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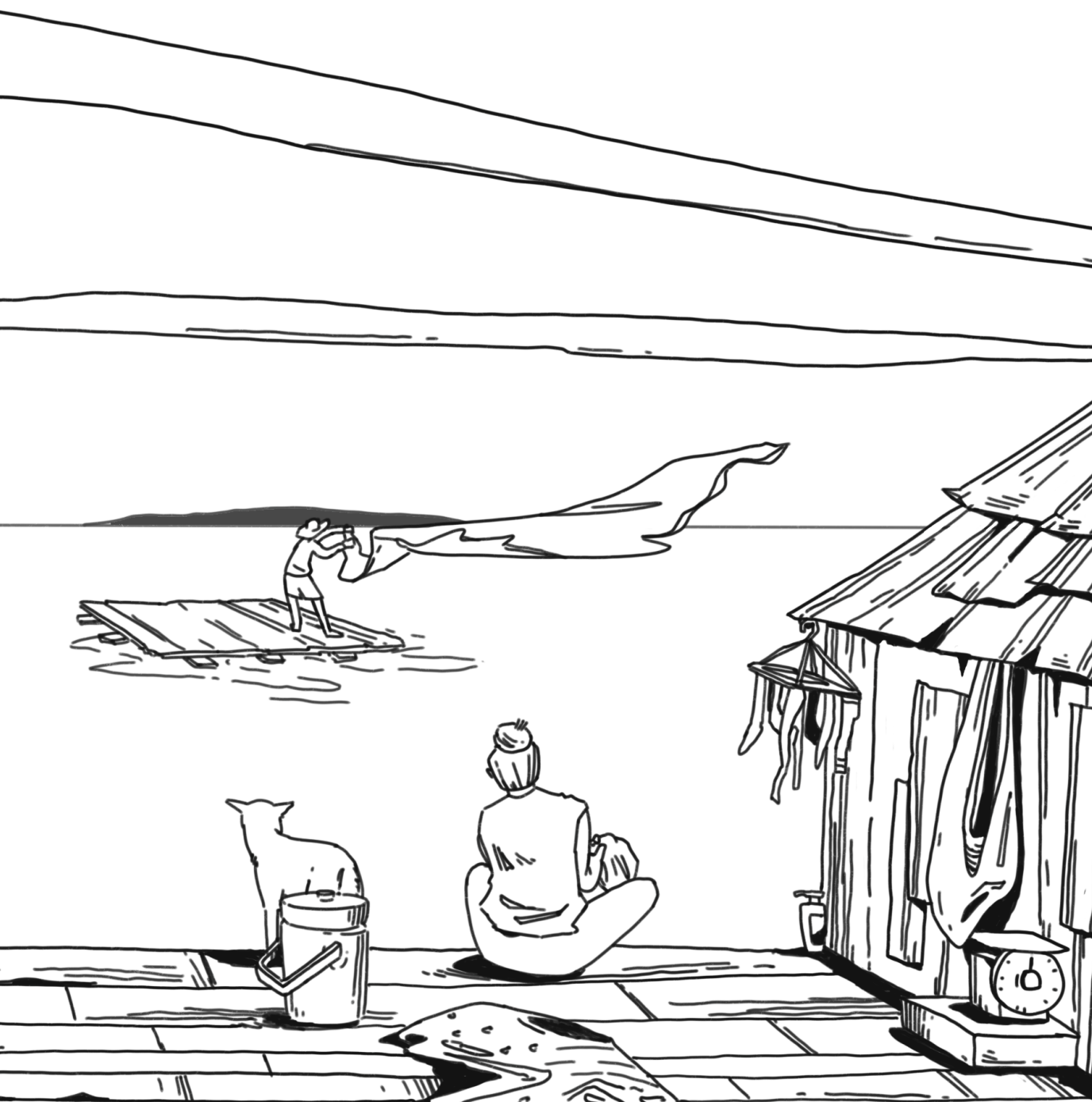
THE DISPLACED

Disrupted Trade, Labour, and Politics in the Mekong River Basin



Publisher Information

'The Displaced: Disrupted Trade, Labour, and Politics in the Mekong River Basin' is published by the Konrad-Adenauer-Stiftung's Regional Economic Programme Asia (SOPAS).

Editors: Brahma Chellaney, Frederick Kliem
Copy Editor: Floreza Alpuerto
Publication Coordination: Cristita Marie Perez, Sakuya Iwakawa
Design, Layout, and Typeset Artist: Monnyreak Ket

ISBN 978-4-9911837-8-2

Publisher

Konrad-Adenauer-Stiftung Japan Office / Regional Economic Programme Asia (SOPAS)
Officially registered as: Konrad-Adenauer-Stiftung Association Japan
OAG-House #4F 7-5-56 Akasaka, Minato-ku, Tokyo, Japan

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www.kas.de/japan

Manuscript offers, review copies, exchange journals, and requests for subscription are to be sent to the publisher. The responsibility for facts and opinions in this publication rests exclusively with the authors, and their interpretations do not necessarily reflect the views or the policy of the Konrad-Adenauer-Stiftung.

THE DISPLACED

Disrupted Trade, Labour, and Politics in the Mekong River Basin

Edited by

Brahma Chellaney
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Foreword

Rabea Brauer, Cristita Marie Perez

The Mekong River flows in six countries—Cambodia, China, Laos, Myanmar, Thailand, and Vietnam, supporting the livelihoods of at least 70 million people. It is a crucial socioeconomic centre of mainland Southeast Asia, with its agricultural and fisheries sectors producing much of the region's staples. The Mekong River basin is a complex ecosystem and has been made increasingly vulnerable to human manipulation, with recent events showing that activities in the hydroelectric sector have caused a serious breakdown in the aforementioned sectors. Changes in the Mekong River's water levels due to increasing upstream water use have a large impact on the availability of fish and the volume and quality of agricultural produce in the delta. Pollution management and effective transportation arrangements are also regional issues that need practical and pragmatic solutions.

The population of the Lower Mekong Basin is among the world's poorest. A significant portion of Cambodia, Laos, and Vietnam still subsists on incomes below the poverty line. Even Thailand, the richest among the four Lower Mekong Basin countries, is still grappling with poverty. In addition, the outset of the COVID-19 pandemic has put the Greater Mekong Subregion's population in a more economically precarious position.

The Mekong has also become a focal point for geopolitical contests among different power players in the region. The management of natural resources, infrastructure, and connectivity within the Mekong is subject to contentious interests and value systems. The volume *The Displaced: Disrupted Trade, Labour, and Politics in the Mekong River Basin*, published by the Konrad-Adenauer-Stiftung's (KAS) Regional Economic Programme Asia (SOPAS), contains country-specific papers or case studies on trade, labour, and China's growing political influence in the Greater Mekong Region. Topics include (1) labour migration and displacement in the Mekong River basin, (2) the impact of pandemics on economic and social patterns, (3) interregional trade and growing competitiveness, and (4) geopolitical issues resulting from coercive water and energy politics, among others. The chapters also provide discussions on how each state's respective national framework attempts to address these issues.

The 'Mother of Waters' is heavily troubled. There is an immediate need to reset the institutional rules that are either too outdated, lack regulatory teeth, or fail to substantially address both old and emerging concerns. If governments fail to do this, a unique ecosystem will die, in effect destroying the lives of millions of people.

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Water, Energy, Climate Change, and Geopolitics in the Mekong River Basin: An Introduction

Brahma Chellaney

Abstract

The sharpening geopolitical competition over the Mekong's resources is stoking underlying tensions, fostering competition, and exacerbating impacts on ecosystems. Integrated management of transnational water resources through interstate collaboration is essential to prevent their degradation, depletion, and pollution. China's refusal to accede to the 1995 Mekong treaty, however, has stunted the development of a genuine basin community. And by building megadams in its borderlands to harness the river's hydropower reserves, China has unilaterally reengineered the Mekong's flow, leaving downstream states dependent on its goodwill. Water is intimately linked with climate change. Human-induced changes in the hydrological cycle are contributing to climate variation and recurrent drought in the basin. Transparency and rules-based cooperation are at the heart of the challenges in the basin, which needs a holistic approach to managing its natural resources.

It is often said that hydropolitics will shape our future world, given that water is potentially the new oil. Nowhere is this truer than in the Mekong River basin, where water-related issues are casting a lengthening shadow over geopolitics, intercountry and intracountry equations, diplomacy, and environmental protection (Brauer & Kliem, 2017).

The water resources of the Mekong—continental Southeast Asia's lifeline—are coming under growing pressure due to several factors. These include frenetic dam building, especially in the river's upper reaches, rapid economic development in the lower-basin countries, China's ravenous energy demands, the downstream countries' unslakable thirst for water and electricity, climate change, and the increasing use of the river as a cargo thoroughfare. Together, these factors are contributing to environmental stresses and natural-resource degradation, raising serious concerns over the long-term condition of the Mekong.

Mekong: The Lifeblood for Downstream Countries

The 4,880 km Mekong, whose watershed is shared by six countries, is Za Chu ('Water of Stone') to the Tibetans, Lancang Jiang ('Turbulent River') to the Chinese, Mae Nam Khong ('Mother of Rivers') to the Thais, and Cuu Long ('Nine-Tailed Dragon', because of its nine branches that form the delta) to the Vietnamese. The Mekong flows from the Tibetan Plateau into Laos, Thailand, Cambodia, and Vietnam, besides forming part of Myanmar's borders with China and Laos and Thailand's frontier with Laos.

The Mekong is listed as the world's twelfth longest river. But in terms of its yearly discharge of water, it is the world's eighth biggest river. It drains an area of 805,604 km^2, which is about the same size as the basin of Europe's largest river, the Danube, which flows through Central and Eastern Europe. More significant is the fact that after Latin America's Amazon, the Mekong is the world's most biodiverse river, with an estimated 1,245 species found in its waters. The Food and Agriculture Organization of the United Nations ranks the Mekong basin as 'the world's most productive freshwater fishery, accounting for over 15 percent of global annual freshwater fish catch' (FAO, 2020).

In China, the fast-flowing Mekong is a magnet for its dam builders, although the river largely runs through the country's borderlands. But for the downstream countries other than Myanmar, the river is a critical lifeline. For Myanmar, the Mekong essentially is a border river, whose drainage basin covers just 4.2% of the country's territory. In fact, much of the Mekong basin falls in just three countries—Laos, Thailand and the farthest-downstream Vietnam, from where the river empties into the South China Sea.

The Mekong's role as a trade route between China and the downstream states has significantly increased since the time Chinese engineers dynamited a series of rapids and rocks at the beginning of this century to make the river more navigable. Trade by riverboat just between China and Thailand jumped by more than 50% in the first 10 years after such dynamiting.

Since time immemorial, the Mekong flowed unimpeded from the Tibetan Plateau into continental Southeast Asia. This changed following China's annexation of the Tibetan Plateau in the 1950s and its subsequent focus on damming the Mekong just before the river leaves Chinese-controlled territory.

Today, water and energy are at the centre of the intercountry friction in the basin on how to utilise the Mekong's resources. At the geopolitical level, there is an apparent divide between the lower-riparian nations and the upstream-water controller, China, whose economic and military might looms large in the region and beyond. With China not averse to leveraging its might, its equations with the downriver countries in the Mekong basin represent 'an extreme asymmetry of power relations' (Viriyasakultorn, 2009, p. 16).

There is also a divide in the downstream basin, although it is more nuanced. The basin priorities of the different downriver states are not exactly the same. Laos, although the smallest state in the basin in terms of population, is the single largest contributor to the Mekong's flow. Laos, which wants to become the 'Battery of Southeast Asia' by exporting electricity to its neighbours, has sought to harness the river's hydropower potential so as to earn hydro dollars. Thailand's Mekong focus is more broad-based. It seeks to exploit the Mekong's resources for energy, irrigation, and fisheries. Myanmar's interests in the basin are largely marginal because the Mekong is essentially a border river for the country.

Cambodia, despite seeking to build some smaller dams, emphasises conservation to help protect the Mekong's unique hydrology, which is pivoted on a cycle of seasonal flooding and drought. Cambodia's ecologically delicate Tonle Sap lake-and-river system is a huge breeding ground for fish. Vietnam, for its part, is the most vocal of the basin countries on the downstream impacts of upstream activities. After all, its delta region is most affected by upstream activities. More than 18 million Vietnamese live in the Mekong delta, known as the 'Rice Bowl of Vietnam'. This fertile region has transitioned into a diverse food basket (WUR, n.d.).

What stands out, however, is the absence of common political values in the Mekong basin. As the European experience shows, intraregional cooperation can be significantly advanced through common political values. In the Mekong basin, the basin states are very different in terms of their political systems, although all the downstream countries are members of both the Association of Southeast Asian Nations (ASEAN) and the Mekong River Commission (MRC). Since the February 2021 coup, Myanmar has been again

under a military dictatorship. Thailand is only slightly different—the country's army chief, since staging a coup in 2014, has remained ensconced in power in civilian garb, with the support of an increasingly unpopular king. China, for its part, is the world's largest, strongest, and longest-surviving autocracy, which increasingly is oriented to the primacy of the Communist Party. Laos and Vietnam are also under Communist-led systems, but the two countries' authoritarian model is different from China's or from each other's system. Cambodia is an authoritarian democracy, at best.

One fundamental issue of concern in the Mekong basin, with its rich biodiversity, relates to the impact of human alterations of the fluvial ecosystem on the natural flow regime. The Mekong is an economic lifeline for more than 60 million people, many of them subsistence farmers and fishermen, in the downstream regions. Today, the river system's natural hydrology and ecology are under dire threat from overexploitation of its resources, including the reengineering of its natural flows largely for harnessing energy. The Mekong ecosystem is also being endangered by widespread logging in the river's catchment areas and the consequent riverbank erosion. Add to the picture the intensive application of chemical fertilisers and pesticides in the Mekong floodplains, wastewater inflows into the river, and the use of explosives and other non-traditional fishing methods—all of which contribute to degrading the ecosystems.

Even as new plans to build more dams and expand irrigation are being pursued, changes thus far in land use have already had negative impacts on water and land quality and also on river flows, in addition to the disappearance of habitats for a number of species. The loss of about 70% of the original forest cover in the basin exemplifies how land use has been drastically altered.

The human-induced impacts highlight the imperative for integrated basin management so as to address the depletion of water resources, land erosion, environmental degradation, threats to biodiversity, and tensions among multiple and competing state users. Integrated management demands the active involvement of all stakeholders, especially the six national governments, to create a true Mekong basin community.

Water and Energy Demands Sharpen Hydropolitics

One often-ignored fact about the Mekong basin is that the river system's flow varies considerably from season to season. During the summer monsoon season, the average flow reaches 475 km^3 yearly. But in the dry season, it plummets to barely 17% of that figure. The wide interseasonal variations in flow make Vietnam and Cambodia most vulnerable to the impacts from upstream interventions through hydroengineering.

The basin countries that value the Mekong more for its hydropower potential than for its water resources are principally China and Laos. Their dam planners are attracted by the fact that the Mekong's altitude falls precipitously as the river flows from the Tibetan Plateau to Yunnan Province and then from Yunnan into the region where the borders of Myanmar, Laos, and Thailand converge. The river's waterfalls make large-scale hydropower exploitation commercially appealing.

One critical factor behind the basin's sharpening hydropolitics, however, is China's unilateralist actions. Its unilateralism has ignored downstream concerns about adverse impacts, even as recurrent drought is heightening those concerns. The Mekong, instead of overrunning its banks in the summer monsoon, has, in recent years, flowed at distressingly low levels, thereby depleting fish stocks and setting back rice production. Alarm bells rang in July 2019 when, according to the inter-governmental Mekong River Commission, the river's water levels fell 'below those that occurred in 1992, which was by far the year with the lowest flow on record' (MRC, 2019).

Laos is a middle riparian in the Mekong basin. The Laotian catchment region generates 35% of the Mekong's yearly flows. China's unilateralism encouraged Laos to draw up an ambitious programme, largely with Chinese technical and financial assistance, to power its development through hydropower exports. The Laotian ambitions to rely on natural resources to expand the national economy have triggered considerable unease in Cambodia and Vietnam, which are located further downstream.

But the ambitions of resource-rich Laos to become the battery of the region are already exacting a heavy price. Laos is the latest nation to fall prey to China's debt-trap diplomacy, which is redolent of colonial-era practices.

Struggling to pay back Chinese loans, Laos signed a 25-year concession agreement in the autumn of 2020 allowing a majority Chinese-owned company to control its national power grid, including electricity exports to neighbouring countries (Zhai & Johnson, 2020). The action came at a time when Laos's state-owned electricity company's debt had spiraled to 26% of the country's gross domestic product (GDP).

China, instead of first evaluating a borrower country's creditworthiness, including whether new loans could saddle it with an onerous debt crisis, is happy to lend—because the heavier the debt burden on the borrower, the greater China's own leverage becomes. The concession agreement Laos was compelled to enter into fits with what one new international study has found—that the agreements China signs with borrower countries often incorporate provisions that go beyond standard international lending contracts, thus arming the Chinese government with considerable leverage (Gelpern et al., 2021).

To tap its natural resources, Laos agreed to give deep-pocketed Chinese state-run companies an important role in harnessing its rich hydropower and mineral reserves. But now China has effectively taken control of Laos's electric grid and, by extension, its water resources. This holds important implications for environmental security and sustainable development in landlocked Laos. Control of Laos's electric grid arms China with significant leverage over a country with just seven million citizens. China's power to dim all lights in Laos leaves little wiggle room for its tiny neighbour, which is already reeling under its staggering debt obligations.

Cambodia too is becoming China's client state by relying on Chinese financial, design, or engineering assistance in pursuing its water, energy, and other economic projects. A U.S.-led approach to isolate it has left Cambodia with little choice but to depend on China. As Cambodian Prime Minister Hun Sen said in mid-2021, 'If I don't rely on China, who will I rely on? If I don't ask China, who am I to ask?' (Nikkei Asia, 2021). Yet such is the growing Chinese influence over Cambodia that Beijing cancelled US$90 million of Cambodia's debt, only to secure major new contracts (Greer, 2017). Cambodia thus is a cautionary tale of how international isolation pushes an economically vulnerable nation into China's arms. Myanmar could be next.

More broadly, water and energy projects are sharpening the geopolitics in the Mekong basin. In addition to the projects in Laos and Cambodia, many of which involve Chinese state-owned companies, Thailand is toying with the idea of taking water from the Mekong to its arid areas, besides planning its own hydropower works and agreeing to buy electricity from Chinese and Laotian upstream projects. In the lower basin, some of the Laotian and Cambodian projects hold transboundary implications, besides potentially endangering freshwater species such as the Mekong giant catfish, which is the size of a car, and the Mekong stingray, which can weigh more than a tiger.

Meanwhile, as if to underscore the intensifying geopolitics, the United States has replaced its Lower Mekong Initiative (LMI), which it launched in 2009, with the Mekong-U.S. Partnership with the five downstream countries. The United States announced the new Mekong-U.S. Partnership in September 2020 with an initial US$153 million fund to encourage collaboration, including on hydrological-data sharing, disaster management, and addressing transboundary crime (U.S. State Dept., 2021). With its emphasis on 'partnership'. the Mekong-U.S. Partnership is designed as a counterpoise to China's unilateralism.

China, for its part, has advanced its Lancang Mekong Cooperation (LMC) mechanism initiative, with the objective of helping to control the narrative in the basin (Beech, 2020). Unlike the MRC, of which China is not a member because of its refusal to become a party to the 1995 Mekong treaty, the LMC carries no binding commitments or legal obligations (MRC), 1995). The LMC allows China to be the basin leader without bearing any legal responsibilities.

In fact, the LMC was designed to try to marginalise the MRC and make redundant the Mekong treaty. Through its actions, including offering to share hydrological data with downstream countries through the LMC, China has sought to ensure that the LMC is the only game in town in the basin. And to help Chinese state-owned companies to win lucrative contracts, the LMC has sought to export China's domestic model of regulating rivers with dams and other structures to make them more useful for communities, including for flood control and drought relief.

China's Dams Roil Downriver Countries

In a region where China consciously has sought to project an image of benevolence and brotherhood, recurrent drought has created a serious public-relations problem for it. For years, China has been compelled to counter popular perceptions in the lower basin that its giant upstream dams, by siphoning off river waters, are the cause of the frequent droughts (Fuller, 2010). The Mekong's historically low levels in recent years, however, have failed thus far to deter China's ambitious hydroengineering plans. While denying its dams are stealing shared waters, China's response to the frequent droughts has been to ramp up construction of more dams and reservoirs.

If the Mekong is under threat today, it is largely due to a series of Chinese-built megadams near the border of the Tibetan Plateau, just before the river crosses into Southeast Asia (Nijhuis, 2015). The 11 dams currently in operation have a total electricity-generating capacity of 21,300 MW. That is more than the installed hydropower capacity of all the downriver countries combined. The Chinese megadams are clearly wreaking environmental havoc (Ono, 2018). For starters, by reducing the flow of freshwater and nutrient-rich sediment from the Himalayas into the sea, the megadams are causing a retreat of the Mekong delta in southern Vietnam. The resulting seawater intrusion is forcing rice farmers to switch to shrimp farming or growing reeds.

Moreover, hydropower development through 2040, including several more Chinese megadams under construction or planned, will likely lead to a 40% to 80% decline in fish stocks (by biomass), according to the Mekong River Commission. Migratory fish could disappear across much of the basin. Dams are also disrupting the Mekong's annual flooding cycle, which helps to refertilise farmland naturally by spreading nutrient-rich silt, besides opening giant-fish nurseries.

China's first two dams on the Mekong—the 1,500 MW Manwan, completed in 1996, and the 1,350 MW Dachaoshan, built 131KM downstream of the Manwan and commissioned in 2003—'noticeably reduced the annual downstream flow of vital flood-borne silt and aggravated the effects of a prolonged drought' (Cronin, 2007). Then the 750 MW Gongguoqiao Dam and the 1,750 MW Jinghong Dam came up in rapid succession. The fifth Chinese dam—the 4,200 MW Xiaowan, which rises 292 m and is located on one of the

uppermost Mekong points—has a 15 billion m^3 reservoir extending some 170 km^2. Xiaowan is higher than Paris's famed Eiffel Tower. But dwarfing Xiaowan, if not in height but volume, is another Chinese dam—the 5,850 MW Nuozhadu, a greater water appropriator whose 190 km^2 reservoir holds nearly 22 billion m^3 of water. Nuozhadu was followed by five more giant dams on the Mekong.

With China set to build even more dams, concern is growing over the hydrological stability of the Mekong, on which the livelihoods of so many poor people depend. China's upstream hydroengineering infrastructure holds the threat that the Mekong could become like the ecologically degraded Yellow River, a symbol of the disaster wrought by human alterations of natural flows (see Ma, 2004; Liu et al., 2020). China's reengineering of the Mekong's hydrologic regime is endangering the basin's seasonal and permanent wetlands and Cambodia's unique Tonle Sap lake-and-river system—a huge nursery for the Mekong's fisheries and a moderator of the severity and duration of flooding in Vietnam's 'Rice Basket', the Mekong Delta. The Tonle Sap's buffering role is critical to downstream agriculture and fisheries (Cronin, 2009, p. 149).

Against this background, transparency has emerged as an important intercountry issue in the basin, with downriver states wanting China to provide detailed technical information on its dams. The downstream countries' mantra is to seek 'more information, more cooperation and more coordination' from China. Beijing, as one analyst has put it, ought to 'share data with downstream countries from its numerous monitoring stations and reservoirs upstream, something China has been loath to do since the first dam was built three decades ago' (Eyler, 2020). The Chinese government, however, has been reluctant to share such data with coriparian states. It has also shied away from sharing either design information about its dams, including precisely how much water is being held in reservoirs, or its own environmental and hydrological assessments of the projects' likely effects.

Simply put, China continues to plough a lonely furrow, rejecting the pleas of the downstream states for an institutionalised basin-wide framework for cooperation. While remaining outside the Mekong River Commission (MRC), it has long dragged its feet on the issue of transparency about its

hydroengineering works on the upper Mekong (Richardson, 2009). China, like Myanmar, participates in the MRC's annual meeting as a 'dialogue partner' while steering clear of membership. Without the membership of the dominant-riparian state, China, the intergovernmental MRC cannot serve as an effective mechanism for integrated water-resources management.

Meanwhile, China has shown no inclination to move away from its dam-building focus (Dong, n.d.). For the Chinese government, megadams are proud symbols of the country's engineering prowess (see Zarfl et al., 2015). China boasts the world's single largest dam, the Three Gorges Dam, and plans to build an even bigger one near the disputed Himalayan border with India.

