained and preserved					
Better solidarity amongst different ethnic groups					
Emerging social class and income gaps amongst households					

9.5 Household's strategies coping with problems in the new resettlement	
Problems	Strategies
Food insecurity	
Insufficient land use for agriculture	
Limited access to resources	
Limited sources for income generation	

Social and cultural change	
New agricultural practice/activities (from upland to lowland cultivation)	
From river dependent to non-river dependent livelihoods	

XI. Overall opinion for the hydropower development and your livelihoods

	Level of impact	**Score**	**Reason**
☐	Very positive impact	(1)	
☐	Moderately positive impact	(2)	
☐	No impact	(3)	
☐	moderately negative impact	(4)	
☐	Severely negative impact	(5)	

Appendix 3

The semi-structure interview form for the research

Research project and purpose of interview

First of all, I would like to thank you for your agreement and willingness to participate in this interview. Your participation and personal view to my questions and discussion will be very useful and important to my research project and your views are highly appreciated.

Your participation in this research is completely voluntary, and your name or other personal information will not be identified in this research, unless you are specifically willing to be identified. If you agree to participate, you will be asked to formally consent to the interview, either in a writing or oral consent form. You may also decline to answer any questions after your participation to the interview, withdraw your comments and participation from the interview at any point up until the material is prepared for publication.

The main purpose of the interview is to obtain your understanding and perception about the hydropower development and resettlement and implication for livelihood transformation you are now experiencing. The interview will also discuss how the concerned company and government agencies have implemented compensation, resettlement, and restoration of your livelihoods as well as how have you cope with the new livelihoods in the resettlement site. The interview would last for approximately one and a half hour.

During the interview, a record will be undertaken, but your confidentiality and privacy is assured, so do not feel threatened by the recording. Recording is essential for the transcription and the analysis of information for my research report. The recorded information will be strictly kept as confidential, and no disclosure of the information to a third person.

Interviewer:..... Interview number: .....
Place of interview:..... Date : .....
Name of informant:..... Age: .....
Respondent's occupation:..... Contact number: .....

Section A: Dam development and implications

1. How do you view hydropower development?
2. How does the project impact/benefit you and your community? (List the benefits and costs to your community)
3. To what extent do you agree with hydropower development and its benefit to your community?
4. What was your impression and perception when you first heard about the project and resettlement plan?

Section B: Perception on regulations, policy implementation, information disclosure

1. What is your understanding about the state regulations and policies related to compensation, resettlement, and land use?
2. Did any public officers provide you/the community of any information associated with regulations, policies, and laws about hydropower development and rights of the local communities during the project implementation?
3. What kind of information have you received about the project (the company, project background, benefit, impacts, the rights of the community)?
4. How did you access the information about the projects?

Section C: Institutional arrangement

1. In addition to the usual village-level organizations, what kind of organizations exist in your community? How have the organizations been established?
2. How do you view the resettlement management unit (RMU) for this project?
3. Have organizations at village levels have been engaged in the RMU?
4. Have any formal village-level committees been established for the resettlement purpose? And when were they established?
5. Which communication channels can households use for issues related to negotiation, compensation, and resettlement, and livelihood restoration (district or provincial authorities, power company)? -what processes?
6. To whom can you express your opinion about the project related to compensation/resettlement/livelihood restoration?
7. Besides, the RMU and state organizations, what other organizations do you collaborate with (including informal institutions)?
8. Have the organizational structures in the new villages remained the same to the old villages? -How are the structures established?

Section D: Perspectives on compensation, resettlement and livelihoods restoration/transformation

1. What did you intended to do when you were asked to leave your lands and move to the new resettlement site?
2. How have the compensation, resettlement, and livelihood restoration been proceeded?
3. How have you and other households from the community been actively engaged in the processes?
4. Did you have an opportunity to negotiate with the company/state regarding the compensation and resettlement plans/implementations?
5. What measures did the power company/the government take to ensure the participation of the communities and being responsive to the issues raised by you or other households?
6. What measures did the power company and the government implement to minimize your asset lost and ensuring a most appropriate compensation method, resettlement and better livelihoods?

7. How did you received and manage the cash you received from the compensation? – Are you satisfied?
8. How is your ownership to land entitled in the new village? - How about in your old village?
9. How do you perceive about the natural resources (water resources, forest resources, etc.) in the new village for the community? - How about in the old village?
10. How do you use rivers and water resources (both in the new and old villages) - their importance to your daily livelihoods)?
11. How do you view the difference between river-dependent and river-independent livelihoods (for Houay Lamphan Gnai resettled households only)?
12. Did you know that your family would get lesser land for agriculture in the new village than in your old village? -What were you informed about this?
13. Do you think what are the hardships/opportunities/conveniences involved in living in the new and old village sites?
14. What are your most impressions and discontentment for the compensation, resettlement, and livelihood restoration in the new resettlement?
15. Have you or your household members employed by the project. If yes, please provide details (length of employment, wage, employment type, etc.)?

Section E: Cumulative impacts

1. In addition to this hydropower projects, have you benefited from and been affected by other projects (e.g. mining, other dams, industries, agrobusiness, etc.) nearby? - How have these projects challenged your current livelihoods?
2. In which way can the projects and government policies affect villagers' livelihoods?
3. Are there any government policies or plans that could undermine or contribute to the village development and household livelihoods?

Section F: Challenges for resettlement and livelihood restoration

1. What are the main problems have you experienced with the resettlement and livelihood restoration in the resettlement site (agriculture/social articulation/resource access/availability, etc.)?
2. What are the important deficiency and difficulties of the power company/state that they could not implement? -what they should do?
3. How do you and other households cope with challenges/problems in the new resettlement site to ensure better and sustainable livelihoods?