But China's dam construction is not just about national pride. As droughts become more frequent and severe in the Mekong basin, China's dam network gives it increasing leverage over downriver countries. In response to any major drought in downriver countries, China promises to release 'emergency water flows' from one or more of its upstream dams. This is a jarring reminder of the extent to which downstream countries now depend on China's goodwill. Such dependence makes the governments in the lower basin reluctant to publicly express their China-related concerns. Nongovernmental organisations thus must take the lead.

Climate Change Injects a New Dimension

Such is the close nexus between climate and water that climate change effectively means 'water change' (Pekel et al., 2016). In the Mekong basin, human-induced changes in the hydrological cycle are beginning to affect climate stability, and climate variability, in turn, threatens to carry significant long-term impacts on water resources. Human interventionist actions, from overdamming the Mekong to excessive water withdrawals and deforestation, are contributing to hydroclimate changes, including greater parched conditions, as underscored by the recurrent drought in the basin.

While the climate-water nexus is at the core of the environmental challenges, global warming expresses itself through water in several ways, including in the form of more frequent storms and hurricanes and accelerated ocean-level rise. No continent is more vulnerable to natural disasters than Asia, the world's largest and most populous region (OCHA, n.d.). The vulnerability is such that Asia has the dubious distinction of being home to some of the world's leading natural-disaster-related hotspots, including the Mekong basin.

Global warming is contributing to the Mekong basin's common water-related hazards, such as floods, cyclones, and droughts. The poor usually bear the brunt of the recurrent cataclysms. Southeast Asia's vulnerability to disasters arises from four principal factors: (1) geography, (2) climate extremes (which are traditional in nature), (3) human-induced environmental change, and (4) climate change. The geographical vulnerability is compounded by the region's high population density in low-lying areas and along its vast coastlines. Southeast Asia has 3.3% of the global landmass but has more than 11% of the world's coastline.

The region's major economic-boom zones are located along or near coastlines. Coastal and deltaic areas thus are heavily populated and constitute prime real estate. But thanks to climate change, the vulnerability of coastal and deltaic infrastructure has emerged as an important concern, given the location of some major cities, energy plants, and industries near the coasts.

For example, Bangkok is located on the delta of the Chao Phraya River, about 40 km from the Gulf of Thailand, while Vietnam's economic centre, Ho Chi Minh City, lies along the Saigon River to the north of the Mekong Delta, about 80 km from the South China Sea.

How upstream-ecosystem changes are imposing serious environmental costs is illustrated by the manner the damming of the Mekong and its tributaries and other rivers is affecting Southeast Asia's deltas, the centres of economic boom. Heavy damming of a river tends to change the quality of the water and the rate at which it flows as well as the amount of nutrient-rich silt that the stream carries downstream from the mountains. A cascade of dams can trap much of such nourishing sediment from flowing downstream in the river waters.

The nutrients and minerals received by the seas from the rivers are critical to marine life and to coastal stability. Furthermore, the Mekong's annual flooding cycle during the monsoon season was one of nature's delicately balanced wonders, bringing misery to some basin residents but spreading enriching silt onto farmland and greatly aiding agriculture and fisheries. The rich silt content in the river flows also helped to fortify the delta areas and coastal dikes and sustain the aquatic food chain supporting marine life.

Now thanks to upstream dams trapping the life-giving silt from the mountains, farmlands now need artificial fertilisers, trapping farmers in a vicious circle—to maintain crop output from soils degraded by such artificial-fertiliser use, farmers must inject greater amounts of chemical fertilisers. Moreover, without the annual flood to wash away the salts, soil salinity is increasing at an alarming rate, not just in the waterlogged deltas but also in the middle and upper basins. And instead of swirling muddy waters with nutritive silt cascading into the seas, waters with little sediment and little force now flow out from the Mekong into the South China Sea.

To make matters worse, salinity is rising in the Mekong Delta and estuaries in the absence of an adequate discharge of counteracting river waters. Erosion is eating delta coastlines, inviting saltwater inland and exposing the delta to the full force of marine currents. With the significant reduction in nutrient

supplies to downstream regions, the Mekong Delta and other Asian delta regions have become 'much more vulnerable' to the effects of climate change and sea-level rise, according to the Intergovernmental Panel on Climate Change (IPCC). That these deltas are becoming 'highly threatened by climate change, and responding to this threat will present important challenges' is apparent from the IPCC's conclusion that the deltas are in retreat (Cruz et al., 2007, p. 493).

Further compounding the situation is the fact that human-induced environmental change in the Mekong basin is contributing to recurrent droughts. Yet environmental change is often fobbed off as climate change. Environmental change, to be sure, is a stepping stone to climate change. Environmental change arises from human actions such as reckless land use, contamination of surface-water resources, groundwater depletion, environmentally unsustainable irrigation, degradation of coastal ecosystems, waste mismanagement, and the destruction of forests, mangroves, and other natural habitats (Marvel et al., 2019). For example, reckless groundwater extraction is also contributing to the sinking of the Mekong Delta (Minderhoud et al., 2020).

In sections of the basin, climate extremes are characterised by too little water or too much water or too dirty water, thereby posing serious problems about access to safe drinking water. Dry periods are perhaps becoming longer, with a weak or delayed monsoon tending to trigger drought—a slow-onset disaster but with crippling effects. The overexploitation of coastal aquifer systems, meanwhile, is accelerating seawater intrusion. When freshwater reserves are depleted in coastal aquifers, seawater seeps in to supplant the lost freshwater. This factor is beginning to affect drinking-water supplies in some coastal cities.

Climate science may still be a young science, yet whatever we know should be a cause for concern for the Mekong basin, which must cope with new challenges, such as greater hydrologic variability, while dealing with traditional climate events like El Niño and La Niña, which cause secondary disasters in tropical regions, including forest fires with transboundary haze.

The emerging shifts in precipitation and runoff patterns in the Mekong basin could potentially impinge food security.

To deal with their disaster proneness, basin states must develop greater institutional and organisational capacity to manage environmental stresses. They also need to build resilience, or the capacity to absorb shocks and disturbances in such a way as to be able to reorganise fairly quickly. But to be able to reorganise rapidly, a state must have the necessary institutional and organisational means. Along with developing early-warning systems and preparedness, Mekong states must establish smart water-resource management, adapt to water stress by adopting innovative practices and technologies, and develop new crop varieties more tolerant of drought and flooding. Not just governments, but communities and companies also need to become more resilient by going beyond traditional risk management to prepare for systemic changes and unforeseen events.

More fundamentally, risk-reduction measures, including protecting or restoring ecosystems that buffer the impact of natural disasters, can help limit both fatalities and economic losses from cataclysms. But the ability of states to adopt best-available practices and technologies to mitigate their disaster-related vulnerability very much depends on their political and economic capabilities. In a climate change—driven paradigm, countries must develop the institutional, organisational, and financial capacity as a bulwark against global warming serving as a threat multiplier.

Need for a Holistic Approach

Much of the concerns of the lower-riparian states in the Mekong basin centre on the impact of upstream projects on cross-border flows and on agriculture and fisheries. Downstream users are genuinely concerned that too much water could be released by the dams in the wet season, contributing to downriver flooding, but too little in the dry season, when the water is most needed. The emerging effects on migrating fish cannot be overlooked. Of the hundreds of fish species in the Mekong, 87% have been identified by experts as migratory. More importantly, fish are the main source of protein for the poor, with the Mekong supplying 80% of the protein needs of people who live in its basin. Also, with upstream dams impeding the downstream flow of mineral-rich silt, there is concern about how this could affect farm productivity, especially in the Mekong Delta.

The Chinese, Laotian, Thai, and Cambodian water and energy projects need to be assessed as a whole to understand the likely long-term impacts. Such impacts could extend from lasting damage to fish habitats and wetlands to the forced relocation of many local residents. The countries in danger of losing out the most are Vietnam and Cambodia. Vietnam has no hydropower potential to exploit in its portion of the river, but its delta region is already beginning to bear the brunt of the impact of upstream hydroprojects and the rise of the sea level due to global warming. The Mekong Delta, along with the Ganges-Brahmaputra Delta in Bangladesh and the Nile Delta in Egypt, has been identified as one of the world's three hotspots for potential large-scale exodus of residents because of extreme vulnerability to impacts from human alterations and climate change.

The densely populated parts of the Mekong basin are all in the lower-riparian states, where upstream projects threaten to upend the lives of millions of people who live off fishing and farming. It is these nations that have the greatest stake in the long-term health of the river system. The impacts are likely to extend across much of the lower basin, affecting the interests of communities that rely on the Mekong and its tributaries for their sustenance. The more downstream the location of communities, the greater the impacts they are likely to bear, with a significantly decreased Mekong discharge aggravating the problem of seawater intrusion into the delta.

Against this background, it has become imperative for basin states to adopt a holistic approach to managing water resources and to establish institutionalised cooperation. Transparency, collaboration, and sharing are the building blocks of water peace, along with uninterrupted data flow and dispute-settlement mechanisms. The Mekong basin also needs new market mechanisms, public-private partnerships, innovative practices and technologies, conservation, and astute management to advance adaptation and affordable solutions and thereby open the path to a more sustainable future.

A balance between rights and obligations is at the heart of how to achieve harmonious, rules-based relations between cobasin states. Any arrangement's comparative benefits and burdens should be such that the advantages for each party must outweigh the duties and responsibilities, or else the state that sees itself as a loser may fail to comply with its obligations or withdraw from the arrangement. Without all the basin states coming together, the Mekong's hydropolitics will remain grating.

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Section 1

Water and Energy Politics

China's Water Diplomacy in the Mekong: Drivers and Goals

Hongzhou Zhang

Abstract

This chapter offers a Chinese perspective regarding the drivers and objectives of China's water diplomacy in the Mekong River basin.

According to predictions by the United Nations and the World Bank, water scarcity affects around 40% of the population around the world, and by 2030, drought could put up to 700 million people at risk of displacement (UNCCD, 2019). As a result, water scarcity has been increasingly recognised as one of the major threats to human health and sanitation, socioeconomic development, and political stability. Commentators, security experts, and academic scholars warn that water scarcity could spur conflicts between countries, particularly those in the same river basin (Johnson & Wongcha-um, 2020; Luedi, 2017; Johnson, 2019; Salameh, 2021). For instance, in August 2021, an article published by the BBC states that 'unprecedented levels of dam building and water extraction by nations on great rivers are leaving countries further downstream increasingly thirsty, increasing the risk of conflicts' (Milne, 2021). Indeed, these transboundary water resources account for approximately 60% of global river flow and cover around 46% of the planet's land surface, with 40% of the world's population living in the vicinity. Moreover, nearly 150 states are located in transboundary river basins (WWAP, 2012).

One of increasingly conflict-prone transboundary rivers is arguably the Mekong River, which contains the world's largest inland fishery and provides food security and livelihoods to millions of people (Zhang & Li, 2017). In recent years, as the Mekong River becomes a new front in the U.S.-China rivalry, there are fears that water-war risk is on the rise on the Mekong (Hutt, 2019; Johnson & Wongcha-um, 2020; Kongrut, 2019). For decades, in the Mekong River basin, China has long been criticised for not joining the Mekong River Commission (MRC) and for unilaterally building dams upstream the Mekong River (Zhang & Li, 2018; Zhong et al., 2016). Such hydro projects have become one of the sources of conflicts between China and some Southeast Asian countries (Zhang & Li, 2020). For instance, some diplomats and security experts have begun to describe the Mekong River as 'the next South China Sea', which could spark regional tensions and derail relations between China and its Southeast Asian neighbours (Nguyen, 2014).

Nevertheless, as pointed out by many scholars such as Zhang and Li (2020), Guo (2017), and Yang (2019), since 2015, with the establishment of the Lancang-Mekong Cooperation (LMC) mechanism, China has not only become more active in cross-border cooperation in hydropower and water resources development but also appears to be taking the lead in promoting basin-wide

transboundary river management (Biba, 2018; Brauer & Kliem, 2017; Guo, 2017; Yang, 2019; Zhang & Li, 2020; Zhang & Lu, 2016). Against the above backdrop, this chapter offers a Chinese perspective regarding the drivers and objectives of China's water diplomacy in the Mekong River basin.

Water Diplomacy and Evolution of China's Mekong Policy

Water Diplomacy

Despite the differences in definitions, water diplomacy, as a process, is not the same as water cooperation. Rather, water diplomacy entails a higher level of political engagement (Cuppari, 2017; Huntjens et al., 2016; Molnar et al., 2017; Pohl et al., 2014). In this chapter, building on Cuppari (2017) and Molnar et al. (2017), water diplomacy is defined as the elevation of water issues to a foreign policy domain with long-term goals, which have a scope broader than water-crisis management and conflict prevention, but include improving regional security and stability, promoting regional integration, and boosting trade relations, to name a few.

Old: Unilateral Development with Limited Multilateral Cooperation

Since the 1980s, China's unilateral dam building on the Upper Mekong Basin has triggered concerns and criticism from Lower Mekong River countries and the international community (Zhong et al., 2016). During this period, the overriding goal of China's Mekong River policy had swung between 'rights protection' and 'stability maintenance' (Zhang & Li, 2020). The term *rights protection* refers to safeguarding China's perceived rights in developing the Upper Mekong's hydro resources within its borders, whereas *stability maintenance* refers to the continuation of stable ties with other riparian countries and the reduction of tensions during China's hydro development (Guo, 2017). The primary purpose was to defend its development rights. When the concerns and criticisms of downstream nations constitute a significant danger to China's overall relations with these countries or its worldwide image, however, stability maintenance becomes a priority, and China expresses goodwill to other riparian governments in a variety of ways (such as the release of water during drought).

Therefore, China's old Mekong River policy can be described as unilateral development with limited multilateral cooperation (Guo, 2017; Zhang & Li, 2020). Unilateral development is mainly about China's freedom to develop the hydro resources at the Upper Mekong within its territories. Since the 1980s, China has constructed 11 dams on the Upper Mekong in Yunnan (*China Daily*, 2012).

New: Water Diplomacy in the Mekong River Basin

In 2012, Thailand proposed the initiative of sustainable development of the Lancang-Mekong subregion (Busbarat, 2018); two years later in 2014, at the 17th China-ASEAN leaders' meeting, China 'borrowed' Thailand's initiative and then took the lead to institutionalise the framework (Xinhuanet, 2015). The first and second senior-officials meetings were held in April and August 2015, respectively, as a follow-up to the initiative, and the LMC was officially inaugurated in November 2015 during the first LMC foreign ministers' meeting in Jinghong in Yunnan Province in China. The first LMC summit was held in China's Hainan Province on March 23, 2016, with China and the five Mekong area countries in attendance. Over the past five years, significant progress has been made—LMC national secretariats or coordination units have been set up by all the six countries (Xinhuanet, 2018). Based on the official statements, transboundary water cooperation appears to be an integral part of the LMC. During the first leaders' meeting in March 2016, water-resources cooperation was listed as one of the five priority areas for LMC (the other four included connectivity, industrial capacity, cross-border economic cooperation, and agriculture and poverty reduction). After the LMC's official launch in 2015, China has attempted to reinforce multilevel and multidimensional water cooperation with other Mekong River countries. With substantial financial commitment, China claims that the country is keen to transform water-resources cooperation into a flagship field of cooperation under LMC (People's Daily, 2017). In contrast to its reactive Mekong policy in the past, China has sought to enhance multilevel and multidimensional water cooperation with other Mekong River countries since the LMC was launched in 2015. Major development projects are either being considered or underway.

Hydropower cooperation is the most important area of cooperation for the development of transboundary water resources under the LMC. China is a leader in the financing and construction of hydroelectric dams in other countries in Southeast Asia. For example, in addition to major investments in the hydroelectric sector in Laos, China has also invested billions of dollars in the construction of hydroelectric dams in Cambodia, with a total installed capacity of 1,328 MW. In addition to hydropower projects, China and other Mekong countries have also participated in other water-cooperation projects, such as navigation, riverbank reclamation, irrigation, prevention and management of droughts and floods, drinking water supply, wastewater treatment, animal husbandry, and agricultural cooperation (Xinhuanet, 2018). The 'software' aspect of LMC water cooperation, though often overlooked by observers, has become an integral part of China's new Mekong policy. The four main areas of water 'software' cooperation between China and other Mekong countries include (1) strengthening water-related institutions, (2) advancing technology transfer, (3) exchanging of rules and regulations, and (4) promoting water-related ideas and stories (Yang, 2018). Between May 2016 and September 2019, over 30 water-related capacity building, cultural exchange, and technical training activities for the Lower Mekong countries were conducted. Most of the training activities were conducted in China. In addition, the Chinese government has provided more than 1,000 water-resources-personnel exchange training for the Lower Mekong countries. Also, both China's Ministry of Environmental Protection and Ministry of Water Resources have conducted training and workshops to share their flood-prevention know-how and management experiences with the officials from the MRC and the Lower Mekong countries (Zhang & Zhang, 2021).

Under the auspices of LMC, the Joint Water Resources Working Group, the Lancang-Mekong Water Resources Cooperation Centre, the Centre for Environmental Cooperation, and the World Mekong River Research Centre were established and fully operational. These facilities provide a platform for policy dialogue, technology transfer, joint research, training, and education. As the most important multilateral transboundary water-cooperation organisation, the Lancang-Mekong Cooperation Working Group on Water Resources Management has held two meetings and is drafting the first five-year action plan on the Lancang-Mekong Water Resources Cooperation (Ministry of Water Resources, 2018).

Drivers and Objectives of China's Water Diplomacy in the Mekong

As far as the drivers and objectives of China's water diplomacy are concerned, it can be divided into national and subnational levels, and at the national level, it includes both water and non-water aspects, which are to be discussed in turn.

Water Tensions and Water Cooperation

Since China started building dams on the upstream of the Mekong River in the 1980s, water tensions between China and the Lower Mekong countries have begun to rise. For instance, in 2008, China's Jinghong Dam was thought to contribute to the flood experienced in the northern parts of Laos and Thailand (Biba, 2016). In 2010, as one of the worst droughts in decades lowered the water levels in the Mekong River, the media, environmental groups, and activists in Thailand, Laos, Vietnam, and Cambodia blamed the upstream Chinese dams for causing the droughts, and government officials demanded information and cooperation from China (Fuller, 2010). In 2013, controversy over China's dams flared up once again. As local communities in in parts of northern Thailand and Laos experienced massive flooding, many point the cause of the flood to China's sudden dam releases at the upstream (Yeophantong, 2014).

The frequent occurrence of major droughts and floods in the Mekong River basin has thus made water issues a major source of conflicts and tension between China and the lower Mekong regions. For instance, in September 2012, just one day after China announced that its Nuozhadu Dam on the upper reaches of the Mekong River started generating electricity, then Vietnamese President Truong Tan Sang, in his address to the CEO Summit ahead of the annual meeting of leaders from the Asia Pacific Economic Cooperation (APEC), said,

We cannot deny the fact that tensions over water resources are threatening economic growth in many countries and representing a source of conflict, especially at a time when countries are accelerating their economic development…

Dam construction and stream adjustments by some countries in upstream rivers constitute a growing concern for many countries and implicitly impinge on relations between relevant countries. (Ministry of Foreign Affairs of Vietnam, 2012)

Therefore, for China, the first and foremost objective of water diplomacy is about the use of diplomatic instruments to manage existing or emerging water disputes and conflicts to solve or mitigate them for the sake of cooperation. China hopes that adoption of water diplomacy can significantly increase its persuasive and ideational power—two dimensions of soft power in transboundary hydropolitics.

Belt and Road Initiative and Neighbourhood Diplomacy

For China, water diplomacy is important to achieve its long-term political and economic objectives in the Mekong region, which include improving regional security and stability, promoting regional integration, boosting its trade and economic relations with lower Mekong countries, and expanding its geopolitical influence.

China's water diplomacy is to a large extent driven by the country's Belt and Road Initiative (BRI) and it is part of its new neighbourhood diplomacy. Water diplomacy through the LMC framework is intended as a tool to build trust and facilitate the acceptance and implementation of the BRI. President Xi Jinping put forth the Silk Road Economic Belt and the 21st Century Maritime Silk Road proposals (or the BRI), during his visits to Kazakhstan and Indonesia in September and October 2013, respectively. The BRI was included in the Resolution of the Third Plenum of the 18th Central Committee of the Chinese Communist Party, a historical document on the new leadership's push for a new round of comprehensive reforms in China. From all accounts, the BRI has become one of the most important development and international-development strategy of the country. Very likely, the initiative will be regarded by Xi as a major component of his foreign-policy legacy at the end of his tenure.

With the growing recognition of negative impacts of transboundary water conflicts on China's foreign relations with Southeast Asian countries—and particularly due to the challenges and opportunities posed by water-related issues to the success of China's BRI—a proactive approach was demanded. As pointed out by Guo (2017), the controversy over transboundary water resources has become more prominent and has gradually evolved into an influential factor in shaping China's relation with neighbouring countries. Given the fact that this issue will be inevitably encountered by China in its implementation of BRI, China needs to take a more proactive approach, using water diplomacy to dampen tensions and solve the disputes. In particular, over the past few years, the operation of Chinese dams at upstream has been blamed for causing the droughts in the Lower Mekong countries (Eyler, 2020; Johnson & Wongcha-um, 2020). While many recognise the risks and challenges of water issues to China's foreign relations with neighbouring countries and the implementation of BRI, some also see opportunities and potential benefits from water diplomacy. China has excess capacity in the hydropower-development sector and has accumulated abundant experience and advanced technologies in fields such as water-conserving agriculture, dam building, and photovoltaic power generation, which can be potential areas for cooperation between China and Southeast Asian countries under BRI.

To support the implementation of the BRI, China also launched a new neighbourhood foreign policy in 2013. Under Xi, China has attached even greater importance to diplomacy with its neighbouring countries, raising important issues and guiding policy, opening up a sound environment, and laying the foundation for diplomatic work. At its first-ever work forum on diplomacy to China's periphery, the Xi administration outlined strategic guidance to strengthen China's leadership of the region as part of its overall strategy to realise the nation's rejuvenation. It was reportedly the first major foreign-policy meeting since 2006 and the first-ever meeting on policy towards neighbouring countries since the founding of the People's Republic of China. It was attended by all the most important players in the Chinese foreign policymaking process, including the entire Standing Committee of the politburo.

While China, over the past decades, has managed to settle all its land borders (with the exception of the borders with India) and has improved its relations with many of its neighbours considerably, notable fractions and turbulence have been witnessed in China's relations with some of its neighbours, including Japan, Vietnam, and Myanmar, to name a few. In the Mekong region, in the view of the Chinese leaders, the water conflicts between China and other Lower Mekong countries have opened the door for other major powers, such as the United States, Japan, and the European Union, to reenter the fray of Mekong geopolitics.

In July 2009, the United States led the establishment of the Lower Mekong Initiative (LMI) after the meeting between then Secretary of State Hillary Clinton and four foreign ministers of the Lower Mekong countries including Cambodia, Laos, Thailand, and Vietnam. Under the LMI, from 2009 to 2012, the United States provided more than US$200 million aid to the lower Mekong countries to promote the cooperation in the areas of health, education, environmental protection, and infrastructure. The United States has not only provided funding and support to the lower Mekong countries but also criticised China's actions for causing negative impacts on the downstream countries. For instance, in 2012, State Secretary Clinton openly voiced concern about China's dam construction on the Mekong River.

The European countries have been the major development partners of the Mekong River Commission, which is an intergovernmental river-basin organisation that collaborates with its member states to jointly manage the shared water resources and the sustainable development of the Mekong River. Between 2003 and 2018, Germany provided US$36 million worth of funding for the MRC to implement various strategic activities, including institutional reforms, sustainable hydropower development, integrated water-resources management, flood mitigation, and climate change. Also, during the same period, the European Union gave US$12.7 million fund to the MRC (Mekong River Commission, 2018).

Heavy funding and involvement of the European countries and the United

States has been one of the main reasons for China's reluctance to join the MRC (Zhang & Li, 2020). The United States and other Western countries' support for a cautionary approach to dam building on the Mekong mainstream was interpreted by China as a new geopolitical endeavour to counter China's growing influence in the region. The Chinese leader fears that the United States has been using water disputes, such as the South China Sea (SCS) dispute, to drive a wedge between China and its Southeast Asian neighbours. In this light, a new neighbourhood foreign policy was launched in 2013 in conjunction with BRI. In fact, right after Xi Jinping's visit to Indonesia, where he unveiled the 21st Century Maritime Silk Road, the China Work Forum on Neighbourhood Diplomacy was held by the Central Committee of the Communist Party of China (CPC) in October 2013. Xi Jinping laid out the goals of China's new neighbourhood foreign policy as to 'make our neighbour more friendly'. Therefore, for China, water diplomacy is an important approach to consolidate its geopolitical influence in the Mekong region. In particular, water diplomacy is an integral part of China's efforts to build a common identity in the Mekong region (Zhang, 2018).

For China, building a community of common destiny in the Mekong region through water diplomacy can serve two important objectives. On the one hand, with the exception of China and Vietnam, the other LMC member states are not claimants in the SCS disputes, which have emerged as the biggest obstacle to China's soft power–building efforts in the region. Therefore, through common-identity construction under the LMC, China intends to shift the attention of the Mekong subregion away from the SCS disputes and pave the way for closer regional economic and political cooperation under the BRI (Zhang & Zhang, 2021). On the other hand, in the view of the Chinese, the longstanding upstream and downstream divide over the dam issues has opened the door for the involvement of external powers in Mekong hydropolitics and a greater presence in the region. Thus, China's attempts to promote a common identity that centres around the Lancang-Mekong River is meant to signal other major powers that the people of the Lancang-Mekong should run the affairs of the Mekong. The establishment of the Lancang-Mekong Cooperation (LMC), which has 'Lancang' in the name, provides a strong signal to the regional and international community that

China shares the waters as well as borders with the other Mekong riparian countries. The key message is that China should not be regarded as the enemy or development partner, like the United States, Japan, and South Korea; rather, China should be considered as an equal member of the region (Zhang & Zhang, 2021). In other words, China and other Mekong riparian countries enjoy the same rights in the management of the affairs of Mekong River and thus share a common destiny.

Yunnan's Interest and Role

In the context of China, conventional wisdom treats China as a unitary actor and assumes cohesive foreign policies articulated by Beijing. This state-centric analysis, however, overlooks the complicated central-local dynamics. In fact, scholars have shown that subnational governments play a very important role in shaping China's foreign relations (Chen & Jian, 2009; Hameiri et al., 2019; Wong, 2018; Li, 2016).

As far as China's relations with Southeast Asia is concerned, several studies have shown that the evolution of China's relations with Southeast Asia can be partially attributed to the role of provincial governments in China (primarily in Yunnan and in Guangxi) in collaboration with their counterparts in the neighbouring countries (Zhang & Li, 2020; Li, 2014; Tubilewicz, 2017). As detailed by Li (2014), Yunnan has played a major role in shaping the evolution of China–Southeast Asia relations since the early 1990s, when Yunnan began to implement an 'opening up' policy targeted at Southeast Asia in the early 1990s, mainly through the Greater Mekong Subregion economic cooperation scheme (GMS). The initiation of GMS provided the first and best opportunity for Yunnan to open up. Then in the early 2000s, Yunnan won support from Beijing to transform the province into a 'grand route way between China and Southeast Asia'. Many transport infrastructure projects were planned. A notable example that underscores Yunnan's activism is the completion of the oil and gas pipeline in 2013 to connect Myanmar and Yunnan (Wong, 2018).

In recent years, with the launch of BRI, Yunnan has stepped up its efforts to enhance economic integration with neighbouring countries (Wong, 2018). Given the fact that BRI focuses on enhancing infrastructure connectivity, trade,

and investment facilitation, Yunnan saw great opportunities for boosting its infrastructure investment (the most challenging task for Yunnan's economic development), mending ties, and enhancing connectivity with other Southeast Asian countries—all of which will be conducive to Yunnan's own economic growth (People's Government of Yunnan Province, 2014). Hence, ever since Xi Jinping's remarks that gave birth to BRI, Yunnan has been very proactive in reaching out to BRI countries and lobbying for more financial and policy support from the national government for its own development.

Officially, the LMC, which is the first multilateral framework established by China to implement its BRI, originated from Thailand's proposal in 2012. Nonetheless, Yunnan's role in the establishment and development should not be overlooked. While the relationship between LMC and other subregional mechanisms such as the GMS and MRC is still being debated, the LMC is seen by Chinese officials and scholars as a Chinese-led regional mechanism for upgrading the GMS. For years, the Yunnan provincial government and local scholars were disappointed with the slow progress of the GMS, evidenced by cancellations of 'rice for high-speed rail' in Thailand and Myitsone Dam in Myanmar. In this context, Yunnan had advocated the upgrading of the GMS (Lu & Jin, 2015). Ever since the official launch of LMC by China in late 2015, the domestic research on the subject has been dominated by Yunnan scholars and government-affiliated research institutions. Hence, it is not surprising that by hosting the first and third LMC foreign ministers' meetings, senior officials' meetings, and joint-working-group meetings, Yunnan has become a key facilitator for the LMC. Various levels of the Yunnan provincial government have been mobilised to forge close ties with their counterparts from other Mekong River countries.

Yunnan's interest in the Mekong region stems from two conflicting goals—to develop Mekong's hydropower potential within its territory and to utilise Mekong River for commercial navigation. Developing hydropower involves river damming, which in turn hinders river navigation. As a result, two policy coalitions were formed within the Yunnan provincial government. One is the dam coalition, which comprises the Yunnan energy department, Huaneng Lancang River Hydropower Inc., and other actors. The impoverished Yunnan Province possesses the second greatest workable hydro-energy resources in

China. The Yunnan provincial government envisages that 'Yunnan province will become an energy depot not only for China but also for Southeast Asian countries' (Goh, 2004). Yunnan also hopes that dam building would help generate employment opportunities and spur economic growth. Hydropower has long been recognised as a promising new energy source and economic engine for Yunnan and southwestern China in general. The other is the transport coalition, led by the Yunnan Provincial Transportation Department, which comprises shipping merchants and commercial traders. The result of the rivalry between these two policy coalitions shapes Yunnan's approach to Mekong River water management. Ever since the late 1980s, the province took the lead in utilising the Mekong River for hydropower. As a result, as far as Yunnan's interest in Lancang-Mekong River is concerned, the goal of dam building became more important than the goal of river navigation. Nevertheless, notable changes over the past few years caused the dam coalition to slowly adopt a new policy.

First, with the near completion of the cascade of the dams downstream of the Lancang River (Upper Mekong), the focus of dam development has moved upstream; Yunnan thus faces less pressure from downstream countries over hydropower issues. Second, Yunnan's rapid development of hydropower stations has led to a 'severe electricity glut' since 2012. For instance, in 2015, Yunnan electricity production (262 TWh) far exceeds consumption within the province (roughly 167 TWh), with the remaining exported mostly to Guangdong (93.5 TWh) and downstream Southeast Asian countries (1.4 TWh) (Magee & Hennig, 2017). Third, as the domestic market is becoming saturated, Huaneng Lancangjiang, Yunnan Power Grid Corporation, and other Yunnan and national power companies have been expanding their presence in neighbouring Southeast Asian countries. Fourth, in the meantime, the development of the Lancang-Mekong River navigation has also revealed huge potential of the tourism industry in the region. The rebuilding of the Upper Mekong Navigation Channel has not only created a safer environment for cruising but also brought with it possibilities of a new tourism route linking Yunnan and Southeast Asia. The tourism sector is of great economic importance to Yunnan. The tourism value added of Yunnan Province reached ¥124 billion RMB in 2017 and accounted for 7.5% of Yunnan's GDP. In recent years, researchers of Yunnan have suggested promoting subregional tourism cooperation along the Lancang-Mekong River based on a waterway tourism corridor.

The convergence of interests in multilateral transboundary water management between the navigation coalition and dam coalition, to a certain extent, led the from Yunnan provincial government to lobby for the LMC and to actively participate in various LMC projects related to transboundary water cooperation. It is, thus, no coincidence that it was in Yunnan where Jiao Yong, the vice minister of Water Resources, advocated the adoption of water diplomacy in the Mekong River basin for the first time and that it was the Yunnan scholars, led by Zhang Li and Lu Guangsheng from the Yunnan University, who pioneered the research on water diplomacy in China. For the Yunnan provincial government, water diplomacy is important to expand economic ties with the lower Mekong region countries. It is suggested by Yunnan scholars that water diplomacy can help the impoverished and landlocked Yunnan Province by opening up opportunities for Yunnan's hydropower sector, river shipping, and cross-border trade (Zhang & Lu, 2015; Zhang & Lu 2016).

Conclusion

While China has long been blamed for being a 'malevolent water hegemon' that builds dams upstream without regard for downstream countries (Pohl et al., 2014; Han, 2017), China's Mekong River policy has changed significantly in recent years (Zhang & Li, 2020). This chapter has shown that with the launch of LMC in 2015, water cooperation at the entire basin level has been prioritised. There are multiple reasons behind this paradigm shift in China's Mekong River policy. At the national level, China's high-profile BRI and the introduction of the new neighbourhood foreign policy are indeed among the key factors that contributed to the emergence of China's water diplomacy in the Mekong River basin. In addition, subnational entities, particularly the Yunnan provincial government, have played an important role in shaping China's Mekong River policy. Through water diplomacy, transboundary water cooperation is not seen as a means to an end in and of itself; rather, under the LMC, China has elevated transboundary water issues to a foreign-policy issue with long-term goals that include conflict prevention, regional security and stability, and regional integration through closer economic, social, and political ties.

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Forced Displacement and Economic Development: Assessing the Impacts of China-Funded Projects in Myanmar

Julius Cesar I. Trajano

Abstract

This chapter analyses the human security impact of China-funded projects in Myanmar, such as hydropower dams, Belt and Road Initiative (BRI) projects, resource extractive industry, and plantation business. It focuses on the displacement of ethnic communities from what they consider as their ancestral lands.

Myanmar has deepened its foreign-aid, economic, and trade dependence on China. As elsewhere in the Mekong region, the expansion of Chinese economic projects and investments in Myanmar has also led to the displacement of ethnic communities. Beijing-backed megaprojects, as part of the BRI, and private Chinese investments, while superficially beneficial for Myanmar's economic growth, carry risks and consequences, affecting the human security of local communities. Local communities view all this investment as threats, with little to no benefit for their communities. Negative consequences range from displacement, forced migration, land confiscation, to environmental degradation. Employing the human security framework, this chapter will examine issues and challenges for local communities emanating from Chinese projects, with special focus on forced displacement and land confiscation. It will assess how Myanmar's national frameworks have inadequately addressed forced displacement.

China's Economic Projects in Myanmar

Myanmar has built a strong economic relationship with China ever since the country's military junta solidified its power grip in 1988, which was sanctioned by the West and led to Myanmar's further isolation. Through the years, China has grabbed sizeable economic opportunities, such as hydropower, minerals, and gas in Myanmar, and has become the latter's main investor. When Myanmar introduced political and economic reforms in 2011 under Thein Sein, its reformist president and a retired general, Western sanctions were progressively lifted and foreign investments from many countries, including its fellow ASEAN members, Japan, South Korea, the United States, the United Kingdom, and European countries, began pouring in the country (DICA, 2021a). Under the administration of the National League for Democracy led by Daw Aung San Suu Kyi, who became the country's de facto leader in 2016, China remained as the main economic and trading partner of Myanmar despite growing foreign investments from other countries. In terms of bilateral trade, China is Myanmar's largest trading partner and commands the largest share in both imports and exports of Myanmar. Bilateral trade in 2019 was valued at about US$12 billion, comprising one-third of the total amount of trade transacted by Myanmar. Meanwhile, China, an economic powerhouse that

shares a border with Myanmar, is currently the latter's second largest source of foreign direct investments, which have reached US$21 billion as of July 2021 (DICA, 2021b).

Hydropower, oil, and gas as well as economic-zone projects comprise the bulk of Chinese investments in Myanmar. In recent years, China has earmarked enormous economic and infrastructure projects in Myanmar as part of the BRI. One big project is the 1,700 km–long China-Myanmar Economic Corridor (CMEC), which will connect China's landlocked southwestern province of Yunnan with Indian Ocean's seaboard, passing through Mandalay and Rakhine State in Myanmar (Ramachandran, 2020). CMEC would facilitate a shorter trade route for imported products from South Asia, West Asia, and Africa, especially oil imports, to the Chinese mainland, thereby cutting transport time and costs. In this regard, a component project of CMEC is the natural gas and oil pipelines running in parallel from Kyaukphyu City in Myanmar's Rakhine State to China's Yunnan region, constructed in 2013 and 2017. The pipelines facilitated the transport of 16.3% of China's total gas imports according to data from 2018 (USIP, 2018). It must be noted that Myanmar is rich in oil and gas reserves.

Another Chinese project is the building of a deep seaport at Kyaukphyu for US$1.3 billion. A special economic zone (SEZ) will also be developed around the port by the Chinese consortium, CITIC Group Corporation (Samsani, 2021). In 2020, which marked the 70th anniversary of China-Myanmar diplomatic relations, both countries signed another 33 bilateral agreements to boost the implementation of the CMEC, such as the construction of the Muse-Mandalay electric railway and the New Yangon City project. Notwithstanding the disruptions of the COVID-19 pandemic, China has continued to encourage the Myanmar government to fast-track the implementation of planned CMEC projects (Yu, 2021).

Large-scale infrastructure and commercial projects are expected to solidify China's economic foothold in Myanmar. In addition, private Chinese capital has been invested in Myanmar's key economic sectors, from plantation agriculture to commercial-property development (ICG, 2020). Concerning China's water politics and investments in Myanmar, several proposed BRI

projects would provide transport infrastructure in Myanmar's Irrawaddy River basin and adjacent mountain areas (USIP, 2018).

But one traditional economic activity of China in Myanmar is the construction of hydropower dams. One such key project was the Myitsone Dam along the Irrawaddy River, which has become a contested political issue that involves multiple levels of stakeholders within Myanmar. This had become the first real national debate in the military-dominated Myanmar in decades. The unprecedented public campaign in Yangon and other cities, known as 'Save the Irrawaddy', involved famous political activists, artists, writers, scholars, journalists, independent media organisations, opposition politicians, and eventually the revered democratic opposition hero, Aung San Suu Kyi herself. The opposition demanded from the government transparency over the secretive project and its environmental impacts. While the Kachin communities viewed it as a threat to their native homeland, the majority ethnic Burmans' uproar framed the project into Burman ethnopolitical analyses of a perceived existential Chinese threat (Kiik, 2016). The antidam movement coincided with rising military–political tensions and war between Myanmar and Kachin forces. Massive domestic opposition in the ethnic Kachin State and the politicisation of the dam project led to the suspension of its construction by former President Thein Sein in 2011 (Chellaney, 2016). Just like in the other dam projects in Myanmar, the opposition to the construction of Myitsone Dam was primarily due to its negative impact on the local communities, particularly their displacement from the ancestral lands. China's incessant pressure over the suspended Myitsone Dam in the ethnic Kachin State has created Myanmar's dilemma in striking a balance between environmental and community protection and its political and economic dependence on Beijing. The next section contains further analysis of its negative impact on local communities.

Apart from the Myitsone Dam, plans for seven Chinese-built dams along the Salween River have been a source of friction for Myanmar and China for some time. The Hatgyi and Mong Ton dams are the two biggest mainstream dam projects planned by Chinese and Thai companies on the Salween. The 7,000 MW Mong Ton Dam in Shan State is slated to be owned by Electricity Generating Authority of Thailand (EGAT) and China Three Gorges Corporation

(CTG) and designed to become Myanmar's largest dam. Both Hatgyi and Mong Ton dams have remained in the planning stage.

Prior to the military coup on February 1, 2021, the Myanmar government led by Aung Sang Suu Kyi and grassroots campaigners already had opposing positions on the impact of such planned dams. It must be noted that the Salween River remains Southeast Asia's longest free-flowing river in a region that has endured massive, and sometimes even destructive, hydropower dams on the Mekong, upper Yangtze, and other major waterways. The Salween Riven crosses through Myanmar's ethnic minority lands in Shan, Kayah, Karen, and Mon states. It provides a lifeline to enormous biodiversity and livelihoods for millions of people in Myanmar's conflict-ridden regions (Roney et al., 2021). Building enormous dams on the Salween River would definitely incur domestic opposition from local communities, complicating the negotiations between China, Thailand, and Myanmar on the planning of such dams. Local communities fear that they would be displaced from their traditional lands, while their resources and sources of livelihood would be destroyed.

Displacing the Communities: Impact of Hydropower Dams

In 2006, the Myanmar Ministry of Electric Power and the China Power Investment Corporation (CPIC) signed a memorandum of understanding to build the Myitsone Dam. The dam was designed to be the largest reservoir to be ever built in Myanmar, dwarfing almost 200 dams in the country, and estimated to produce 6,000 MW (Kirchherr et al., 2017). The Kachin Independence Organisation, an ethnic separatist army, manifested its strong opposition against the megadam project due to its environmental impact and the displacement of local Kachin communities (Kim, 2016). For the Kachins and other ethnic groups, the dam would have devastated what they perceive as a sacred river (the Irrawaddy), inundated an area the size of Singapore, dislodged thousands of people, and destroyed both marine resources and wildlife populations (Roney et al., 2021). The Kachins, in particular, viewed the dam project as an invasion of their cultural homeland. The resistance is linked to ethnonationalism, as the project was 'a national emergency where an outside power threatens their ethnic sovereignty and homeland' (Kiik,

2020, p. 266). The CPIC was prepared to invest US$3.6 billion for the megadam in an arrangement where 90% of the electricity generated by the dam would be exported to China's Yunnan Province while Myanmar would earn US$500 million annually (Kirchherr et al., 2017).

While the dam project was suspended by President Thein Sein in 2011, for the affected communities, the government's response was a little too late, as preparatory works prior to the construction in 2009 had resulted in the displacement of approximately 12,000 people. This is indicative of the lack of foresight on the part of the Myanmar government to scrutinise the human-security impact of the Myitsone Dam on the internally displaced population and environmental security. The project would have flooded a site of historical and cultural importance to the Kachin. In fact, at the time of the construction of the Myitsone Dam, the Myanmar government did not have regulatory oversight and framework for environmental impact assessments for hydropower projects. Furthermore, government bodies had failed to consult local actors and communities to get their perspectives on the anticipated and unintended consequences of the Myitsone Dam project on their livelihoods. Consequently, there was no institutionalised aid programme that would help communities that had been displaced and provide them with sustainable livelihood assistance in their relocation areas, signifying that the needs of those displaced are overlooked. Concerns were not just limited to the ethnic Kachin community. The Irrawaddy River has a symbolic power in Myanmar as the lifeblood of the nation, and many consider the project as devastating while virtually all the electricity generated was to be exported to China (Kirchherr et al., 2017; Chan, 2017; Foran et al., 2017).

The Myitsone Dam project is not an isolated case. The planned dams in the Salween River also faced strong resistance from ethnic communities, as such dams would inundate land that is now home to villagers displaced by conflict in the late 1990s, who have been unable to return to their homelands. The Hatgyi and Mong Ton dams are among the largest of seven mainstream dam projects planned by Chinese and Thai companies on the Salween, but their construction has remained pending due to strong local opposition. The Mong Ton Dam project alone would displace at least 60,000 people, primarily those living in Shan and Karen states. It remains uncertain how much compensation

the government or the companies would offer to communities once the project moves forward. It is to be built by EGAT and CTG and may become Myanmar's largest dam. It will generate an estimated 7,000 MW of electricity, of which 90% will be exported to China and Thailand, with only 10% reserved for Myanmar (Roney et al., 2021; Prachatai, 2015).

The Tanintharyi River is another important river located in southern Myanmar. It is the lifeblood of ethnic communities throughout Tanintharyi Region, as their food, water, and transportation come from the river and its tributaries. With a sizeable biodiversity, its river basin sustains one of the largest remaining intact forests in Southeast Asia. Hence, various plans to build large dams along the Tanintharyi River have also been met with local protests, as ethnic communities, whose lives and livelihoods are at stake, claim that they have not received the complete details of the construction plans. Currently, there are 18 project proposals for dams on the Tanintharyi River. However, such proposals have been developed without the free, prior, and informed consent of ethnic communities. This includes a proposed 1,040 MW hydropower dam planned by the Thai-owned Greater Mekong Subregion Power Public Co. Ltd., which will swamp a vast area of 585 km^2 (Candle Light et al., 2019; TRIPNET, 2019). This would have been for export of electricity to neighbouring Thailand and other countries.

Without adequate local consultations, communities fear that they will never be able to defend their rights to their lands once the project gets the green light from the government. They are extremely concerned that their access to community livelihoods, food, water, transportation, and even cultural practices will be effectively block by the dam—without the river, they would not be able to survive (Myat, 2019). Specific impacts would include physical displacement, the confiscation of land and property, massive loss of fish species and stock, contamination of water sources, and alterations to river flows and downstream ecosystem, affecting 76 indigenous and conflict-affected communities. A Myanmar local research found that the hydropower dam would displace almost 7,000 people in 33 upstream communities; destroy 144,557 acres of orchard, farmland, and forestland; and drastically ruin the livelihoods of over 22,000 people in 42 downstream communities (Candle Light et al., 2019).

BRI Infrastructure and the Displacement of Communities

Internally displaced persons (IDP) from protracted local armed conflicts between ethnic armies and the Myanmar military in the northern part of Shan State have raised the concern that China-funded BRI projects would result in the confiscation of their ancestral lands to which they could not return to because of the conflict. Nearly 17,000 IDPs are temporarily living in 36 shelter camps in Shan State, away from their ancestral lands. China has requested permission from local authorities to build a railroad between Lijiang in southwest China's Yunnan Province and Lashio in Shan State. IDP representatives issued a collective statement calling for the postponement of the construction of the railway in their ancestral lands until they can return home, suspension of all preconstruction works that have already started, and a refrain from resource extraction activities on their lands. As they do not have official land titles that would boost their ancestral-land claims, they have also demanded that the government uphold their ownership of ancestral farmland as mandated in Section 8 of the National Land Use Policy of Myanmar (Thar & Jangma, 2019).

Another problematic investment area of the BRI is the Kyaukphyu SEZ project in Rakhine State, which is being developed by the CITIC consortium. The project involves a deep seaport, an industrial park, and oil pipelines. Internal planning documents and census data indicate that 20,000 villagers, most of whom rely on agriculture and fishing as sources of income, have to be relocated to make way for the project. Even before completing environmental impact assessments and resettlement plans by the Chinese consortium, initial land acquisition has already been taken, displacing 26 families in 2014. While the consortium has pledged that the project will generate 100,000 jobs for local people, villagers in Kyaukphyu claim that it will not contribute to the development of their communities because the operating companies employ mostly Chinese workers. Meanwhile, local fishermen have already faced restrictions as to when and where they can fish around the project sites (Lee & Lone, 2017).

China's Agribusiness and the Displacement of Communities

In addition to massive infrastructure projects funded by Myanmar's neighbours, mainly by Chinese and Thai companies, foreign agribusiness also has human-security impact on vulnerable ethnic communities. In particular, the cultivation of tissue-cultured bananas in northern Myanmar underscores the risks posed by unregulated Chinese investments in agriculture. Banana plantations have grown significantly in recent years in the country as a consequence of heightened restrictions imposed on similar plantations in other Southeast Asian countries due to environmental implications of the excessive use of illegal pesticides. However, in Myanmar, banana plantations have been intimately connected to armed conflict parties, land confiscations, and environmental degradation, fuelling a resistance from local residents and civil society. Plantation investors often take advantage of Myanmar's weakness in preventing land grabbing and armed actors' involvement. Banana plantations further complicate armed conflicts by enriching armed actors and exacerbating the grievances that fuel the conflicts. A vast area in southeastern Kachin State along the border with China hosts many of such banana plantations with a total land area of 150,000 acres or larger (ICG, 2020).

However, local Kachin villagers do not see any significant developmental benefits from the plantations primarily owned by Chinese businesses. Majority of the workers are migrants from central Myanmar. The disproportionate deployment of illegally imported pesticides has resulted in the decimation of marine ecosystem and contamination of water resources. The cultivation of banana plantations has led to legal or extralegal land confiscations. In several cases, civilians who have left their lands since 2011 due to armed conflicts between the Myanmar military and the Kachin Independence Army (KIA) have seen their abandoned lands leased to Chinese investors or have been forced into leasing it below the acceptable rates. At least 100,000 displaced civilians in Kachin State might soon yield their lands to agriculture plantations as a direct consequence of recent amendments to Myanmar's Vacant, Fallow and Virgin Land Management Law. There has been little progress on the part of the government to assist displaced Kachins to take their lands back or even to resettle elsewhere (ICG, 2020).

Domestic Actors and Interests: Myanmar Government, Tatmadaw, Ethnic Armies, and Local Communities

Despite the displacement of local communities due to foreign economic and investment projects in Myanmar's ethnic regions, the successive civilian governments and the Tatmadaw (Myanmar military) have conducted initiatives to attract Chinese investments and economic projects. It is expected that the Myanmar military junta will continue and even fast-track the implementation of China-Myanmar economic and infrastructure projects. The democratic government under the leadership of ousted State Counsellor Aung Sang Suu Kyi did not loosen Myanmar's heavy reliance on China's investments. In fact, during the term of the National League for Democracy (NLD)–led government, Myanmar joined the BRI in 2018, agreeing with China to establish the estimated 1,700 km-long CMEC. Myanmar is not just a passive spectator when it comes to BRI. In fact, it has instead proactively aligned itself with China. Myanmar signed several agreements to implement China-backed projects, including hydropower dams, oil pipelines, and industrial parks.

While the volume of Chinese investments in Myanmar had decreased after President Thein Sein suspended the Myitsone Dam in September 2011, the international criticisms on Myanmar's treatment of the Rohingya population had generated a very suitable environment for China's reengagement through the BRI in 2017. Since the eruption of the Rohingya crisis in late 2017, the country has seen lower foreign direct investment inflows than the period from 2014 to 2017. In September 2018, the two governments signed a framework agreement to implement the BRI. Thereafter, the Myanmar government established a BRI steering committee, which oversees the implementation of the BRI projects (Mark et al., 2020). It must be emphasised that while there were statements by the NLD-led government on the need to ensure that such projects were to be consistent with the interests and regulatory policies of Myanmar, Aung San Suu Kyi stated that that 'being a country located at a strategic position for the BRI, Myanmar needs to participate in the initiative' and that such joint projects could bring mutual benefits to both sides (Lwin, 2019).

Analysts pointed out several factors that may weaken Myanmar's capacity to reap the benefit from the BRI projects in the country (Mark et al., 2020). It has weak legal structures, which would be insufficient to provide local labour and environmental protection. Myanmar's institutional structures lack systematic checks and balances, and corruption is widespread. But for the NLD-led government prior to the 2021 coup, it needed to fast-track the BRI implementation, despite the lack of capacity to put in safeguards and regulatory oversight. In the context of the 2020 general elections, the NLD-led government had to prove that it can create economic growth and attract foreign investments, including BRI projects. For the NLD, BRI investments can help create local jobs and development, which could boost the party's image that it can effectively deliver investments and govern the country, despite the Rohingya issue and subsequent international criticisms. While Myanmar intended to diversify its sources of foreign investments after its democratic opening in 2011, the pronouncements of Aung San Suu Kyi, in reference to the Myitsone Dam in 2019, suggested a significant shift in how she regarded the country's needs to balance economic growth and sustainability, thus favouring investment from China. She said that while environmental conservation is critical, it should not hinder economic development (Lwin, 2019).

Further key actors that Chinese companies deal with are ethnic-minority leaders and armed groups. Ethnic armed groups often readily accept Chinese projects and investments. Since 2014, China has been actively enticing all major ethnic-army organisations through economic incentives, not only in the northern Myanmar, where it has traditionally exerted stronger influence, but also in the southeast, along the Thai border. This is a two-way street. These groups also want Chinese investments, including most members of the Northern Alliance, which have traditionally had close military ties with the Chinese government. Some ethnic armed organisations (EAO) also enjoy significant autonomy to negotiate with China for investments in their areas of control. In exchange, they receive substantial revenue support from Chinese investors to support their operations. For instance, the International Crisis

Group cites in a report that the United Wa State Army (UWSA), Myanmar's largest ethnic armed group, received massive private financial support from a Chinese businessman—as much as US$1.5 billion (ICG, 2020).

This is a strategy of economic co-optation of ethnic-army elites by the Chinese government and private investors. While EAO leaders and their organisations may benefit financially from it, the collaboration often leads to unchecked resource exploitation of and within their communities, as demonstrated by the history of the Kachin Independence Army (KIA) (Mark et al., 2020). However, as the local communities that they are supposed to represent often endure the negative consequences of mining, the organisation's legitimacy has been jeopardised, fomenting divisive internal politics (McCarthy & Farrelly, 2020).

The Tatmadaw too are complicit to resource extraction. The network of cronies, ethnic armies, and Chinese businesses working together with the Tatmadaw—through the military-owned Myanmar Economic Holdings Ltd. conglomerate—to mine jade in conflict regions illustrates how armed rivals could also become business bedfellows. The KIA and Tatmadaw uneasily coexisted at the centre of jade-mining operations in Kachin State, sharing access to precious resources and revenues. Through business intermediaries, the Arakan Army (AA) and UWSA also participated in the lucrative Tatmadaw-KIA jade extraction and trade. The Tatmadaw and ethnic armies jointly rely on jade to boost their war chests and line their leaders' pockets. As the primary destination of the jade, China had business interests in all aspects of the resource extraction and of the conflict—from mine to market. With KIA taking over the mine after the 2021 coup, it would potentially hurt the Tatmadaw both economically and politically, as it would be denied full access to a vital source of funding (Avila, 2021). In the case of hydropower dams, companies affiliated with or owned by Myanmar military officials, including retired ones, have MOUs with foreign power companies for dam projects (Candle Light et al., 2019).

With a more China-friendly military junta, one would expect further continuance of special economic ties between the two neighbouring countries. It is in the interest of the Tatmadaw to continue their business

dealings with Chinese state-owned enterprises, which have dominated infrastructure projects in Myanmar, particularly hydropower dams and transport infrastructure. The Tatmadaw's business dealings with China have deep roots. Under state-mediated capitalism prior to the Thein Sein presidency, the military controlled the country's economic activities. Favoured conglomerates were awarded with joint-venture deals with foreign investors, military-owned conglomerates and state enterprises, import–export licences, and land concessions (Jones, 2014). With their leverage to secure licences, contracts, and subsidies, including with Chinese companies and investors, these military-owned conglomerates earned significant income in the 1990s and 2000s. Their business dealings remain profitable in the current phase of economic development under the BRI umbrella (Mark et al., 2020).

Successive regimes have emphasised that foreign-funded projects (such as from China, Thailand, and other major investment sources) would bring about rapid economic development and growth that Myanmar needs to bring about peace and harmony, most especially in the context of fragile peace processes and multiethnic relationships. Utilising Myanmar's rich natural resources and strategic location, these projects are often met with domestic resistance, as residents often received little to no information about them, provoking growing public concern during the past few years, especially on the social and environmental effects of the projects.

Myanmar's National Frameworks on Forced Displacement

The 2008 Myanmar Constitution does not directly and clearly uphold the rights of displaced people to return to their lands or stipulate a comprehensive right to peacefully live in their own land property and seek protection against forced removal or displacement. However, it does contain provisions upholding several housing, land, and property rights. These may, therefore, be helpful as foundational pillars in establishing an improved framework for victims of forced displacement, including ethnic communities, due to intrusive foreign economic activities as discussed in this chapter. In this regard, one critical provision is Article 37 of the Constitution, 'The Union: 3. (c) shall permit citizens right of private property, right of inheritance, right of private initiative and patent in accord with the law' (NRC, 2017, p. 15).

Chapter 8 of the Constitution stipulates the fundamental rights and duties of citizens, which can serve as the overall framework on the protection from forced displacement:

Article 355. Every citizen shall have the right to settle and reside in any place within the Republic of the Union of Myanmar according to law.

Article 356. The Union shall protect according to law movable and immovable properties of every citizen that are lawfully acquired.

Article 357. The Union shall protect the privacy and security of home, property, correspondence and other communications of citizens under the law subject to the provisions of this Constitution.

Article 372. The Union guarantees the right to ownership, the use of property and the right to private invention and patent in the conducting of business if it is not contrary to the provisions of this Constitution and the existing laws. (NRC, 2017, p. 15)

In 2018, the parliament of Myanmar approved the amendment to the 2012 Vacant, Fallow and Virgin (VFV) Land Management Law. This law has been hit by rights movements, claiming that it worsens the land insecurity for farmers and ethnic communities. Both the original 2012 VFV and its 2018 amendment have posed complex problems for farmers. Most of the lands identified as VFV under the law are located in ethnic rural communities with 10 million people residing and utilising these lands for their livelihood. The new law mandates these people to apply for 30-year concessions to use their own land. Failure to do so may open an opportunity for companies and foreign investors to seek concessions and be awarded with their lands. Original residents would therefore have to vacate or would face up to two years in prison for trespassing. While the amendment excludes customary lands possessed by ethnic communities from being categorised as VFV, the law, however, offers no clarificatory definition of what a customary land is and how communities can legally claim that theirs are customary land (NAMATI, 2019). In ethnic areas of Myanmar, minority groups customarily use a shared land-ownership system, known as customary tenure system, which entails

freehold land, community forest reserves, and customary occupancy for rotational farming practices (Lwin, 2021). The customary tenure system in Myanmar is a 'community-based system of rules, regulations and procedures which determine how land and other resources are used and shared, and which have their roots in and reflect a community's social organization, culture and value' (Erni, 2021, p. 7). Indigenous village-level communities themselves manage and regulate access to their land and resources therein.

The Myanmar government also established nonjudicial government committees to tackle land-confiscation and forced-displacement issues. In 2012, a Parliamentary Land Confiscation Commission (PLCC) was established to probe illegal seizures of farmlands and offer recommendations for cases where the state should assist displaced people to take back their lands or receive adequate compensation. It must be noted that in the following year, a Land Utilisation Management Central Committee was created and tasked with executing the recommendations of the PLCC and ensuring the return of confiscated lands to displaced communities. However, the effectiveness of these bodies in returning lands to displaced communities appears to be weak, given the lack of large-scale restitution of lands and even compensation for those who were forcibly evicted. The committees blamed the many layers of bureaucracy as well as the lack of government capacity to address a large number of complex land disputes and forced-displacement cases as the main causes of extreme delays and even failure in returning to farmers the lands that had been taken by the government, military, and private investors and companies (Guest, 2015).

Immediately after the inauguration of the new democratic government with Aung San Suu Kyi as state counsellor, the Reinspection Committee of Farm Land and Other Land Acquisition was formed by the Office of the Union President in May 2016. The Reinspection Committee has the mandate to resolve conflicts from farmland and other land acquisition and ensure that the lands forcibly taken from ethnic communities and farmers will be returned to them. The Reinspection Committee has also adopted a policy that compensation must be given to displaced farmers for their losses when the restitution is not possible. However, just like its predecessors, the committee also fall well short of instigating a nationwide restitution process open to

all who were forcibly displaced (NRC, 2017). Compensation has often been inadequate, and there seems to be no standard calculation.

There are also limitations on the government to regulate the utilisation of lands for commercial purposes. Without such effective regulation, there will be no effective preventive mechanism for forced displacement. The government's low capacity is reflected in the implementation of the country's legal framework for land acquisition. For example, while the land laws require fair market compensation when land is appropriated by the government for economic and infrastructure projects, the detailed implementing rules are often ambiguous and the implementation is not standardised. This is exacerbated by overlapping mandates of agencies as well as a fragmented and 'stacked' legal framework, nonexistent official registration of land ownership, and inconsistent maps owned by line ministries (Mark & Zhang, 2017). It must be noted that the stacked legal framework is a legacy of multiple military, semidemocratic, and democratic regimes that have governed the country since its independence from British colonial rule. As each regime promulgated laws and regulations, it led to multiple layers of laws that exist simultaneously, resulting in conflicts and contradictions in the legal system. These stacked laws and the ambiguity that they created are often abused by those who have access to political and economic resources to forcibly confiscate lands and resources from their rightful owners, such as ethnic communities. This ambiguity is often manipulated by those in the military, political, and business elites, those who are favoured by the government, and even ethnic-minority elites (Mark, 2016).

With the ineffectiveness of the legal system and the government's failure to protect them from forced displacement and land confiscation, in some cases, the farmers themselves have pursued legal action in order to get their land back or to seek adequate compensation. From 2012, when land laws were enacted until 2015, there were only six civil cases launched by farmers. These cases are still pending. Farmers are also using laws to regain their land without resorting to court adjudication. One such case involves farmers who wrote letters in 2016 to their local officials to seek assistance in claiming their land back from the Letpadaung Copper Mine, a joint venture of the state, a Chinese-company Wanbao, and military-owned Union of Myanmar

Economic Holdings. They had sought to reclaim over 7,000 acres of farmland in Sagaing Region that were confiscated in 2010. In these letters, they cited four laws: (1) the 1894 Land Acquisition Act, (2) the 1953 Land Nationalisation Act (though revoked by the 2012 Farmland Law, this was still active at the time land was confiscated), (3) the 2012 VFV Law (Article 16B), and (4) the Farmland Law (Article 32). Based on their written legal arguments, they were granted permission to reoccupy and farm only 100 acres of the confiscated land. While this is just a one-sided compromise resulting in the restitution of a small percentage of the contested 7,000 acres, this case is a bottom-up initiative by the farmers themselves, who demonstrated a creative use of laws to seek restitution or compensation from forced displacement (Mark, 2016).

Conclusion

Given this situation, the possibility of widespread land confiscation for BRI projects is high. Unless stronger laws are introduced to protect the rights of ethnic communities to their lands, BRI projects could have far-reaching impacts on ethnic communities' access to natural resources and ability to sustain their livelihoods.

These concerns are not without basis. Due to the past cases that they have suffered, local people have no trust when it comes to Chinese investment. They are not expecting job opportunities, knowledge and technology transfers, or even their own energy security from the dams being built in their communities. What they just expect are several social and environmental consequences of these projects, primarily confiscation of their lands. National frameworks on land use and forced displacement have been enacted in recent years, but the implementation and gaps in the legal system still render displaced communities homeless and landless, despite the teeming economic and investment projects in their own lands. Myanmar domestic actors, primarily its government, the military and ethnic armies, have all been doing business dealings with China. Under pressure to recover from the economic onslaught of the current COVID-19 crisis, it is unlikely that the Myanmar, now under the military junta, or Chinese governments will advance the protection of local

communities from the inevitable social and environmental disruption that BRI projects, and even existing investments, will cause. Nonetheless, there are safeguard measures that can be considered to address the disruption.

First, both Myanmar and China can task their bilateral BRI steering committees to conduct regular risk assessments for economic actors and vulnerable communities, particularly environmental impact assessment, to anticipate and address potential disruption even before commencing any project. This measure can be critical in ethnic-minority areas, where armed conflicts remain pervasive and resource reallocations can trigger ethnic tensions.

Second, civil society organisations, including human rights groups, can contribute to such impact assessments and put forward recommendations to the Myanmar government on how to minimise negative consequences as well as the fair amount of compensation especially for those who lose livelihoods or access to their communal lands.

Third, transparency on the part of China and all of Myanmar's domestic actors who are involved in potentially disruptive economic projects can be improved through genuine multistakeholder dialogues and consultations especially with vulnerable communities. The impact assessments must be conveyed with these communities in a timely manner, while their feedback and inputs must be included in all policies and regulations governing these projects. Needless to say, fair and adequate calculation of compensation by establishing a common measurement can be a positive reform that must be seriously considered.

Finally, enforcement of relevant legal frameworks by relevant authorities as well as amending existing laws by the Myanmar legislature for strengthening the regulation of economic projects would be the most important pathway towards safeguarding the rights and interests of minority and vulnerable communities where such projects are being built or planned to be located.

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Will the Benefits of Laos's Future Hydropower Infrastructure Projects Outweigh the Costs?

Jose Ma. Luis Montesclaros

Abstract

Some have framed a dichotomy between Laos's sustainable development building on hydroelectricity and their negative environmental impacts. This chapter argues that since 2010, Laos has already had sufficient electricity to meet relevant sustainable development goals. As such, the real trade-off today is between revenues to capital owners in the energy sector and incomes and livelihoods of workers in the agriculture, fisheries, tourism, and other tourism-linked sectors. These redistributive impacts make future hydropower expansion a sensitive political decision to be continued only if the net valuations of these projects from investors' and society's standpoint are still positive after integrating the design requirements for sustainable hydropower expansion, as well as the measures to mitigate their societally disruptive impacts.

The importance of hydropower development to the Lao People's Democratic Republic is a much-debated issue. The country is a key driver of hydropower within the Mekong region, which, in its Seventh Five-Year National Socio-Economic Development Plan (NSEDP), mentioned being the future Battery of ASEAN (Ministry of Planning, 2011, p. 99). Hydropower has also been touted as bringing triple benefits to the country of 'reliable access to electricity…poverty reduction…[and] hydropower [as] renewable energy' (Zachau, 2015). China has played no small role, with the country becoming the top investor in Laos (Pasick, 2014) and hydropower investments taking up a third of Chinese foreign direct investments (FDI) in the 2000s, alongside mining and agriculture (Tan, 2014). The other half of hydropower investments have been from multilateral agencies, such as the Asian Development Bank, the World Bank, Japan, and Norway (Molle et al., 2009).

This is relevant since Laos has suffered from high poverty levels, with highs of 50% in 1997, owing to its poor economic structure, following the international income threshold for extreme poverty of US$1.90 per day at 2011 purchasing power parity (PPP),[1] or US$693.50 annually (World Bank, 2021a). Today, it remains a lower-middle-income country, with GDP per capita of US$7,826 as of 2019 (WITS, 2021). Its underdevelopment results partly from its agriculture dependence—87% of its workers in the agricultural sector in 1991 earned an average of US$1,144 per day, which is below its average income per person in 1991 (US$1,992).[2] Owing to electricity from hydropower plants, the country has gradually modernised, moving away from agriculture and into higher-paying modern service and manufacturing sectors. Hydropower also contributes to the country's energy security, defined as having 'reliable and adequate supply of energy at reasonable prices' (Bielecki, 2002), where the country has achieved 100% access to electricity in 2019 (World Bank, 2021a).

Whether more hydropower development is needed remains a crucial open question. This has previously been addressed from a regional perspective on whether further hydropower development is better for the region as a whole. An earlier report in 2010 by the Mekong River Commission (MRC), as part of its

[1] For consistency, we will be using the measurement of U.S. dollars at 2011 PPP in the rest of the chapter, unless otherwise noted.

[2] this figure was derived from World Bank data on the share of agriculture in GDP in 2011 and multiplying this by the average GDP per capita based on the World Integrated Trade Solution database (World Bank, 2021b; WITS, 2021).

Basin Development Plan, reflected, for instance, net positive benefits of this initiative (MRC, 2010), while a later report by researchers at the Mae Fah Luang University in Chiang Rai showed net negative benefits (Intralawan et al., 2017, p. 21). However, as this is ultimately a decision made by Laos in its own pursuit of its national objectives of expanding the income, prosperity, and security of its people and in line with its own national plans, the relevant costs and benefits that will factor into this decision will be those that apply at the country level.

In this regard, this chapter discusses the rationale for further hydropower expansion from Laos's perspective, not from a regional perspective. It first assesses the historical benefits of hydropower development to the country, highlighting the relevant sustainable development goals (SDGs). It then argues the need to distinguish between the historical benefits of hydropower development and the advantages of further expansion. The year 2010 is presented as a transition point when Laos was already generating sufficient energy to meet its future consumption and modernisation requirements in excess of what it needs even today, while remaining 100% reliant on water as a renewable source of energy. Given these, the author argues that further hydropower development post-2010 no longer presents a trade-off between the SDGs and Laos's environment. Rather, it presents a trade-off between revenues to the energy sector, which employs a smaller share of its workforce, and revenues to the agriculture and tourism sectors, which benefit broader segments of the population.

A Brief History of Hydropower Development in Laos

Hydropower development in Laos began with the construction of Nam Ngun 1 Dam in 1971, with an electricity generation capacity of 150 MW, following technical advice from the Mekong Committee (the precursor to the Greater Mekong Subregion Committee today) and the World Bank, as well as further concessional loans from the World Bank, the Asian Development Bank, and Japanese aid (Molle et al., 2009, p. 27). In the following decades, the Nam Song Diversion Dam, the Nam Leuk Hydropower Project (60 MW), the Houay Ho Dam (50 MW), and the Theun-Hinboun Dam (210 MW) were established[3] through investments from Japan, Norway, Korea, Australia, Europe and North America, and the ADB, including both public and private entities (Molle

[3] *These earlier developments focused on energy generation through tributaries, while latter discussions focused on in this chapter are on the hydropower along the Mekong River.*

et al., 2009, p. 32). Apart from these, majority of the other projects are by independent power producers approved by the government, whether at the national or provincial level (depending on the scale or power generation capacity).

Table 1

Estimates of the Number of Dams Operating in Laos Based on Government Texts and Databases

Period	Number of dams operating	Capacity (MW)	Electricity generation (GWh per annum)	Share of population with electricity access (%)
1971	1[f]	149[f]	n/a	n/a
1998	2[f]	359[f]	n/a	n/a
2005	24[a]	690[a]	3,509[c]	57[c]
2010	29[a]	2,583[a]	8,449[c]	75[c]
2016	38[a]	6,259[a]	17,703[c]	92.4[c]
September 2018	50[b]	7200 (2019)[b]	22,328[c]	94.5[c]
February 2019	61[d]	7,207[d]	n/a	100[e]

Sources: [a] Committee for Planning (2006, p. 8); Ministry of Planning (2011, p. 23; 2016, p. 20); [b] Reporting ASEAN 2 (2018); [c] International Energy Agency (2021); [d] International Hydropower Agency (2021); [e] World Bank (2021); [f] Kuenzer et al. (2013)

Today, Laos's hydropower energy generation capacity is at 7,200 MW, or 22,328 GWh annually. Table 1 shows that majority of today's energy-generation capacity was developed from 2006 onwards (Ministry of Planning, 2011, p. 23). Five dams were constructed from 2005 to 2011, with a combined capacity of 1,919 MW (8,022 GWh annually), which is triple the capacity expansion from 1971 to 2005.[4]

In 2016, 38 dams in operation provided a 6,259 MW capacity, implying[5] (Ministry of Planning, 2016, p. 95) that by September 2018, Laos had over

[4] In 2005, capacity that was implied was only approximately 690 MW according to the 6th NSEDP. In 2011, there were 29 dams with a capacity of 2,583 MW. Thus, calculating backwards from the 7th to the 6th NSEDP, it can be assumed that prior to this period, there were potentially 24 preexisting dams of smaller capacity that totalled 700 MW.

50 dams, according to a speech by its prime minister at the World Economic Forum,[6] which is about two-thirds of the country's hydropower capacity (Reporting ASEAN, 2018).

Importance of Electricity to Laos's Households and Industries

Expanded Access and Lower Prices (SDG 7)

Electricity plays an important role to Laos's population, as reflected in the sustainable development goal (SDG) 7 of 'ensur[ing] access to affordable, reliable and modern energy services for all' and which also includes components of 'expanding energy services for developing countries' as well as 'renewable energy share in the total final energy consumption' (Ritchie et al., 2018b).

The first key benefits of electricity to Laos lie in providing increased access to electricity among its households at affordable prices. The expansion in electricity-generation capacity in the country has led to a significant increase in the proportion of the population with access to electricity from 25% in 1995 to 57% in 2005, 70% in 2010, and 100% in 2019 (World Bank, 2021a). Annual per-capita electricity consumption grew from 0.1 MWh in 2000 to 0.7 MWh in 2018; at the country level, this represents an increase from 600 GWh in 2000 to 5,000 GWh hours in 2018 (IEA, 2021). Households (residential demand) have been the major beneficiaries, being the dominant users of electricity, increasing six-fold from 326 GWh in 2000 to 1,907 GWh by 2013.[7]

Because hydropower in Laos is domestically sourced, a further benefit lies in lower electricity prices. Laos has among the lowest household-electricity prices per kilowatt hour, ranked 26th globally, at US$0.054/kWh (GlobalPetrolPrices.com, 2020). This is less than a third of the price that households in the Philippines are paying (US$0.170/kWh), given that the Philippines' sources are primarily coal dependent. It is also less than half

[5] Thus, 14 more dams were created from 2010 to 2016, with 15 further dams to be developed, including four prominent ones, which can add another 2,257 MW capacity.

[6] This implies that of the 15 further dams, 12 had already been developed as of September 2018.

[7] The original unit of measurement of household demand is in kilotons of oil equivalent, commonly written as 'kt'. To allow for an easier comparison of electricity production and consumption, this was converted to GWh.

of the price that electricity-importing countries like Thailand are paying, at US$0.114/kWh.[8]

Therefore, domestic electricity generation in Laos from hydropower sources had a positive impact on the economy, especially in expanding the share of the population with access to affordable electricity.

Hydropower-Enabling Economic Development and Transition to Modern Service and Industry Jobs (SDG 1)

Another contribution of hydropower development lies in its contributions to poverty alleviation, in line with the SDG 1 of 'end[ing] poverty in all its forms everywhere' (UN, 2021), through job creation and the modernisation of the Laotian economy (Ritchie et al., 2018a).

Extreme poverty levels[9] in Laos had fallen from 51% of the population in 1997 to 10% by 2020 (World Bank, 2021b). Part of this transformation has resulted from the migration of labour away from agriculture as a traditional low-wage sector. Even today, this sector has an estimated value addition of only US$1,918 per worker annually,[10] which is less than a quarter of the average income of US$7,826 per person.[11]

Economic development is a process of structural transformation, of moving more workers away from low-wage sectors and into higher-wage sectors (Lavopa & Szirmai, 2014). The feat that Laos has achieved was in its ability to shift the share of agricultural labour from 87% of total employment in 1991 to 61% in 2019, a reduction of 26% (ILO, 2021). The modern sector that has absorbed most of these jobs has been the service sector, where income per worker is more than six times higher than in agriculture at US$12,302 as of 2019. Service-sector employment increased its share of the country's labour

[8] Thailand imports as much as 27,000 GWh of electricity as of 2018, which is approximately 14% of its energy consumption.

[9] This follows the poverty threshold of US$1.90 a day at 2011 PPP, as cited in the introduction.

[10] For the remainder of this section, we will refer to the 'value addition' or 'income per worker' as synonymous to 'wages'.

[11] This was derived from World Bank data on the share of agricultural in GDP in 2011, after multiplying this by the average GDP per capita based on the WITS (World Bank, 2021b; WITS, 2021).

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force by 15% and absorbed 60%, the largest share, of the workers who left the agricultural sector.[12]

Following this is the manufacturing sector,[13] with income per worker of US$8,384, or more than four and a half times the income per worker in the agricultural sector. The share of workers increased by close to 5% of the population since 1991, absorbing 19% of the workers who left the agricultural sector. Finally, the nonmanufacturing industrial sectors,[14] which include mining and construction activities, have the highest wages per worker at US$28,464, or more than 15 times the agricultural wages. The share of labour of the nonmanufacturing industrial sector also grew by 5%, absorbing the 21% of the workers who left the agricultural sector.[15]

The role of electricity in allowing for structural transformation is already well established globally. In historical perspective, steam energy and electricity sparked the world's first and second industrial revolutions by expanding the scope of viable economic activities, whether it be manufacturing, travel, or transport industries (Schwab, 2016). The systemic importance of energy to the economy means that stable sources are critical for minimising economic recessions from disruptions to energy access (Brown & Huntington, 2015). Applied to Laos, the enabling role of electricity in the modernisation of Laos's labour force and economy can be gleaned from the OECD's input-output table for Laos, which shows that electricity feeds into almost all of Laos's sectors (Table 2). This sector makes up 2.58% of the value addition in the wholesale and retail-trade sector, 2.86% in hotels and restaurants, 1.57% in education, and 3.39% in health and social work, among others. It also contributes to 0.5% to 1.23% in the manufacturing sectors and 5.31% to the value addition of mining.[16]

[12] Service sector employment grew from 10.3% of total employment in 1991 to 25.6% in 2019

[13] The wages in the manufacturing sector are not directly available in the World Development Indicators database of the World Bank since there is no data on the share of manufacturing out of total labour employed; as such, we also leverage the UN International Labour Organisation's (ILO's) statistics.

[14] Manufacturing share of labour grew from 1.8% of the workers in 1991 to 6.7% in 2019.

[15] The nonmanufacturing industrial sector has grown from 1% in 1991 to 6.24% in 2019.

[16] The aggregated electricity, gas, and water sector is the most detailed level of aggregation for workers in the ILO database.

Table 2

Input-Output Table of Contributions of Electricity, Gas, and Water to Value Addition in Laos's Economic Sectors

Domestic Economic Sector (OECD Nomenclature)	Value Addition of Electricity, Gas, & Water Cost (USD)	Total Value Addition in Industry (USD)	Electricity Share in Total Value (%)	GWh (based on price of US$0.054/kWh)
Construction	2,073,934	1,625,372,908	0.128	38.41
Air Transport	1,041	610,929	0.170	0.02
Inland Transport	152,998	89,770,692	0.170	2.83
Other Supporting and Auxiliary Transport Activities; Activities of Travel Agencies	422	247,502	0.170	0.01
Real Estate Activities	417,244	91,678,732	0.455	7.73
Pulp, Paper, Paper Products, Printing, and Publishing	21,287	3,979,618	0.535	0.39
Wood and Products of Wood and Cork	676,918	126,552,738	0.535	12.54
Renting of M&Eq and Other Business Activities	412,222	73,806,569	0.559	7.63
Food, Beverages, and Tobacco	5,788,917	825,107,293	0.702	107.20
Manufacturing, nec; Recycling	377,860	43,416,536	0.870	7.00
Financial Intermediation	1,376,530	157,094,097	0.876	25.49
Coke, Refined Petroleum, and Nuclear Fuel	269,394	28,978,529	0.930	4.99
Rubber and Plastics	74,536	8,017,768	0.930	1.38

Domestic Economic Sector (OECD Nomenclature)	Value Addition of Electricity, Gas, & Water Cost (USD)	Total Value Addition in Industry (USD)	Electricity Share in Total Value (%)	GWh (based on price of US$0.054/kWh)
Chemicals and Chemical Products	99,237	10,674,823	0.930	1.84
Electrical and Optical Equipment	6,920	671,013	1.031	0.13
Transport Equipment	5,986	580,470	1.031	0.11
Basic Metals and Fabricated Metal	225,385	21,855,366	1.031	4.17
Machinery, nec	1,828	177,258	1.031	0.03
Leather, Leather Products, and Footwear	220,765	17,994,344	1.227	4.09
Textiles and Textile Products	1,041,051	84,855,096	1.227	19.28
Other Nonmetallic Minerals	1,172,559	75,178,742	1.560	21.71
Post and Telecommunications	917,386	58,579,662	1.566	16.99
Education	1,540,503	98,054,159	1.571	28.53
Public Administration and Defence; Compulsory Social Security	13,054,799	710,767,036	1.837	241.76

Domestic Economic Sector (OECD Nomenclature)	Value Addition of Electricity, Gas, & Water Cost (USD)	Total Value Addition in Industry (USD)	Electricity Share in Total Value (%)	GWh (based on price of US$0.054/kWh)
Retail Trade, Except of Motor Vehicles and Motorcycles; Repair of Household Goods	9,586,322	371,895,965	2.578	177.52
Sale, Maintenance, and Repair of Motor Vehicles and Motorcycles; Retail Sale of Fuel	2,649,244	102,775,926	2.578	49.06
Wholesale Trade and Commission Trade, Except of Motor Vehicles and Motorcycles	2,278,211	88,381,931	2.578	42.19
Hotels and Restaurants	13,111,884	459,250,226	2.855	242.81
Health and Social Work	1,032,716	30,431,496	3.394	19.12
Other Community, Social, and Personal Services	3,729,436	72,356,620	5.154	69.06
Mining and Quarrying	35,511,890	668,836,840	5.309	657.63
Total	**99,541,239**	**6,184,121,456**	**1.61**	**1,843**
Agriculture, Hunting, Forestry, and Fishing	1,711,814	236,170,572	0.725	31.70

Source: OECD (2018). Note: To distinguish the impacts of electricity on enabling modern/non-agricultural sectors beyond primary agriculture, the 'Agriculture, Hunting, Forestry, and Fishing' sector (primary production) has been separated from the other sectors.

The fourth column on gigawatt hours of energy used hints at a potential 1,843 GWh of energy used after dividing the value addition of electricity, water, and gas costs by the energy price of US$0.054 per year. The small size of the contributions of energy is a reflection of the affordability of electricity—lower prices for electricity contribute to a smaller measurement of its value addition in the input-output table. Had Laos imported its energy just like Thailand, its costs could have been doubled; or had Laos relied on coal sources, its costs could have tripled.[17] The table shows that across the domestic economic sectors, this contributes to 1.6% of value addition. Therefore, electricity plays a crucial role in the country's modernisation across the multiple job sectors that have absorbed its agricultural labour over the past three decades since 1991.

By 2014, in fact, industrial consumption overtook household consumption as the largest user of electricity and became the largest beneficiary, with energy demand rising to 2,268 GWh by 2018. The third largest demand for energy has been for commercial and public services, rising from 151 GWh in 2000 to 1,163 GWh by 2018, and the smallest consumer of energy has been the agriculture and forestry sector, where energy demand was only at 23 GWh in 2018.

Sustainability Benefit of Reduction in Carbon Emissions through Renewable Energy (SDG 13)

A further benefit of hydropower to sustainable development in Laos is in its contribution to SDG 13, which relates broadly to reducing carbon emissions (Ritchie et al., 2018c). Hydroelectric power constituted 100% of Laos's electricity generation from 2000 until 2015. However, that electricity generation from hydropower has been facing competition from coal. By 2015, coal started contributing 14% of total electricity generation in the country with 2,259 GWh. This increased to 35% of total electricity generation (12,019 GWh) in 2018, with only 65% drawn from hydropower (22,328 GWh) as a renewable source; other energy sources have not figured prominently, for instance, contributing only 0.2% of Laos's electricity consumption from the combined biofuel (45 GWh) and solar power (17 GWh) sources (IEA, 2021).

[17] *Based on an earlier study by the Economic Research Institute for ASEAN and East Asia, electricity expenditures dwarfed the expenditures from water and waste treatment, and no further information was provided in water and gas costs. As such, the figures above potentially cover the true value addition of electricity to Laos's industries (Nishimura et al., 2016, p. 44).*

Interestingly, this shift to coal has resulted from the increased drought risks, which might curtail the country's electricity export ambitions (Ha, 2020). For instance, the recent Sixth Assessment Report by the Intergovernmental Panel on Climate Change in 2021 (IPCC, 2021, p. 41) observed increases in heavy precipitation within East and Southeast Asia and increases in agricultural and ecological drought within East Asia from the 1960s heading up to the present.[18] In 2010, the Mekong River Commission reported that hydropower development through 11 mainstream dams in the Mekong basin could remove the need to rely on greenhouse-gas-emitting sources in the long term, saving 50 million tons of CO^2 emissions annually by 2030 (MRC, 2010, p. ix).

Thus, based purely on the lenses of preventing an increase in Laos's dependence on nonrenewable sources, one might prematurely conclude that the continued expansion of hydropower development would be desirable, as it allowed for the country's complete dependence on water as a renewable source of energy during this period.

Why More Hydroelectricity Is Not Needed to Sustain SDGs 1, 9, and 13

Tempting as it may be to conclude that 'because hydropower is critical to Laos's economy, therefore further hydropower expansion should be encouraged', it is important to note that there is an important distinction between the historical benefits of hydropower development and the benefits of further expansion.

Reflecting on SGD 9, Laos was already producing 8,449 GWh of electricity in 2010, sufficient to meet 100% of its domestic demand then, and even today, at 5,000 GWh (MRC, 2010, p. ix). Thus, the gap of 30% in the population without access to electricity in 2010 (when there was only 70% access to electricity) is not explained by insufficiency in hydropower (World Bank, 2021a) but by the inadequacy of infrastructure for electricity distribution. A study by the Economic Research Institute for ASEAN and East Asia (Nishimura et al., 2016, p. 43) has shown that only 3% of Laos's total land area is connected to the

[18] *Its regional summary for Asia also indicated that 'compound impacts of climate change, land subsidence, and local human activities will lead to higher flood levels and prolonged inundation in the Mekong Delta (high confidence)' (IPCC, 2021, p. 2).*

grid or lit-up base on satellite data of lights across geographical spaces. This is very low compared to its neighbours Vietnam (30%) and Thailand (36%). The problem to address in the long term is not the lack of hydropower-generation capacity but rather the shortcomings in transmission lines for electricity distribution to reach all individuals within the country.

Moreover, while hydropower enabled the development of relatively modern sectors of services and industries to contribute to poverty reduction in achieving SDG 1, the situation is different today. Laos does not need any further hydropower since it has already been producing enough to power up its structural transformation even back in 2010. Rather, the problem lies in insufficient transmission lines for electricity distribution. Higher-capacity transmission lines of 115 kV and above can transmit electricity over longer distances and are needed to run manufacturing plants. Yet the ERIA found that majority of the major transmission lines for electricity as of 2014 (at 24, 688 km) were only suitable for further transmitting only 22 kV of electricity, which can only transmit over 'very short distances'; by contrast, only 4,539 km of transmission lines in 2014 could transmit 115 kV (Nishimura et al., 2016, p. 44). Thus, improving the quality of transmission lines is just as important as expanding their geographical coverage.

Finally, with regard to SDG 13 of reducing carbon emissions, Laos's electricity-generation capacity in 2010 was already sufficient to achieve 100% dependence on renewable energy sources. Therefore, increasing hydropower-electricity generation is not key to reversing the country's trend of increasing reliance on coal since 2015.

In summary, this analysis finds that as early as 2010, Laos was already producing sufficient energy to contribute to the goals of structural transformation and modernisation (SDG 1), energy security (SDG 7), and reduced carbon emissions (SDG 13). What is of greater importance, moving forward, is in expanding the distribution of the energy capacity with a focus on transmission lines that can carry higher voltage of at least 115 kV. This therefore raises the further question on to what extent Laos should continue to expand its hydropower-generation capacity by building more dams.

Table 3

Current Status of Planned Mega Dams in Laos in Mekong River Commission's 2010 Report

Site/Name of Dam	Capacity Based on 2010 MRC Report (MW)	Status
1. Pakbeng	1,230	Approved[a]
2. Luang Prabang	1,410	Approved[a]
3. Xayabuly	1,260	Operational[a]
4. Paklay	1,320	Approved[a]
5. Sanakham	1,200	Approved[a]
6. Sangthong-Pakchom	1,079	Planned as of 2017[b]
7. Ban Kum	1,872	Commissioned as of 2017[b]
8. Latsua (rename to Phu Ngoy)	686	MOU signed August 2020[c]
9. Don Sahong	360	Operational[d]

Sources: Based on information available online as of August 28, 2021: [a] Hunt (2020); [b] WLE Greater Mekong (2018); [c] International Journal of Hydropower and Dams (2021); [d] Hydro Review (2020).

Implications on the Agricultural and Fisheries Sectors

An important consideration on whether to further expand hydropower generation are the trade-offs to this activity on the rest of the economy. What is contentious today is the establishment of eleven megadams along Laos and Cambodia. Table 3 presents updates of the nine mega dams that were deliberated for Laos, listed in geographic sequence from those sited in the north to those sited in the south of Laos.

This can only be ascertained after factoring in the ecological impacts of this endeavour, building on reliable scientific foundations. An objective scientific analysis is essential, given accusations of the politicisation of research findings, with some arguing the presence of China's 'hegemony' (Biba, 2021) in these assessments, and others arguing against it (Hu, 2021), as well as further accusations of 'US-backed institutions hyping China's "dams threat" ' (Hu & Lin, 2020).

To avoid this trap, we begin by establishing the facts from scientific principles of how hydropower generators influence water flows and environments. Building on the IPCC's Special Report on Renewable Energy Sources and Climate Change Mitigation (Kumar et al., 2011), electricity within hydropower generators is created by converting kinetic energy from water flows into electricity.[19] The IPCC's report notes that run-of-river (ROR) types of hydropower generators do not influence the flow of water significantly since they build precisely on the strength and speed of river flows. However, ROR hydroelectric generators may not be stable or reliable given their dependence on natural water cycles of evaporation and precipitation (Kumar et al., 2011). Given the increased drought risks, as cited in the IPCC's Sixth Assessment Report, hydropower developers turn to 'reservoir/impoundment/dam mechanisms' to provide stability (Kumar et al., 2011). These influence waterflows, giving dam administrators greater control over the timing of electricity generation whenever water is released.

Applying these to the proposed dams in Laos, it is cautionary to note that the ROR nomenclature is misleading since these still have 'dam' components. For instance, the 2018 MRC report on optimal water levels for each of the major dams implies that the planned generators have water-control components (MRC, 2018, p. 65). The first impact of such dams is on waterflows since they accumulate water until their target water levels are met before eventually releasing water downstream. A higher water-level target for dams means greater stability of access to electricity, while magnifying or punctuating impacts on water flows downstream during climate-induced rainfall

[19] *Based on Faraday's laws of induction and conduction, changes in polar flows of magnets create electric current, and within an electromagnetic generator; this change in polarity is achieved by turning the generator's rotor. While rotors can be turned/spun using manual force, steam, and other approaches, the approach of hydropower generation is to use the movement of water to turn electromagnetic generators and create this electrical current (Lucas, 2016).*

disruptions that occur upstream. By contrast, a lower water-level target for dams minimises environmental impacts but reduces the potential to provide a stable energy supply.[20]

The second impact of dams is on the ecology of rivers and lakes. Hydropower dams alter the passageways where water flows and increase the likelihood of flooding upstream, leading to a 'loss of river connectivity' by altering the natural timing of sediment flows and, in turn, the river ecology (MRC, 2020, p. 20). Moreover, when sediments are trapped within reservoirs/impoundments, the sediments available downstream are reduced, contributing to a further soil erosion, unless the costlier flushing mechanisms are integrated to release the trapped sediments.[21]

While agriculture, aquaculture, and fisheries employ majority of Laos's population, dams can disrupt the flow of nutrients (i.e., nitrogen and phosphorous), resulting to less nutritious water for agricultural purposes. Sediment trapping can also cause vegetation growth along the river—narrowing river channels and raising upstream-flooding heights during high-rainfall periods, leading to changes in water quality (MRC, 2020, p. 21). They can also increase the density of algae ('algal blooms'), depriving fish of the needed oxygen while raising water temperatures (Soon Eong & Sulit, 2017). Fish habitats and reproduction are also affected since waterflows define the timings of sediment release and, in turn, fish migration and spawning patterns.[22] They can also raise salinity levels, which allow predatory fish to invade, thus further disrupting the ecosystem for fisheries (Costanza et al., 2011). While having fish ladders, wider fish passageways, and fewer turbines blades can partly mitigate this, these make dam construction costlier (MRC, 2020, p. 23).

[20] Too low a target for water levels can thus diminish the value drawn from dams. This is important given that such disruptions in water supplies are projected to increase in the long term by the IPCC.

[21] Even flushing can contribute to greater soil erosion, however, so this too requires further studies and optimisation.

[22] This is significant to macroinvertebrates such as snails, worms, crayfish, and clams, as well as other types of fish, which can get stranded in reservoirs.

Implications on Tourism and Further Interlinked Sectors

A further impact is on Laos's tourism sector, which has grown from US$100 billion in 2001 to US$974 billion in 2019, with tourist arrivals growing from 674,000 in 2001 to 4.8 million in 2019 (World Bank, 2021c). Tourism also contributed an average of 15.5% to Laos's total exports from 2010 to 2019. Yet dam development sites are also where some of Laos's most precious tourism sites lie. For instance, whereas the Luang Prabang Dam is one among the projects planned, this is also a UNESCO heritage site.[23] This also leads to displacement of peoples in the villages where dams are established, which leads to additional costs to compensate and provide resettlement for them.

The impacts on tourism cause further ripples across the economy, given the strong sectoral forward and backward linkages of the tourism industry. An earlier study has, in fact, shown that tourism has the fourth highest intersectoral linkages across the major economic sectors in Laos (Khanal et al., 2014, p. 181). Majority of these are accommodation establishments (hotels), but these also include resorts and restaurants. These, in turn, contribute to the demand that fuels the growth of Laos's agricultural sector.

Thus, any further hydropower generation presents a trade-off between the incomes generated from hydropower and the impacted sectors. It is important to note that the income from further hydroelectricity expansion benefits a smaller share of the population (6.24%) (ILO, 2021) employed in this sector,[24] relative to the majority that are employed in agriculture (61%), which is roughly 10 times larger, not to mention the other services and accommodation sectors linked to the tourism industry. Given that hydropower expansion is highly capital dependent (and less labour-dependent), the decision to leverage hydropower exports as a source of future revenues thus reflects a decision to prioritise the interests of owners of capital, who are fewer, rather than the workers.

[23] It is known as a 'fusion of traditional architecture and Lao urban structures with those built by the European colonial authorities in the 19th and 20th centuries' (UNESCO, n.d.).

[24] In fact, this figure is the sum of mining, construction, and electricity/energy generation, and not from electricity alone, indicating a potentially even smaller share of the population employed in the sector; the utilities sector only employed 0.49 % of Laos's population in 2019.

Rationalising and Reassessing Future Hydropower Expansion

Laos's latest Eighth National Socio-Economic Development Plan heading towards 2030 envisions 'sustainable development with harmonization among the economic development and socio-cultural development and environmental protection' (Ministry of Planning, 2016, p. 87). While some may see hydropower development as crucial to achieving this, this chapter has illustrated here why further hydropower development does not necessarily contribute to further household-electricity access (SDG 7), structural transformation and poverty reduction (SDG 1), and clean-energy reliance (SDG 13) since Laos is already producing more than enough energy for this purpose heading up to 2030. Its total demand today is only at 5,000 GWh, while its current hydropower-production levels are at 22,000 GWh (IEA, 2021).

Given that the ecological and redistributive economic impacts of hydropower development favour capital owners over workers, Laos should treat further hydropower generation as a sensitive political decision. This is not to say that additional hydropower expansion should be totally scrapped from Laos's future plans. Rather, it is important to consider that the way dams are designed matters. For instance, the target dam water levels matter, which represent trade-offs between greater disruptions on water supply downstream during periods of weather disruptions in the case of higher target levels and greater energy-supply disruptions in case of lower target levels. Equally important are the widening of the water passageways, the establishment of fish ladders, the widening of turbine blades, and the integration of flushing mechanisms for sediments; the presence of these can reduce the negative impacts on the ecology of rivers, while likely increasing hydropower project costs. Giving attention to the choice of locations to establish dams—and the sequencing and timing of their construction—can further help minimise the negative impacts on Laos's tourism sector. Such considerations apply not only to the nine mega dams that are currently planned in Laos but also to hydropower generators that are already underway among independent power producers and less regulated/debated in the country. This calls for dialogue and public consultations minimising untoward impacts on Laos and for corresponding improvements in the geographic or country-wide electricity-transmission coverage as well (MRC, 2020, p. 24).

Future projects should only be pursued after integrating the additional costs of implementing these infrastructure design adjustments to allow for

sustainable hydropower expansion and the additional costs from mitigative social measures. While these will likely lead to higher project costs but lower net present value from the investors' standpoint, they also offer greater social benefits or reduced social costs, which make them more favourable from a societal standpoint and higher potential to yield net positive social value. Otherwise, should their negative social impacts be realised, investors face the political risk that they become wasted investments should the government decide to discontinue them midstream in later periods as a result of societal dissent.[25]

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[25] This makes reference to the growing wave of greater democratisation that is already occurring in Laos's neighbours, namely, Thailand and Myanmar, which its leaders are wary of spreading to Laos, as a one-party state (Siow, 2021).

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China and the Politics of Energy Demand in the Mekong Region: Responses from Laos and Cambodia

Andrea Haefner and Sovinda Po

Abstract

This chapter discusses the responses from the governments of Laos and Cambodia towards Chinese influence in regional energy politics, particularly focusing on the hydropower dams in China and China-funded hydropower dams in the Lower Mekong. After setting the scene into the Mekong region—especially looking at the energy demands in Laos and Cambodia—the domestic political motives of both governments, including the legitimacy of the party, the role of civil society, and the bigger picture of bilateral relations, will be analysed in the response of both governments towards China.

Setting the Scene: Energy Politics in the Mekong Region

Over the last decade, the Mekong region has faced growing challenges, including a steady increase in hydropower projects as a result of rapid economic development of the riparian states including China, Thailand, Laos, Vietnam, Cambodia, and Myanmar. The need for cheap and renewable energy is rising to meet increasing electricity demands in the region, volatile prices in international energy markets, and concerns over carbon emissions (Haefner, 2020). Thailand has 22 operational hydropower dams, whereas Vietnam has 371 medium and small operational hydropower dams. None of these two countries have pursued a large-scale hydropower dam on the Mekong mainstream and have shifted their attention to renewable power plants for energy. Adopted in 2018, the Power Development Plan of Thailand has set out concrete plans to increase the share of renewable energy up to 30% of the total energy by 2037. On the other hand, the Power Development Plan of Vietnam released in 2020 has higher ambitions by increasing the share of renewable energy up to 30% of the total energy by 2030, seven years earlier than Thailand (ITA, 2021; Burker & Nguyen, 2021).

While Thailand and Vietnam have focused their attention on a mix of renewable energy, Cambodia and Laos are still focused on hydropower. This different energy priority has created opportunities for external powers, including the United States, Japan, Australia, and South Korea. These four countries have pushed the agenda of renewable-energy development, which has been embedded in various initiatives such as the Mekong-U.S. Partnership, Mekong-Japan Cooperation, Mekong-Australia Partnership, and Mekong-Korea Partnership. Such a drive meets the demands of Thailand and Vietnam, while Cambodia and Laos have less enthusiasm in embracing these initiatives. Cambodia and Laos have continued to embrace hydropower dams for energy, and China has played a leading role in developing hydropower dams in these two countries.

Overall, the Mekong region has become an increasing focal point of different power players in the region competing for influence, with a recent increase in the rivalry between China and the United States. China's influence has been growing in the Mekong region through the Belt and Road Initiative and interlinked infrastructure projects such as roads, bridges, and train networks. As of 2020, China has built eleven dams on the Mekong-Lancang River in China, with one further dam being planned and one being constructed. Similarly, on

the lower Mekong, nine mainstream dams are planned, with two being already operational, besides the over 100 dams in Mekong tributaries, many of them built through loans and involvements by China (Eyler & Weatherby, 2020). Eight hydropower projects that are operational in Cambodia were developed, financed, or constructed by China or by Chinese companies, including the Lower Sesan 2 and Stung Atay (Stimson, 2020).[1] In Laos, the number is nearly double with 15 Chinese-aided hydropower projects operational, with key projects including Nam Ou 1 to 7 by Powerchina on the Nam Ou River, a key tributary of the Mekong River.

Laos had 70 operational power projects in 2020, 61 of which are hydropower projects (Stimson, 2021b). The power mix in Laos by installed capacity was dominated by almost 80% hydropower, followed by coal, solar, and biomass. There is a diverse set of stakeholders involved in the power sector in Laos. Across all project statuses,[2] Thailand is the largest investor in Laos's power-generation sector, followed by China and Vietnam (Stimson, 2021b). As in many Southeast Asian countries, significant disparities exist between demand and supply inside Laos. Installed capacity in the north and central region surpasses local demand, while southern Laos faces shortages. The lack of a national grid has led to a situation where Laos exports significant amounts of electricity to Thailand from the north but must purchase electricity back at higher costs in the southern grid (Ricardo, 2019). The amount of electricity purchased back is not insignificant. From 2009 to 2016, imports accounted for around 20% of Laos's domestic energy consumption, causing financial strain on Electricity du Lao (EDL) (ADB, 2019). Although approximately 70% of Laos's generation capacity has been dedicated for export, domestic demand has been growing rapidly. Laos's per-capita electricity consumption is among the lowest in ASEAN but is rising rapidly at an average rate of 14.5% annually over the past 10 years (ADB, 2019).

Similar to Laos, Cambodia's installed capacity power mix is dominated by hydropower with 60%, followed by 29% coal and solar, oil, and waste (Stimson, 2021b). Unlike a focus on export, Cambodia's hydropower developments have been mainly driven by rapid electricity demands. Further significant

[1] *Analysis based on the data in the Mekong Infrastructure Tracker (Stimson, 2020).*

[2] *This includes projects operational, under construction, or planned.*

expansion of power-generation capacity is required to meet Cambodia's rapidly growing demand for electricity in order to avoid shortages in recent years. The International Renewable Energy Agency estimates 150% to 200% higher cumulative growth in energy demand through 2025 (IRENA, 2018, p. 48).

While Cambodia's transportation network is evolving and expanding quickly, it lacks connectivity to many key economic centres domestically and also cross-border connections to regional hubs like Ho Chi Minh City and Bangkok (Stimson, 2021a). While expanding its installed power capacity is important for Cambodia, recent droughts, changing weather patterns, and impacts on fisheries have started a rethinking regarding hydropower projects within the Cambodian government, halting the proposed Sambor and Stung Treng dams for now.

Overall, providing an overview of the energy needs and mixes highlights the dynamics in energy politics, including demands and strategies. It also showcases the linkages to the key power players in the Mekong region as well as the increasing influence China has in this important sector, especially when linked to hydropower developments in Laos and Cambodia. However, these dynamics also highlight the importance of recognising that energy politics are not dealt with in silo and depend on wider bilateral and regional relations.

Laos Case Study

Laos has a population of around 6.7 million, consisting of 49 ethnic groups within four ethnological families (ADB, 2011). Poverty levels have reduced significantly in the last decades with Laos aiming to leave the least-developed-country status by 2024. Despite the progress in reducing poverty levels, Laos is heavily reliant on external money through aid and increasing foreign direct investments from China. Recent high levels of growth have been driven by the natural resources sectors, including commercial export agriculture, hydropower, and mining, while the majority of Lao citizens are subsistence farmers.

This growth made the country one of the 10 fastest-growing economies in

the world with an average economic growth rate of 7.9% since 2006 until the COVID pandemic (Sims, 2017, p. 20; ADB, 2011). These developments were driven by policies focusing on 'turning land into capital' and 'becoming the Battery of Asia', giving priority to acquisition of land concessions and hydropower developments along the Mekong mainstream or key tributaries such as the Nam Ou and Sekong Rivers (Haefner, 2016; Sims, 2017, p. 20). Mining and hydropower accounted for 80% of FDI in Laos in 2018.

Regarding hydropower projects, the sphere was, until recently, dominated by former Lao deputy minister for Energy and Mines Viraphonh Viravong, who argued that hydropower is crucial, as it is clean, cheap, and renewable, further affirming the statement that 'hydropower contributes something like 33 percent to the natural capital of the wealth of Laos. And if Laos wants to leave behind its least developed country status by 2020, this is our only choice' (Varchol, 2012).

Lao's plans to move from landlocked to land-linked and become the Battery of Asia by exporting electricity have led to the buildout of dozens of large-scale hydropower dams, including, as of 2020, nine planned for the mainstream of the Mekong River (Eyler & Weatherby, 2020). There are more than 280 additional dams in early phases of development, although 152 of these are small-scale dams under 15 MW (Stimson, 2021b). As mentioned earlier, 15 hydropower projects are operational and one planned (Pak Lay Dam) that were developed, financed, or constructed by China or Chinese companies showcasing China's increasing involvement in Laos wanting to become the Battery in Asia.

This was further intensified in March 2021, when the Lao's state power company Electricity du Lao (EDL) and the China Southern Power Grid Company signed a 25-year power-grid concession after the Lao government found itself with rising debt levels alongside the economic downturn of the COVID-19 pandemic. The Chinese-majority company Electricity du Laos Transmission Company Ltd. (EDLT) deepens China's involvement in the Lao government's goal of transforming itself into the Battery of Asia and gives EDLT effective control of electricity exports to neighbouring countries (Strangio, 2021).

In recent years, many observers raised concerns about Lao's increasing debt

to China. Even before the COVID pandemic, significantly impacting on Lao's tourism industry and remittances from abroad, Lao's debt to China was estimated at 45% of GDP (Rajah et al., 2019). However, Laos has historically managed to balance influence in the country through close partnerships with Vietnam and Thailand. Vietnam is Lao's most trusted friend, with both countries fighting alongside each other in the Vietnam War, looking back to over 40 years of close political ties alongside economic and cultural ties (Nguyen, 2021). Vietnam has a high interest and growing concerns over China's influence in Laos. However, China has overtaken Vietnam as the largest investor and lender in Laos. Keeping Laos by Vietnam's side is a top foreign-policy priority for Hanoi. Earlier in 2021, Vietnam announced it had gifted a new parliament building worth US$111 million to Laos, again showcasing an increasing interest by several global and regional players in Laos (Nguyen, 2021). This importance of Laos to Vietnam was also visible in concerns raised by Vietnam as part of Procedures for Notification, Prior Consultation and Agreement (PNPCA) on the first mainstream dams in Laos, the Xayaburi Dam, for which consultations started in 2010. While Cambodia and Vietnam were initially outspoken by 2012, the rhetoric from both countries waned due to various reasons, with Vietnamese media still pressuring hydropower projects in general without specifically addressing specific projects (Haefner, 2016, pp. 57–58).

However, similar to Laos, many regional countries including China, Vietnam, and Cambodia see economic openness as a way forward; however, the governments continue to restrict participation in public affairs (Transparency International, 2020). Laos is a one-party state in which the ruling Lao People's Revolutionary Party (LPRP) dominates all aspects of politics and harshly restricts civil liberties. Compared to other authoritarian states in Southeast Asia, the LPRP has a record for intolerance of dissent that surpasses other regional countries (Souksavanh, 2020). Although protected in the constitution, the government severely restricts freedom of assembly.

In conjunction with key legislative changes, including the 2017 introduction of the Decree on Association (No. 238), enforced disappearances and arrests of Lao citizens provide an additional means for the Lao government to ensure obedience of its citizens and controlling all aspects in the country.

Protests are rare, and those deemed to be participating in unsanctioned gatherings can receive lengthy prison sentences. Citizens who criticise the Lao government disappear or are arrested without due process and endure harsh treatment and lengthy prison terms. A recent case includes Houayheuang Xayabouly (also referred to as Mouay), who was arrested in September 2019 for complaining in a Facebook video about the insufficient response to severe flooding in the south of Laos and was sentenced to five years in jail for 'campaigning against, defaming, and attempting to overthrow the party, state, and government' (Souksavanh, 2020). As a result of legislative changes, prominent cases of disappearances and long jail sentences—unlike in Thailand, Cambodia, or Vietnam—these circumstances have resulted in no or very limited voices against hydropower dams in Laos by citizens or local NGOs. This control was further intensified by the Lao government in early 2021 with the announcement of a task force to police social media platforms, especially targeting content on Facebook reporting 'fake news' and posts criticising the government or the ruling LPRP. Overall, this lack of grassroot empowerment within Laos does allow dam projects to proceed unimpeded, with the dominant dam rhetoric by the government and visibility throughout media focusing on economic growth and becoming the Battery of Asia.

Cambodian Case Study

Similar to Laos, Cambodia, as a developing country, is in dire need of energy to boost its economic growth. With its continued annual growth of around 7%, it is estimated that Cambodia will need around 6,000 MW of electricity per year starting from 2030 (ADB, 2018). To address the shortcomings of energy demand, the Cambodian government has employed two strategies. The first and obvious one is to import energy from neighbouring countries. As noted above about Laos's solid embrace of hydropower dams, Cambodia has become one of Laos's important energy markets. In 2019, Cambodia bought 2,400 MW of electricity from Laos (Keeton-Olsen & Sineat, 2021). Second, Cambodia has partnered with China to construct hydropower dams at various locations throughout the country, mostly along the Mekong River. Until now, China has provided both finance and technology to Cambodia to build eight operational hydropower dams with one hydropower dam, the Lower Sesan III, being planned. Six of the operational dams together can

generate 928 MW of electricity that accounts for 47% of the overall domestic energy production (Elten, 2018).

Chinese-funded dam projects have not gone without resistance. There are widespread studies regarding the negative impacts of Chinese-funded hydropower dams in Cambodia. The impacts include drought, low sediments, and disruption of fish migrations. Thus, these nefarious impacts have invited various concerned stakeholders such as local residents and environmental NGOs such as Mother Nature, and Oxfam to protest against it.

However, this openness does not mean that these non-state actors have complete rights that are fully protected by the constitution and the local authority. In fact, the political openness itself is still limited. While Laos has not opened up any political space for their own citizens and civil society groups to exercise their rights, Cambodia has been under strong pressures from international organisations like the United Nations Human Rights Commission (UNHCR) and Western countries like the United States to keep the domestic political environment free and open. The main reason why Cambodia has, to a limited degree, been subjected to these democratic pressures is the fact that Cambodia as a poor, developing country has always been a recipient of foreign assistance from these entities. If Cambodia is not willing to comply, it will risk losing support from them, which is a scenario that is happening at the moment.

However, the Cambodian government's decision to allow protests to happen in the first place risked tarnishing its overall relationship with China. Over a decade, Cambodia has been seen courting China for economic and military support that can be used to empower the Cambodian ruling elites (Po & Primiano, 2020). China has become the most influential actor in Cambodia's domestic politics and foreign policy, and the Cambodian People's Party (CPP) has benefited tremendously from this relationship. However, after all, civil society groups are not part of the government-affiliated agencies. Their actions do not reflect the policies of the Cambodian government. Thus, its impacts on overall bilateral relationship between Cambodia and China were minimal and manageable.

The Cambodian government has fully understood this democratisation-aid dynamic. It has used this dynamic to its own advantage. Even though free and open domestic political space is a threat to the political survival of the CPP—as more people are empowered politically, the more they are willing to contest the power of the CPP—the Cambodian government has understood it and turned it into a source of political incentive instead. This means that limited open domestic political freedom is part of a broader legitimation strategy of the Cambodian government. On the one hand, it is a good political gesture from the Cambodian government to present to the Western donor countries. Such a gesture is to only keep them content with democratic progress and Cambodia will continue to receive their foreign assistance. On the other hand, it also seeks to ameliorate the rising tension between the government and local actors. The fact that they can protest indicates that the government is not solely a dictatorial government.

However, such freedom has its limits. The Cambodian government has calculated the costs and benefits of opening more political space. Whenever civil society or other political opponents are becoming stronger, which may threaten the power base of the government, that created space is likely to be limited. In retrospect, the Cambodian government allowed these nongovernment groups to act with less constraints. But in recent years, there have been recorded crackdowns on their organised actions.

Even though states have absolute authority to impose rules and, in an authoritarian context, employ violent coercion, their ability to use such a power has not been without resistance. In most authoritarian contexts, authoritarian states face resistance from their own governed. Thus, authoritarian states themselves have to compromise. The Cambodian government, in this case, is not different. It has to give in to certain social forces that may run out of control and bring more risks to the power. Among the Chinese-influenced hydropower dams, the Chey Areng Dam project, which is currently being postponed, experienced a high degree of resistance compared to other projects. The protest escalated to a point where most protesters were not only local residents but also people from Phnom Penh and neighbouring provinces. With such an escalation, the government saw it as a risk to its power and decided to halt this project (Chheat, 2021).

This means that whether or not the Cambodian government agrees to the demand of civil society regarding Chinese-funded dam projects is contingent upon how much political popularity to lose or gain. Even though the cancellation of this project may be understood as an attempt to break away from China, it is not true. Even though the Cambodian government is not willing to upset China in an overall sense of bilateral relationship, the Cambodian government had to decide, subject to the local demand because the risk was too high to be ignored.

Discussion

As both Laos and Cambodia depend on energy to boost their economic growth and enhance the legitimacy of their respective regimes, this is an opportunity for China to play a leading role in energy development in these two countries. So far, China has been increasingly willing to assist Laos and Cambodia in this regard. In return, China has gained a key advantage—that is, China has full cooperation and support from the governments of Laos and Cambodia. These two small authoritarian states have not expressed their objection or criticism regarding Chinese hydropower dams and its impacts on their people. This silence represents a willingness of both governments for China to continue to act without prior consultation even though the Mekong River is transboundary.

However, it does not mean that China has not faced any challenges to their own hydropower-dam ambitions. External intervention by other powers such as the United States and Japan is a concern for China, alongside voices by international NGOs and UN agencies.

From Obama to Trump, the United States has always been active in promoting transparency and accountability of hydropower-dam development. Recently, the Stimson Center, a nonprofit, nonpartisan think tank funded by the U.S. government, launched the Mekong Dam Monitor to monitor the water flow along the Mekong and the impacts of hydropower dams in China on the riparian states. Furthermore, the United States also upgraded its old Lower Mekong Initiative to Mekong-U.S. Partnership in 2020. With this new initiative, the United States has also pledged to provide over US$100 million to the Mekong countries (U.S. Mission to the ASEAN, 2020).

Japan, as a traditional regional power in the Mekong region, has been working silently but actively with the Mekong countries so that China will not become an exclusive power that solely dominates this region. Japan hosts an annual Mekong-Japan Summit, and Japan's assistance commitment has always been on the rise. In 2018, both Japan and the Mekong countries adopted the Tokyo Strategy 2018, which aims to build soft and hard connectivity for the Mekong region. Furthermore, Japan partnered with the United States through the Japan-U.S.-Mekong Power Partnership (JUMPP) to boost clean-energy production for the Mekong region.

Renewed U.S. and Japanese commitment and additional funding to the Mekong region has been welcomed by the Mekong countries, but whether that translates into viable alternatives to Beijing's massive trade and investment into the Mekong region and growing influence over smaller countries such as Laos and Cambodia remain to be seen. As part of balancing these two bigger powers, China institutionalised its cooperation with the Mekong countries by establishing the Lancang-Mekong Cooperation (LMC) (Po & Primiano, 2021). Within the LMC framework, there is the LMC Special Fund (hereinafter 'the Fund'), which provides more funding to the Mekong region. The Fund has so far supported over 500 development projects in the five Mekong countries (Yi, 2021). Thus, the Fund makes it hard for ASEAN countries to turn away from China (Haefner, 2020).

Even though China has been checked by the United States and Japan, Vietnam, who has a long-term influence in Laos and Cambodia, has been increasingly anxious about China's expansion into these two small countries. Vietnam is struggling to maintain its traditional sphere of influence in these two countries. One big reason is that Hanoi cannot compete financially with Beijing in providing loans and investment. Cambodia's FDI in 2019 totalled nearly US$3.6 billion with 43% of this investment being from China, up from 15% of total FDI in 2017 and far higher than other major investors like South Korea (11% of FDI in 2019) and Vietnam (7%) (Xinhua, 2020). This concerns Hanoi, as financial resources were the determining factor in deepening China-Laos and China–Cambodia ties. Even though Laos has not been as close to China as Cambodia, Hanoi does not want to see Laos go the same way, although Vietnam has limited options and resources (Nguyen, 2021).

Conclusion

This chapter discusses the responses from the governments of Laos and Cambodia regarding its energy demand and Chinese-funded hydropower dams both within its own border and in China. As developing countries, both countries depend significantly on energy to boost their domestic production and foster economic growth. Their energy demand has created an opportunity for China to further enhance its leadership role in the Mekong region.

While the Laotian government visions itself to be the Battery of Asia, it is increasingly relying on China for infrastructure projects, especially as part of the Belt and Road Initiative. To do so, the Laotian government has to make sure that the bilateral relationship is not troubled by pressure on hydropower dams in Laos and in China. Thus, the Laotian government has not opened up much space for freedom of speech and freedom of assembly—the hydropower dams in Laos or China do not get much public coverage besides the positive impacts on economic growth and available clean energy.

The Cambodian government does depend on energy provided by the hydropower dams, but other sectors such as agriculture, tourism, garment industry, and, in recent years, real estate have increasingly become important for economic growth in Cambodia. In this regard, the Cambodian government has opened up some space for civil society and the local residents to voice their concerns and organise protests against the nefarious impacts of dams in Cambodia and China. On the state level, the common feature of response is the silence from both governments. After all, both governments are in dire need of increasing trade with China and having more Chinese investments. They are not willing to openly voice their concerns or criticise the impacts of hydropower dams in China or Chinese-aided dams in the Lower Mekong. Whatever the response is, the ultimate purpose is to increase the capacity to rule and the legitimacy of ruling of both governments.

But the difference is that while Laos has completely shut down all domestic voices that may hurt its own dam ambition and China, Cambodia has adopted a more compromising stance. This is because Cambodia has allowed limited public participation as its broader legitimation strategy, whereas Laos has not seen the same need to do so. Specifically, Laos has depended on strong economic performance as the legitimation strategy, so the Laotian government has to contain all domestic opposition forces that may challenge its base of legitimacy and ruling.

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Reassessing the Impact of Hydropower Development Project along the Mekong River Basin in Cambodia

Rasmeykanyka Bin and Ponleu Soun

Abstract

Large-scale hydropower development projects in both Upper and Lower Mekong basins have raised doubts and debates as to their impacts on the lives of the people living in the Mekong basins and whose livelihoods rely on a variety of resources available from the Mekong. On a large scale, the construction of more than a hundred hydropower dams on the mainstreams and tributaries of the Mekong River has caused immediate dam-induced displacement and damages to the fishery and biodiversity, which heavily affect the livelihoods of local riparian communities. Likewise, it's been considered that a hydropower plant on the mainstream of the Mekong's Lower Se San 2 Dam in Cambodia's northeastern province has not only resulted in the displacement of local riparian communities but has also undermined human rights in Cambodia. The local riparian communities affected are mostly indigenous people and other ethnic minorities.

This chapter aims to examine the impacts of the hydropower-development project along the Mekong River on the displacement of affected local communities in Cambodia. It begins with a brief overview of hydropower development and its economic and ecological viability in Cambodian society. Overall, this chapter intends to understand the displacement impacts of hydropower development projects on Cambodian local communities.

Driven by the continuing growth in energy demand, countries of the Lower Mekong Basin have been exploiting the Mekong River for hydropower potential. In addition to 11 operated and 11 planned hydropower dams on the mainstream Mekong (Lancang) River of China, the number of hydropower projects in the Lower Mekong Basin is 89 with 12,285 MW total installed capacity. Of these, two are in Cambodia—O Chum 2 Hydropower Dam (1 MW installed capacity) and Lower Se San 2 Dam (400 MW installed capacity)—which are all on the tributaries of the Mekong River. On the mainstream of the Lower Mekong Basin, 11 projects are planned, with seven in Lao PDR, two in Cambodia, and two across the Lao-Thai border.

In Cambodia, the two major hydropower dams that are planned to be constructed are Stung Treng (980 MW installed capacity) and Sambor (2,600 MW installed capacity). However, in response to the public outcry in 2020, the Cambodian government suspended construction of dams on the mainstream of Mekong until at least 2030 (Kijewski, 2020). The affected communities' displacement as a result of hydropower development projects is among the most serious issues in Cambodia that demand pragmatic solutions and collective efforts from the government of Cambodia and the intergovernmental agencies in the Mekong region (Eyler, 2019).

To understand the hydropower impacts on displacement, this chapter examines the challenges local affected communities are facing as a result of hydropower project development in Cambodia. This chapter presents a case study of Lower Se San 2 hydropower dam development in the northeast of Cambodia that started construction in 2014 and officially operated in 2018, which resulted in the displacement of thousands of people and threatening the source income of thousands more. At the same time, this paper attempts to understand existing legislative frameworks guiding hydropower development projects in Cambodia.

The Mekong River Commission Basin Development Plan (BDP2), in terms of net present values (NPV) for a 50-year evaluation period, reported a large economic benefit (US$33.4 billion gains) from hydropower generation, which far outweighed negative impacts (MRC, 2011, pp. ix-xiii). However, a study by Natural Resources and Environmental Management, research, and Training Center (NREM) in 2017 showed that the net economic impact of planned hydropower projects on the Mekong River and its tributaries

Economic Viability vs Ecological Viability

Table 1

Country Cost-Benefit Split for 11 Dams Scenario

	BDP2 NPV (in million USD)	NREM Update NPV (in million USD)
Laos PDR	22,600	700
Thailand	4,500	1,300
Cambodia	2,600	-6,500
Vietnam	3,700	-2,800
Total	**33,400**	**-7,300**

Note: The "11 dams scenario" with eleven planned mainstream dams (nine in Laos PDR and two in Cambodia) plus 30 planned tributary dams. Source: Intralawan et al. (2017)

is negative (US$7.3 billion loss) based on conservative updated data for project economics, fisheries, and social and environmental mitigation costs (Intralawan et al., 2017, p. 1). The study concluded that the 11 projects on the Lower Mekong Basin would block fish migration routes, change flood areas, decrease sediment/nutrient loading, and significantly reduce the Mekong River fish catch (Intralawan et al., 2017, p. 1).

Regarding cost-benefit distribution between the Lower Mekong Basin (LMB) countries, BDP2 concluded that all LMB countries would benefit from hydropower development and that Laos would be the main beneficiary, assuming that all hydropower profits would accrue to the host country (MRC, 2011, pp. ix-xiii). On the other hand, NREM Update in 2017 showed that Thailand would be the main beneficiary while Cambodia and Vietnam would suffer large negative impacts by US$6.5 billion and US$2.8 billion, respectively (Intralawan et al., 2017, p. 11).

According to the MRC Council 'Study on the Sustainable Management and Development of the Mekong River Basin including Impacts of Mainstream Hydropower Projects' (2017), the LMB could see economic gains from full hydropower development of more than US$160 billion by 2040 in which Cambodia's NPV would be only US$12 billion (MRC, 2017a, pp. 21). But those benefits come with potential costs. The decline of fisheries could cost nearly US$23 billion by 2040, while Cambodia alone will lose US$6.3 billion (MRC, 2017a, pp. 21-26).The loss of forests, wetlands, and mangroves may cost up to US$145 billion. With further reduction of sediment due to dams and sand mining, rice growth along the Mekong will be severely curtailed. Without the ambitious reforestation plans, Cambodia would lose in maximum up to US$121 billion in 2040 if agricultural expansion plans were to be realised in forest areas (MRC, 2017a, pp. 32-33). The 'Cumulative Impact Assessment Key Findings Report' in December 2017 also showed the impacts in the 2040 scenario that many of the negative effects would increasingly worsen as fish losses, particularly within Cambodia (MRC, 2017b, pp. i-v). Therefore, some of the export-related gains would be put at risk. The domestic pressure on creating new employment would be even higher, and social challenges related to livelihoods, migration, and identity would require serious public investments. In this regard, the hydropower benefits at the expense of ecological costs are negative. Cambodia as a country and Cambodian people, in general, will be achieving more ecological benefits from the resourceful, mighty Mekong River than that of hydropower development projects.

From the government perspective, in addition to the BOT (build-operate-transfer) benefit, Cambodia would get an average revenue of US$29.589 million per annum, or US$1,183.55 million from the Lower Se San 2 Dam for 40 years of concession, excluding revenue from VAT, income tax, and income from other taxes that Electricite du Cambodge and other retailers (wholesalers) would have to pay to the government when they receive the power to redistribute to users (National Assembly, 2013). However, the dam is predicted to reduce fish biomass by 9.3% across the entire Mekong River basin and critically endangered 50 fish species, resulting in significant fishery losses in Cambodia in the Mekong and its tributaries and the Tonle Sap Lake (Ziv et al., 2012). The situation in Cambodia's great Tonle Sap Lake, the 'beating heart' of the Mekong, is especially dire. The dam has blocked and removed the sediment essential for plant growth and egg survival (Eyler, 2019). With 11 mainstream dams in the pipeline, one study has found that

Cambodians risk losing up to 60% of their protein intake (ICEM, 2010, p. 79). Eyler warns that the proposed construction of a giant Chinese-backed dam at Sambor in the Cambodian province of Kratie could be the 'final nail in the Mekong's coffin' (Eyler, 2019).

Hydropower Development, Displacement, and Human Rights Situation in Cambodia

The Lower Se San 2 Dam, which came online in 2018, located on the Se San River in Se San District, Stung Treng Province, northeastern Cambodia, is the largest dam ever constructed in Cambodia. The Se San River is a major Cambodian tributary of the Mekong, conjoined at Stung Treng Province. The Lower Se San 2 Dam has been developed by a consortium of Chinese, Cambodian, and Vietnamese companies, including China's Hydrolancang International Energy Co. Ltd. and Cambodia's Royal Group. The dam is approximately 75 m high and 8 km long, creating a 33,560-hectare reservoir, with a generating capacity of 400 MW.

As a result of the project, more than 5,000 people in six villages, most of whom are indigenous, are displaced and resettled (Ley, 2015, p. 4). After years of protesting in vain against the construction from the beginning of the feasibility study until flood testing in 2017, about 800 families—all belonging to various hill communities from four villages near the Srepok and Se San River in Stung Treng Province—reluctantly accepted the government and company offer (Sun, 2018). Yet there are approximately 50 families of Pu Nong indigenous groups in Kbal Romeas Village who resist to move out from their ancestral lands; they created a community on the higher land which is three kilometres away from their old Village that is flooded (Keeton-Olsen & Techseng, 2020). According to the government policy, relocated villagers would be provided with 1,000 m^2 of land to build new homes and 5 ha of land for each family to grow crops (National Assembly, 2013). However, the 50 families of Pu Nong who requested to use 7,000 ha of forest lands for their livelihood and cultural preservation have been rejected (Amarthalingam & Tola, 2021a). The United Nations' 'Basic Principles and Guidelines on Development-Based Evictions and Displacement' in 2007 illustrated that the practice of forcibly evicting people from their homes is an egregious human rights abuse that the state shall put maximum effort to prevent from happening. One of the

main elements that shall be done before eviction is holding public hearings that provide affected persons and their advocates with the opportunity to challenge the eviction decision and to present alternative proposals and articulate their demands and development priorities (UNHRC, 2007). At the same time, the right of affected persons, groups, and communities to full and prior informed consent regarding relocation must be guaranteed, and the state shall provide all necessary amenities, services, and economic opportunities at the proposed sites (UNHRC, 2007).

Moreover, the United Nations Declaration on the Rights of Indigenous Peoples has protected the rights of indigenous people in one way or another. Article 10 of the declaration mentioned that indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior, and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return (United Nations, 2007). However, the Lower Se San 2 Dam has provoked controversy over lack of transparency, disregard for community concerns, and negative environmental impacts. According to Human Rights Watch (2021), the Cambodian authorities and private companies involved failed to consult the affected communities adequately and to obtain their free, prior, and informed consent, as specified in the UNDRIP (Human Rights Watch, 2021, p. 3).

The UNDRIP contains the right of indigenous people to self-determination, encompassing a right to freely 'pursue their economic, social and cultural development' (United Nations, 2007). However, indigenous and ethnic minority communities stand to be among those most vulnerable groups affected by the Lower Se San 2 Dam project. Flooding destroyed traditional lands, ancient burial grounds, and spiritual and cultural sites. In a 2013 study by the Royal University of Phnom Penh, 88% of the upstream villagers mentioned that their religion and tradition would be affected if they were relocated because their Buddhist temples, the guardian spirit of their village (*neakta*), the guardian spirit of the forest (*areak*), and their ancestors' graveyards would be flooded (Ham et al., 2013, p. 55). Communities fear a breakdown of community integrity and the disappearance of traditional practices and knowledge.

Legal Framework and Regulation for Hydropower

There is no specific legal framework governing hydropower development in Cambodia. Many laws provide principles applicable to the development of hydropower dams, including those related to investment, electricity, land, forests, water resources, and the environment. Existing laws contain principles regarding the rights of affected communities and the public in the decision-making and development of such projects.

The main governmental actor accountable for the development of Cambodian hydropower is the Ministry of Mine and Energy. In addition to the ministry's role, other line authorities involved in the hydropower-development project are Electricite du Cambodge, which is in charge of the day-to-day management of the electricity sector, and the Electricity Authority of Cambodia, which is responsible for issuing generation and transmission licences. The legal and regulatory framework of the power sector of Cambodia is governed by electricity law and other applicable laws, policies, and regulations.

Electricity Law

The electricity law was enacted in February 2001 to administer and manage the power sector of Cambodia. The law aims at establishing principles for operations in the electric-power industry, favourable conditions for investment and commercial operation and the basis for the regulation of service provision, as well as establishing the principles for protection of consumer interests to receive reliable services at a reasonable cost, promotion of private ownership of the facilities, and establishment of competition. In addition, establishing principles for granting rights and enforcing obligations and the electricity authority of Cambodia for regulating the electricity services are also two of the objectives of the law. The electricity law also provides a policy framework, strategies, and planning in the power sector. The Ministry of Mine and Energy decides on investment in the power sector and other policy issues and standards on technical operation, safety, and environment. For the Electricity Authority of Cambodia, their tasks include issuing rules, licences, and regulations; approving tariff rates and charges; approving and enforcing performance standards for licences; resolving complaints and disputes; and finally, imposing penalties and revoking licences if deemed necessary.

Other Applicable Laws, Policies, and Regulations

The general legal framework applicable to the power sector development includes the following, though legislation remains incomplete or unclear: (1) decree on private participation in the electric power sector; (2) commercial, corporate, and bankruptcy laws; and (3) laws of land and right of way.

The subdecree on promoting private sector participation (PSP) on which the electricity law lays stress on has been drafted. The objectives of the subdecree are (1) to attract private-sector investment in the power-generation projects; (2) to clarify under what rules and conditions the private- and public-sector entities can develop, construct, and operate the electric-power projects; (3) to clarify the public sector roles and responsibilities; and (4) to establish a transparent and efficient procurement process for private power projects. This law stipulates a transparent and predictable process of investment promotion, including a clear division of roles and duties of public and private entities, which is one of the key factors in the private sector's decision to enter the power market.

Legislation governing land ownership, resettlement, and compensation in Cambodia includes the Land Law of 1992 (being revised) and the Cambodian Constitution. Some further decrees and edicts affect land ownership. In the Prime Ministerial Edict of 1999, measures to eliminate anarchical grabbing declare public land on the verge of roads and railways must not be occupied. The status and relevance of consumer and business protection, taxation, and company law has been published in a guide to investment in Cambodia by the Department of Legal Affairs, including the Laws & Regulations on Investment of 1999.

Impact of LSSII Dam on Displacement of Local Communities

The social impacts of large-dam construction are no less staggering. Dam-induced displacement has caused several impacts on villagers both in resettlement and reservoir sites in different areas, including livelihood, infrastructure, community, and culture.

Livelihood

Based on the international standards by the International Finance Corporation, economically displaced persons who face loss of or access to assets will be compensated for such loss at full replacement cost (IFC, 2012, p. 33). Article 44 of the Cambodian Constitution also requires fair and just compensation in advance of any confiscation of property (Constitutional Assembly, 1993). However, the compensation demanded by the community and compensation proposed by the company (Royal Group and Chinese Firm Hydrolancang International Energy Co., Ltd.) and the government is quite different. This survey found that compensation should be an average of US$108,126 for each household, plus cost for relocation ceremony, cost for economic-opportunity loss, and burial and spiritual land in each community (Ley, 2015). It is safe to say the resettlement and compensation plan and policies for the Lower Se San 2 Dam do not greatly support the right to fair and just compensation safeguarded in the Cambodian Constitution and fall short of international standards and best practice. A report from Human Rights Watch shows that resettlement of the community happened only because the Cambodian government officials and company representatives threatened and pressured villagers to accept the compensation packages (Human Rights Watch, 2021, pp. 67-70).

China Huaneng reports that recruitment, training, and employment of Cambodian employees in the operation and management of the power station had created more job opportunities for local labour and had served to improve the relationship between enterprise and local communities. However, the Lower Se San 2 Dam compromised the livelihoods and source of food security for tens of thousands of people who depend on the river and forest resources. Resettled villagers previously farm rice on a seasonal basis but now need to learn new techniques for crop rotation; they also now need to work throughout the year (Jensen-Cormier, 2019).

Just a year after the damming, villagers who used to catch fish and sell to supplement their livelihood started to notice the disappearance of big fish, and they started to feel the struggle of new market-based lifestyles, as a village head said, 'We lose the native food and convivial life that had been taken for granted' (Amarthalingam & Tola, 2021b). Moreover, they have met various issues such as poor-quality replacement land for agriculture and not enough of it, lack of adequate clean water, and lack of access to natural resources, forcing the shift to a cash-based way of life with few options to earn money (Denton, 2017).

Even if their lives at the old village in the remaining ancestral land are better than the resettlement site in terms of freedom and course of life, remaining indigenous people in the old villages are now facing new challenges in registering collective land titles for their indigenous communities. They have tried to register their mapped land, measuring 7,836 ha, in order to acquire a collective land title but have been told by the authorities to either wait, reduce the land size, or not bother registering as there is 'no point doing so because the land is going to be flooded' (Amarthalingam & Tola, 2021b). The absence of collective land title would leave them with no choice but accept the multiple relocations.

Infrastructure

The Hydro Power Lower Sesan 2 Co. Ltd. and the Cambodian government's guarantee of payments to Hydro Power Lower Sesan 2 Company convinced that people affected by the project would have decent, orderly housing; sufficient infrastructure—roads, schools, health centre, water supply systems; and modern irrigation. The government and company also promised to provide vocational training to enable adaptation to new livelihood and to create thousands of jobs for workers to work directly under the project (National Assembly, 2013). However, the families from Sre Kor Thmey Village assert that neither the company nor the government has built a bridge across the Se San River as promised before relocating them from their home village (Horn, 2020). Therefore, they need to travel kilometres through a bypath. Worse, the resettlement area is cut off from the river, a key source of fish, occupation, and transportation for the villagers. The resettlement sites also lack any job opportunities, increasing desperation among families

who agreed to move (Sun, 2020). The long-term impact on the relocated communities is extremely significant as their lifestyle changed from a fishery-oriented economy to a market-oriented economy. Unable to fish with the same productivity as before, they are now compelled to buy food from local markets and are struggling to feed their families. Indigenous Pu Nong communities of 50 households who rejected to move to the resettlement areas also lack basic services and infrastructures. Intimidation and the lack of services have not swayed them, however, and they are still living in the remote riverside community of Kbal Romeas. They are convinced of their rights and are determined to remain on their ancestors' land, with its spirit places, burial forest, and abundant natural resources. However, they do not have access to neither clean water nor electricity. Around sundown, they have to converge at the village wells to wash, then switch on solar panels for light in the house and plug the TV into car batteries for daily use—while their sequestered home villages are being fully flooded to supply electricity to others (Sun, 2020).

Community and Culture

About 5,000 members of predominant indigenous minorities were forced to relocate in violation of their rights to free, prior, and informed consent. Contrary to International Finance Corporation's standards, no indigenous people plan was conducted for the Lower Se San 2 Dam (Jensen-Cormier, 2019). Similarly, resettlement and compensation plans do not include measures to ensure the protection of indigenous or minority cultures or the preservation of indigenous natural resources management. For example, no compensation was provided for losses in cultural and sacred sites and burial grounds or the resulting loss of traditional and spiritual practices associated with these sites. The design of resettlement sites and provision of compensation did not consider cultural needs nor the way in which indigenous communities use land communally or reside with extended families.

The Pu Nong community believes that cultures of resettlement groups are at risk, and many of the villagers believe the project may force the dissolution of communities due to loss of livelihood (Baird, 2009). Flooding has destroyed traditional lands, ancient burial grounds, and spiritual-

cultural farms and cultural sites. In a 2013 study, 88% of upstream villagers surveyed stated that the Lower Se San 2 Dam would destroy their spiritual and cultural beliefs (Ham et al., 2013, p. 55). Communities fear a breakdown of community integrity and the disappearance of traditional practices and knowledge. While the feasibility studies in Cambodia and in the region illustrated that 50 fish species are likely to be endangered in the next 40 years (Ziv et al., 2012), hydropower project development is also causing the tragedy of cultural extinction that Pu Nong and other indigenous minorities are facing. The normal flow of the river plays a massive part of their indigenous culture, including the annual boat festival, ancient belief in water spirit, and Buddhist water blessing, as illustrated by a founder of the 3S River Protection Network.

At worst, indigenous youths have been feeling that their destiny is in trouble, as their home and culture have been gradually destroyed. The loss of land puts them in jeopardy of spirit, identity, and cultural extinction (Ziv et al., 2012). Although the statistics on internal migration of indigenous youths are neither available nor accessible, it is fair to say that moving into urban areas for labour-market participation is soon to be a trend. As a result, it will be seriously threatening the longevity of their ancestral way of life and customs.

Recommendation and Conclusion

This research has shown that while recommendations and ways forward should be considered from a legal standpoint, respect for human rights and minimal impacts on the environment should also be taken into account to provide a common ground that is fair and consensual to all involved. First of all, an environmental impact assessment shall be carefully undertaken by the state and must be effectively implemented by the stakeholders involved in the development of the project, particularly in a case where a project is carried out by a foreign developer. Second, fair compensation and legal remedy shall be provided to the entitled families who are affected by the construction. Moreover, initial consultations with the affected communities, with respect to their rights enshrined in international human rights laws and domestic laws, must be conducted in a democratic manner. This would allow them to engage and participate in the development with full knowledge and understanding

and their informed consent. Full access to clear and transparent information about the project shall be guaranteed by the state, who shall not only protect them but also ensure that their entitled compensation and legal remedy are met and the impacts are minimal.

The construction and operation of the Lower Se San 2 Dam has proven that the decision makers believe the negative impacts on the affected communities and the adverse impacts, in the long run, are smaller than the expected revenues generated from the hydropower plant. In addition to the ecological loss that has been overlooked, the decision makers did not give enough attention to the adverse impact of the displacement of local communities, especially indigenous groups, in different areas including infrastructure, livelihood, and community.

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Vietnam's Response to China's Growing Dominance in the Mekong: A Quest for Harmonious Coexistence

Phan Xuan Dung

Abstract

Vietnam is concerned about the socioeconomic and security impacts of China-sponsored hydroelectric-dam construction in the Mekong, as well as China's growing economic footprints in Indochina. Vietnam's response to these developments is two-pronged. First, Vietnam strengthens relations with Laos and Cambodia to maintain its traditional sphere of influence. Second, Vietnam adopts an omni-enmeshment strategy targeting major powers involved in the Mekong to balance China's influence and foster subregional stability.

The Mekong River flows through China, Myanmar, Thailand, Cambodia, and Laos before finally reaching southern Vietnam. Here, the river branches into nine tributaries before pouring into the sea, earning it the name Cửu Long, or 'River of the Nine Dragons'. This waterway is a life source to some 22 million people residing in the Mekong Delta—a fertile region responsible for more than half of its rice and fruit output and 20% of its GDP (Xuan et al., 2019). The Mekong, therefore, plays a vital role in ensuring Vietnam's food security and socioeconomic development.

'The Mekong River is our common space of coexistence,' remarked Nguyen Xuan Phuc, Vietnamese prime minister (2016 to 2020) in 2018 (Vietnam Government Portal, 2018a). He was speaking to delegations joining the 6th Greater Mekong Subregion (GMS) Summit and the 10th Cambodia-Laos-Vietnam Development Triangle Area (CLV-DTA) Summit, the two biggest multilateral diplomatic events organised in Vietnam that year. The statement alluded to the interdependence between the participating countries, which were all Mekong riparian states, and denoted Vietnam's desire to live in harmony with all of them.

Mr Phuc's remark came amid intensifying major power geostrategic competition in the Mekong subregion. China's recent efforts to enhance influence over its smaller neighbours through the Belt and Road Initiative (BRI) and Lancang-Mekong Cooperation (LMC) have, in turn, prompted renewed interest in mainland Southeast Asia from outside powers. Under the Trump administration, building upon the previous Lower Mekong Initiative (LMI), Washington rolled out the new U.S.-Mekong Partnership to 'increase support for the autonomy, economic independence, good governance, and sustainable growth of Mekong partner countries' (Office of the Spokesperson, 2020). This can be seen as a U.S.-led attempt to help mainland Southeast Asian states diversify aid and investment sources, making them less reliant on China (Kliem, 2020b, p. 5). Along with the United States, Japan, and South Korea, Australia and the European Union have also stepped up their assistance to Southeast Asian Mekong states.

Against this backdrop, Vietnam is concerned about the socioeconomic and security impacts of China-sponsored hydroelectric-dam construction in the Mekong, as well as China's growing economic footprints in Laos and Cambodia—Vietnam's closest neighbours both in terms of proximity and diplomatic ties. This chapter argues that Vietnam's response to these compounding strategic

quandaries is two-pronged. First, Vietnam strengthens bilateral relations with Laos and Cambodia to maintain its traditional sphere of influence. Second, Vietnam adopts an omni-enmeshment strategy targeting major powers involved in the Mekong to balance China's influence and foster subregional stability. The chapter also provides several recommendations on how Vietnam can play a leading role in managing the geopolitical and environmental challenges facing the Mekong basin.

China's Dominance in the Mekong and Impacts on Vietnam's National Security

Proximity and asymmetry between China and mainland Southeast Asia are the most cardinal features of the Mekong subregional order. This geopolitical reality is particularly salient in the case of Vietnam. Located on China's southern border and historically experienced with Chinese domination and aggression, Vietnam regards its giant neighbour with considerable mistrust (Thayer, 2002; Womack, 2006). China's self-proclaimed nine-dash line in the South China Sea overlaps with a large portion of Vietnam's exclusive economic zone (EEZ), and the two neighbours are at odds over the sovereignty of the Paracel and the Spratly Islands. The last war between them was in 1979, when China raided Vietnam's northern border as a punitive measure for its military campaign in Cambodia. This was followed by a deadly skirmish in the Spratly Islands in 1988, in which China seized control of the Johnson South Mischief Reef from Vietnam. On the economic front, China is Vietnam's biggest trading partner, with two-way trade reaching a record high of US$192.2 billion in 2020 (Customs News, 2021). Most of the raw materials (machinery, iron and steel, electronic equipment, etc.) essential to Vietnam's export sectors are imported from China, and China is the largest export market for Vietnam's fruits and vegetables. Economic dependence on its northern neighbour, therefore, contributes to Vietnam's growth but also makes it vulnerable to China's potential economic coercion. 'If bilateral trade with China were completely halted, without alternative trade partners, [Vietnam's] GDP would shrink by 10%,' said a senior official of the General Statistics Office of Vietnam in June 2014 (Phuong, 2014).

To be sure, Vietnam has a more nuanced view of the so-called 'China threat' than what is often professed by the West. Through two thousand years of coexisting with an overbearing giant neighbour, it has mastered a strategic culture of cultivating good relations with China while resisting China's expansionist moves (Thayer, 2002; Hiệp, 2017). Today, Hanoi's official foreign-policy principle towards China is one of both 'struggle and cooperation'. Accordingly, Vietnam remains firm in protecting its national interests from China's hostile actions but also seeks to preserve cordial ties with China for peace and stability. For example, extensive economic linkage, maritime cooperation in the Gulf of Tonkin, and close ties between the two ruling communist parties constitute positive aspects of the bilateral relations. After all, geography dictates that Vietnam has no choice but to live with a dominant power to the north.

Nonetheless, China's constant attempts to exert dominance over Southeast Asia, particularly in the South China Sea, have reinforced Vietnam's threat perception of China. Since the late 2000s, China's repeated incursion into Vietnamese waters, militarisation of the disputed features, harassment of Vietnamese ships, and disregard for international maritime law have produced trepidation among the political elites and fuelled anti-China nationalism in Vietnam (Thayer, 2017). Of late, the Mekong River is quickly becoming another contentious body of water in Vietnamese-Sino relations.

China-Sponsored Hydropower-Dam Development

China, as the most upstream state, has constructed 11 hydroelectric megadams in the Mekong River and is planning to build several more. It has also funded hydropower infrastructure along the waterway (tributaries mostly) in Laos, Cambodia, and Thailand. While hydropower enables riparian countries to meet their energy demands with relatively low costs, the detrimental ecological and socioeconomic consequences of large-scale dams in the Mekong have devastated communities downstream. There is mounting evidence that extensive upstream-dam development has led to depleting fish stocks and declining sediment supply, causing saltwater intrusion into agricultural land and shoreline erosion in the lower basin (Yoshida et al., 2020; Hiebert, 2020, p. 257). Vietnam, the most downstream state, is particularly vulnerable to these adverse effects, which have harmed

agricultural production in the Mekong Delta. To be sure, the challenges facing the Mekong are not only the product of hydropower development but also unsustainable agricultural practices and climate change. The compounded consequential economic losses and disrupted livelihoods could undermine the Communist Party of Vietnam's legitimacy in ensuring high levels of socioeconomic development and good quality of life (Hiệp, 2012).

Vietnamese policymakers themselves are keenly aware of how hydropower reservoirs in the upper Mekong have contributed to the plight of the Mekong Delta. Vietnam's Ministry of Agriculture and Rural Development estimates that the delta is deprived of 500 hectares of land annually due to erosion and that by 2050, one million people will be directly affected (Long, 2018). A senior official at the ministry noted that 'increased economic activities focusing on hydropower is partly responsible for land erosion in the Mekong Delta' (Hà, 2018). In 2018, after the collapse of a Laotian dam, Vietnamese Minister of Natural Resources and Environment Tran Hong Ha said, 'Vietnam is highly concerned about the emerging hydropower projects in the Mekong River in recent years of upstream countries. Vietnam has recently suffered from a serious drought, saltwater intrusion, and subsidence' (VOA Vietnamese, 2018). According to a Vietnamese water-resource expert, Chinese mainstream dams retain 30% of alluvium in the Mekong Delta, and the ones in Laos and Cambodia withhold another 5%, affecting at least 50% of agricultural lands (Hà, 2018).

A particularly alarming problem is the Chinese dams' withholding of freshwater supply during times when water was critically needed downstream (Eyler et al., 2020). In 2016, Vietnamese farmers in the Mekong Delta suffered from an unprecedentedly severe drought, which compelled Hanoi to request help from China in alleviating the water shortage (BBC News Vietnamese, 2016). China then released water from its Jinhong Dam in the name of 'water diplomacy' (Kliem, 2020a, p. 32). This incident shows just how much Vietnam is dependent on China for water security in the Mekong Delta and reminds Hanoi of its perennial asymmetrical relationship with Beijing. Thus, Vietnamese policymakers are wary that China could deliberately turn off the tap on the Mekong as a form of coercive diplomacy.

China's Growing Influence over Laos and Cambodia

Another salient aspect of the Mekong subregional order is China's growing economic footprints in Laos and Cambodia, where Vietnam has traditionally exerted its influence. Beijing is now the top trading partner and foreign investor in both countries. In the past few years, the Hun Sen government and the Communist Party of Laos have embraced China's 'no-strings attached' capital and investment to fulfil their countries' development needs. Both regimes have enthusiastically cosied up to Beijing and supported Chinese initiatives, especially the BRI (Pang, 2017, p. 4). These developments potentially undermine Vietnam's national security in two ways.

First, Chinese conglomerates have heavily invested in hydropower in Laos and Cambodia, which will amplify the environmental costs in the Mekong Delta and complicate Hanoi's relations with its neighbours. In recent years, Vientiane's dam-building venture has been an irritant in Vietnam-Laos relations. Notably, despite strong opposition from Vietnam and Cambodia, Laos went ahead with the Thai-financed Xayaburi Dam project. China was not directly involved in the Xayaburi dam but backed Laos's hydropower cooperation with Thailand, which it deemed helpful in weakening Vietnam's ties with Laos and encouraging further hydropower development in the lower Mekong (Giovannini, 2018, pp. 81-82).

Second, China could leverage its economic influence in Laos and Cambodia to jeopardise ASEAN consensus on the South China Sea dispute—Vietnam's top security concern. As China is their most consequential development partner, Laos and Cambodia would want to avoid upsetting China even if their actions could hurt ties with Vietnam (Chheang, 2018a, pp. 172-173). China's influence likely contributes to the two countries' general reluctance in backing Vietnam's stance on the Code of Conduct in the South China Sea (COC) negotiation and speaking up against China's maritime expansionism. Most infamously, the 2012 ASEAN Foreign Ministers' Meeting ended without a joint communique because Phnom Penh blocked a reference to Chinese assertiveness in the South China Sea proposed by Vietnam and the Philippines. A similar instance occurred in 2016, when Cambodia, along with Laos (the ASEAN chair that year), refused to back an ASEAN joint statement critical of China's South China Sea behaviour (*The Straits Times*, 2016).

Vietnam's Response to China's Dominance in the Mekong

With China's dominance looming large in the Mekong, Vietnam navigates the security environment with a dual strategy: (1) direct engagement with Laos and Cambodia and (2) omni-enmeshment of major powers. This approach is supported by Vietnam's existing bilateral engagement with Laos and Cambodia, together with its multidirectional foreign policy principle.

Direct Engagement with Laos and Cambodia

Vietnamese leaders describe the diplomatic ties with Cambodia and Laos as special friendship and solidarity. Due to their geographical proximity, the two neighbours occupy an important position in Vietnam's national security and economic development. From Vietnam's perspective, shared colonial and Cold War experiences undergird its close historical ties with Laos and Cambodia, whose logistical support during the Vietnam War is deemed critical to Vietnam's victory against the Americans. The two countries are also promising markets for Vietnamese products and services, which supports Vietnam's position as a production and supply hub in the subregion (Chheang, 2018a, p. 170). Today, maintaining friendship and consolidating political trust with the two neighbours are among Hanoi's top foreign-policy priorities. Of late, Vietnam has tried to cement its traditional relationship with the two Indochinese neighbours in response to China's growing sub-regional influence.

Still sharing ideological affinity and security interests despite the end of the Cold War, Laos enjoys the diplomatic status of 'special relationship' in Vietnam's foreign affairs. When the Lao Party General Secretary Thongloun Sisoulith visited Hanoi in June 2021, the two countries issued a joint statement reaffirming their special relationship and cooperation in Mekong River resource management (VietnamPlus, 2021). In addition to the close political relationship, economic ties are also positive. Vietnam is Laos's third largest investor, with total registered capital reaching US$4.2 billion in 2020—a 35% increase over the 2010 figure (Nhan Dan Online, 2020a). The two have agreed to develop and seek outside investment for several strategic transportation projects connecting Laos with Vietnam's economic hubs, including a Hanoi-Vientiane expressway and a railway between Vientiane and Vung Ang Port in central Vietnam (Minh, 2021). At the 43rd meeting of the Vietnam-Laos Inter-

Governmental Committee in Hanoi, the then prime minister Nguyen Xuan Phuc pledged that he would direct 'all ministries, agencies, localities, and businesses to closely collaborate with Lao partners' in implementing bilateral agreements on various areas and developing business projects in Laos (H. Nguyen, 2020). Vietnam invests in agriculture, telecommunications, mining, transportation, and, ironically, hydropower. In a desperate move to keep Laos from being further drawn into China's orbit, in 2019, Vietnam decided to participate in developing a hydropower dam in Luang Prabang. Despite potential threats to the Mekong Delta, Vietnamese officials believed that if they had opted out, China would have been involved instead (Fawthrop, 2019). In this way, Vietnam could at least influence the design and operation of the dams to minimise ecological damage. Another notable gesture from Vietnam to win over its ally was the handover of a parliament building to Laos in 2021 (Pham & Thu, 2021). The building was financed and constructed by Vietnam at the cost of US$111 million.

In the past few years, under the motto 'Good neighbours, traditional friendship, comprehensive cooperation and long-term sustainability', Vietnam has sought to deepen political trust with Cambodia. Former Prime Minister Phuc asserted that 'Vietnam is forever a consistently faithful neighbour of Cambodia' (Vietnam News Agency, 2021), and Vietnam's 2019 Defence White Paper had stated that Hanoi opposes attempts to interfere and divide Vietnam-Cambodia relationship (Ministry of National Defence, 2019, p. 31). Like with Laos, economic cooperation has witnessed good progress. Vietnam is among Cambodia's third largest foreign investors, with 186 active projects and registered capital reaching US$2.76 billion in 2020 (VGP, 2020). Vietnamese investments are in the fields of forestry and agriculture, banking and finance, and telecommunications. The first Vietnam-Cambodia model border market, which was constructed with a US$2 million grant from the Vietnamese government, commenced operation in 2019 (Pham, 2019). Located in the Cambodian province Tbong Khmum, a former Vietnam War battle site, the market not only symbolises the two countries' growing cross-border exchange but also serves as a reminder of their strong historical ties. Vietnam has been studying several infrastructure projects to enhance connectivity with Cambodia, including expressways connecting ports in the Mekong Delta to Cambodia and a railway line (Văn & Tâm, 2020). When Cambodia experienced a surge in the number of COVID-19 cases in April 2021,

the Vietnamese Ministry of Defence quickly gifted its Cambodian counterpart medical equipment and stressed the friendly relationship between the two neighbours (Vu, 2021). Subsequently, Vietnam mobilised state resources to provide Cambodia with ventilators and masks and offered to send health experts (Nhan Dan Online, 2021). While it was in Vietnam's interest to ensure that the outbreak did not spread into its border, these gestures also constituted Hanoi's mask diplomacy with key partners (Laos was also a beneficiary), challenging Beijing's monopoly in this regard (Pearson, 2020).

Vietnam also utilises multilateral frameworks to complement its engagement with Laos and Cambodia. Particularly, Vietnam proactively collaborates with Laos and Cambodia on connectivity, sustainable development, and transboundary water resource management in Mekong subregional forums, including LMC, Mekong River Commission (MRC), and Ayeyawady–Chao Phraya–Mekong Economic Cooperation Strategy (ACMECS). A key framework among these is the Cambodia-Laos-Vietnam Development Triangle Area (CLV-DTA), a trilateral mechanism that promotes integration through cross-border trade, together with cooperation on political, security, and sociocultural issues. With its larger size and economic strength, Vietnam is seen as the de facto leader in the grouping (Chheang, 2018b). In 2018, in accordance with Vietnam's proposal, CLV-DTA was expanded from 13 border provinces to the whole territory of the three countries. As of 2019, Vietnamese firms have invested in 113 projects in the CLV-DTA, with a total capital of nearly US$4 billion (VietnamPlus, 2019). Through the triangle development, Vietnam has also assisted Cambodia and Laos in school construction and human-resource improvement (Chheang, 2018b, p. 3). These efforts help close the development gaps within ASEAN while consolidating political trust and deepening economic interdependence between the three mainland Southeast Asian countries, thereby offsetting Chinese economic preeminence in the subregion.

A latent contest for influence between China and Vietnam is taking place in the Mekong subregion. Scaling up cooperation on socioeconomic development and infrastructure with Laos and Cambodia, Vietnam aims to reassert influence in its backyard. However, Hanoi cannot match Beijing in providing economic goods. Because of this, inter alia, it has sought to cushion other major powers' competition with China. This behaviour is related to the second aspect of Vietnam's strategy in the Mekong—omni-enmeshment.

Omni-enmeshment of Major Powers

Fearing the consequences of an unstable multipolar regional order where big powers vie against each other, since the end of the Cold War, instead of choosing to align with one great power, Southeast Asian states have tried to involve all major powers in regional affairs (Goh, 2008). Goh coins the term omni-enmeshment, which means 'engaging with a state so as to draw it into deep involvement into international or regional society, enveloping it in a web of sustained exchanges and relationships, with the long-term aim of integration' (Goh, 2008, pp. 121). The idea is to facilitate major powers' economic, political, and defence cooperation with Southeast Asia as a whole and with individual states so that they have a vested interest in ensuring regional peace and stability. There are two types of omni-enmeshment, region-level and country-level enmeshment. Region-level omni-enmeshment manifests in ASEAN's convening power—the organisation's capacity to engage with many big powers and induct them into the regional order using multilateral initiatives and mechanisms. The United States, China, Russia, the European Union, Australia, Japan, South Korea, India, Canada, New Zealand, and most recently, the United Kingdom, under the status of 'dialogue partner', have been enmeshed into the various ASEAN-led institutions.

This chapter is concerned with country-level omni-enmeshment, which is reflected through two activities. First, individual Southeast Asian states develop multiple strategic relationships with bigger powers to maximise economic and security gains. For Vietnam, a multidirectional policy that entails engaging with all major regional powers has long been the country's foreign-policy preference in coping with China's maritime assertiveness. Such a pragmatic diplomatic practice enables Vietnam to benefit from economic cooperation with China while at the same time diversifying its trade links and hedging against Chinese aggression by developing ties with other major powers such as the United States, Japan, India, and Australia (Chapman, 2017; Hiệp, 2013).

The second form of country-level enmeshment is about drawing major powers into the regional architecture with the aim of shaping their behaviour and mediating their balancing tendencies. Singapore is a prime example of

this type of omni-enmeshment (Goh, 2008, p. 127). Leveraging its status as an entrepot to secure free trade pacts with important countries, Singapore deepens major powers' economic stakes in the island and Southeast Asia. Singapore also strives to make itself relevant to major powers' and the regions' interests by, for example, providing military facilities to the United States, thereby supporting American presence in Asia and efforts in checking China's rise. Vietnam is applying a similar omni-enmeshment playbook in the Mekong—Vietnam utilises existing subregional multilateral channels to engage with China and foster interdependence while concomitantly supporting outside stakeholders' bid to counterweight China's predominant influence.

In dealing with China directly, Vietnam seeks to cultivate friendly relations through the various Mekong forums. For example, Vietnam enhances economic development and extends dialogue with China through the GMS, an economic cooperation institution initiated by the Asian Development Bank that connects China with the Southeast Asian Mekong states. Vietnam hopes that interactions with China in the GMS would produce positive spillover effects to the overall bilateral relations, thereby curbing China's assertiveness (Hensengerth, 2015, pp. 1056-106). In addition, Vietnam nudges China into assuming more subregional obligations. On several occasions, Hanoi tried to convince Beijing to join the MRC, a transboundary water governance mechanism of Southeast Asian riparian countries, to shape its behaviour and foster rules-based interactions in the Mekong (To & Dinh, 2019, p. 406). Capitalising on China's willingness to compromise on water management through the LMC, Vietnam has actively proposed initiatives that match the LMC's priorities (Van, 2018). For example, in June 2021, at the 6th LMC Foreign Ministers' Meeting in Chongqing, China, Vietnamese Minister of Foreign Affairs Bui Thanh Son implored the LMC to focus on combating the COVID-19 pandemic, maintaining economic growth, and preventing environmental deterioration (Vietnam News, 2021). He emphasised the importance of data sharing, cross-border trade facilitation, sustainable water-management cooperation, and LMC-ASEAN coordination in realising these tasks. These efforts underscore Vietnam's desire to coexist peacefully with China and socialise it into the lower Mekong subregional architecture by creating interlocked mutual interests.

Simultaneously, Vietnam capitalises on the major powers' growing involvement with the region to balance China's economic dominance. In 2017, the government passed Resolution 120 on the Mekong Delta's sustainable development, which cites the threat from upstream hydroelectric dams and urges relevant ministries 'to attract participation of different economic stakeholders' (Socialist Republic of Vietnam, 2017). The document specifically designates the Ministry of Foreign Affairs to promote Vietnam's cooperation with the Mekong states and development partners for 'the exploitation and sustainable, fair use of the resources of the river basin, including water resources, on the basis of harmonised interests, for sustainable and inclusive development of the Mekong Delta'. By working with major economies that invest in the Mekong basin, such as Japan, the United States, and South Korea, Vietnam could diversify its economic supply, avoiding overreliance on China.

Vietnam also pursues omni-enmeshment with the intention of binding external major powers into the subregional affairs, namely, sustainable growth and water management in the Mekong. In this regard, Vietnam's diplomatic clout and knowledge of the Mekong region allow it to proactively assist outside powers. In January 2020, Vietnam, together with the United States, hosted the Mekong Policy Dialogue between Southeast Asian Mekong riparian states and development partners (the United States, Australia, Japan, South Korea, New Zealand, the European Union, the Asian Development Bank, and the World Bank) under the new U.S.-Mekong Partnership. Except for the ADB and the World Bank, Vietnam has either comprehensive or strategic partnerships with these external players. At the 53rd ASEAN Foreign Ministers' Meeting chaired by Vietnam, then foreign minister Pham Binh Minh remarked that the new U.S.-Mekong Partnership 'can contribute to the sustainable development of the Mekong sub-region and help Mekong countries narrow the development gap, seize new opportunities and overcome challenges' (P. Nguyen, 2020). Previously, he provided several recommendations for Japan to focus on in its implementation of the Tokyo Strategy 2018, an action plan centring around high-quality infrastructure, human-resource development, and environmental protection in the lower Mekong nations (Dung, 2018). At the 6th GMS Summit held in Hanoi in 2018, then prime minister Phuc underlined

the developed economies' contribution to the subregion and urged the need to harness 'support from international development partners and outside resources' for the GMS and CLV region (VGP, 2018b). In the same year, at the G7 Outreach Summit hosted in Canada, Mr Phuc welcomed the support of G7 countries in the Mekong basin's sustainable development and called for further assistance in inter alia sustainable utilisation of water resources and dealing with intrusion (VGP, 2018c). He also expressed appreciation for the Mekong-Republic of Korea Cooperation, attributing enhanced regional connectivity and sustainable development to Seoul's financial and technical assistance (Nhan Dan Online, 2020b). Through these active diplomatic and economic engagements, Hanoi signals approval of outside players' presence, turning the current geostrategic development to its benefit. Particularly, by supporting major power penetration into the Mekong, Vietnam helps promote subregional growth, connectivity, and protection of water resources while making sure that the subregion is not entirely dominated by China.

Nonetheless, Vietnam's omni-enmeshment effort alone is not sufficient to harmonise different actors' interests. Analysts have argued that ASEAN centrality (region-level omni-enmeshment) is essential for effective management of geopolitical risks in the Mekong basin, especially amid the recent sprout of competing major-power-led institutions (Hoang & Seth, 2021; Le & To, 2020; Lee, 2020). Crucially, ASEAN's ability to socialise big actors into the regional architecture generally fosters inclusive dynamics that minimise the fallout of great-power rivalry in Asia. Without ASEAN's active purview, geopolitical tussles in the Mekong will increase the possibility of conflict and exacerbate mainland Southeast Asia's dependency on external players (Kliem, 2020b). Mekong riparian countries then could be swayed to accommodate great powers' independent national interests in issues related to regional peace and stability, such as the South China Sea, which will sharpen division among ASEAN members. Thus, deteriorating security environment in the Mekong does affect not only mainland Southeast Asian states but also the region as a whole. Meanwhile, the many existing subregional mechanisms lack binding agreements and effective coordination that could allow for sustainable and equitable transboundary river sharing. Leadership in navigating the Lower Mekong nations through these compounding challenges is critically needed.

Policy Recommendations

Having crucial stakes in ensuring harmonious coexistence in the Mekong and with its diplomatic prowess, Vietnam should play a more proactive role in charting a better future for the subregion. Vietnam should entice its two closest neighbours to pursue a more risk-averse socioeconomic development path that avoids overreliance on a single power—in this case, China. The transparency and accountability of some Chinese-funded projects in these two countries are questionable, raising concerns over negative impacts to the local communities and giving rise to anti-Chinese sentiment (Strangio, 2020, pp. 95-99, 111-114). Nonetheless, Laotian and Cambodian officials have signalled that they are willing to open to other development partners who could match the benefits that China offers (Pang, 2017). For example, overall Japanese investment in both countries is larger than Chinese. Vietnam can collaborate with extraregional powers to help Laos and Cambodia secure high-quality and green infrastructure investment suitable to their domestic needs. Diversification allows for more strategic manoeuvrability and could also assuage anti-Chinese sentiment. In addition, Vietnam should promote transition to nonhydro sources of clean energy within the CLV-DTA to reduce Indochina's need for hydropower. Hanoi has already taken the lead in solar and wind energy transition—a promising area of cooperation between Vietnam and external stakeholders. Greater utilisation of green energy will also decrease Vietnam's reliance on electricity imported from Laos, a factor that has hindered Hanoi's efforts in persuading Laos to curb its dam-building enthusiasm (Hiệp, 2020).

Hanoi must work closely with all stakeholders to strengthen existing water-governance institutions. First, there must be greater efforts to unite Southeast Asian riparian states on this matter. Currently, Myanmar is the only Southeast Asian riparian state that is not a member of the MRC. Thus, in addition to China, Vietnam should urge Myanmar to join MRC. Pushing for an MRC code of conduct on the utilisation and preservation of Mekong River resources should be another immediate course of action. MRC members' agreement on a rules-based framework among themselves would be conducive to the quest for a similar arrangement with China. China is more likely to display cooperative behaviours if all the downstream countries collectively raise their voices. After all, to portray itself as a benign provider of public goods through water diplomacy, China has to heed the demands of downstream states

regarding water governance. For example, in 2020, following international criticism of its disruptive dam operations, China acquiesced to sharing year-round hydrological data with the MRC signatories (Reuters, 2020).

Second, Vietnam needs to convince other ASEAN members that the Mekong is central to regional peace and stability, just as much as the South China Sea. With the inauguration of the ASEAN-MRC Water Security Dialogue in August 2021, ASEAN has shown greater interest in the Mekong. Vietnam's active diplomacy within ASEAN might have contributed to this initiative. During its 2020 ASEAN chairmanship, Vietnam hosted the first ASEAN conference on converging Mekong subregional mechanisms with ASEAN goals (*Vietnam Investment Review*, 2020). Hanoi's growing regional standing, enhanced by its successful 2020 ASEAN chairmanship despite the COVID-19 pandemic, should confer the country more credibility in promoting a coherent strategic bloc in managing Mekong geopolitics and water security.

Third, Vietnam should be more proactive in advising other development partners on where to channel resources and investment. As mentioned above, the field of nonhydro renewable power should be a priority. Another area could be agricultural technologies for climate-change mitigation and adaptation. Finally, the Vietnamese government should partner with nonstate stakeholders, such as the research community and local and international nongovernmental organisations. Private sectors could share insightful knowledge and data, helping formulate innovative solutions that balance developmental goals and environmental protection. They can also offer direct support to farmers and communities facing difficulties. With government funding, they can reach more people and transform more lives.

Conclusion

Vietnam navigates China's dominance in the Mekong subregion by leveraging its special friendship with Cambodia and Laos and multi-directional foreign policy. However, strategic equilibrium in the Mekong subregion cannot be achieved without ASEAN's mediation role. If inaction and ineffective policy coordination persist, Southeast Asia will have to bear not only the devastating environmental impacts of hydropower dams but also the threats to regional peace and stability posed by intensifying great power rivalry. The 'common space for coexistence' that the former Vietnamese prime minister talked about will turn into a common space for major powers' domination. To bring about coordinated collective action in protecting the Mekong's ecosystem and promoting a more harmonious subregion, Hanoi will need to step up engagement with Mekong nations, ASEAN members, extraregional powers, and nonstate stakeholders. Its leadership role will be conducive to an autonomous, prosperous, resilient, and stable Mekong basin.

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Water Politics in the Mekong Region: Vietnam's Position in the Stakeholder Power-Interest Grid

Nhi Le and Nghia Huynh

Abstract

Vietnam and other nations in the Greater Mekong Subregion (GMS) have recently been affected by severe water-resources strain. According to the National Water Security Index Score adopted by the Asian Development Bank (ADB) in 2016, the riparian countries, except China, achieve only an engaged level, some countries like Laos, Cambodia, and Vietnam even close to the hazardous level. It has struck an inquiry about the posture of Vietnam on the 'water politics game' in the region, as well as its appropriate responses. The study approaches the concerns based on the concept of stakeholder power-interest grid, and concludes that Vietnam (along with Cambodia) is in the weaker position in the power-interest grid. At the certain 'context setters' position, Vietnam can (1) reduce the Mekong Delta's dependence on the Mekong River, (2) proactively share benefits to accomplish power reinforcement, and (3) promote domestic and interstate renewable-energy projects and enhance its 'power' in decisive matters related to this river.

Recognised as one of the most important rivers of the world, the Mekong River—which flows for 4,880 km through Yunnan, Myanmar, Laos, Thailand, Cambodia, and Vietnam (Yu, 2003)—discharges 475 km^3 of runoff. According to the Asian Development Bank (2001), the GMS (includes Cambodia, Laos, Myanmar, Thailand, Vietnam, and Yunnan Province in China), which share the watershed of the Mekong River, is a vast area with a total land area of 2.3 million km^2. By having those advantages, the GMS stands out for its rich natural resources, especially water resource by the saying that the Mekong River has made resources available for agriculture, hydropower generation, and transport (Yu, 2003). The GMS, which has the abundance of water resources but lack of modern technologies to exploit it, has recently received massive investment in hydropower sector from China—the country that is now rapidly growing in the demand of energy. Urban et al. (2013, pp. 301–307) presented an explanation on the hydropower investment's phenomena by addressing the 'going out' strategy of the Chinese government, which promotes investments in overseas natural resources, like water and energy. In recent years, infrastructure has been addressed as the core of China's foreign policy. China, with its vast investment on infrastructure overseas, such as transportation, communication networks, or large-scale technical systems like hydropower dams, has fuelled speculations about the new strategic path of China in achieving its hegemonic determination. About 45% of all Chinese overseas dams are located in Southeast Asian countries (International Rivers, 2011). About 280 hydropower projects (Urban et al., 2013, p. 308) of all scale in Southeast Asia had the involvement of Chinese institutions as contractors, developers, financiers, and regulators. For example, in Myanmar, Chinese foreign direct investments (FDIs) account for most of the investment in the power sector (Lamb & Nga, 2015). Data from the International Rivers (2010) show that 'Chinese banks and companies [were] involved in constructing some 251 dams in 68 different countries, particularly in Africa and Southeast Asia'.

Hydropower dams bring along both advantages and disadvantages due to the geographic location of the GMS countries. National interests are the key factor of each signed hydropower project; therefore, conflicts will be on the rise if there are severe threats to countries located along the main flow. China's hydropower investment in the GMS brings those countries an opportunity to proliferate foreign investments along with upgrading the poor

infrastructure condition, while it also challenges them with environmental and economic impacts.
The study approaches the concerns based on the concept of stakeholders indentification and salience, and our specific focus involves the following:

(1) What are the positions of Vietnam and other GMS countries in the stakeholder power-interest grid?

(2) What is the current government response?

(3) What should Vietnam do to maintain the status quo or to move to a more positive position?

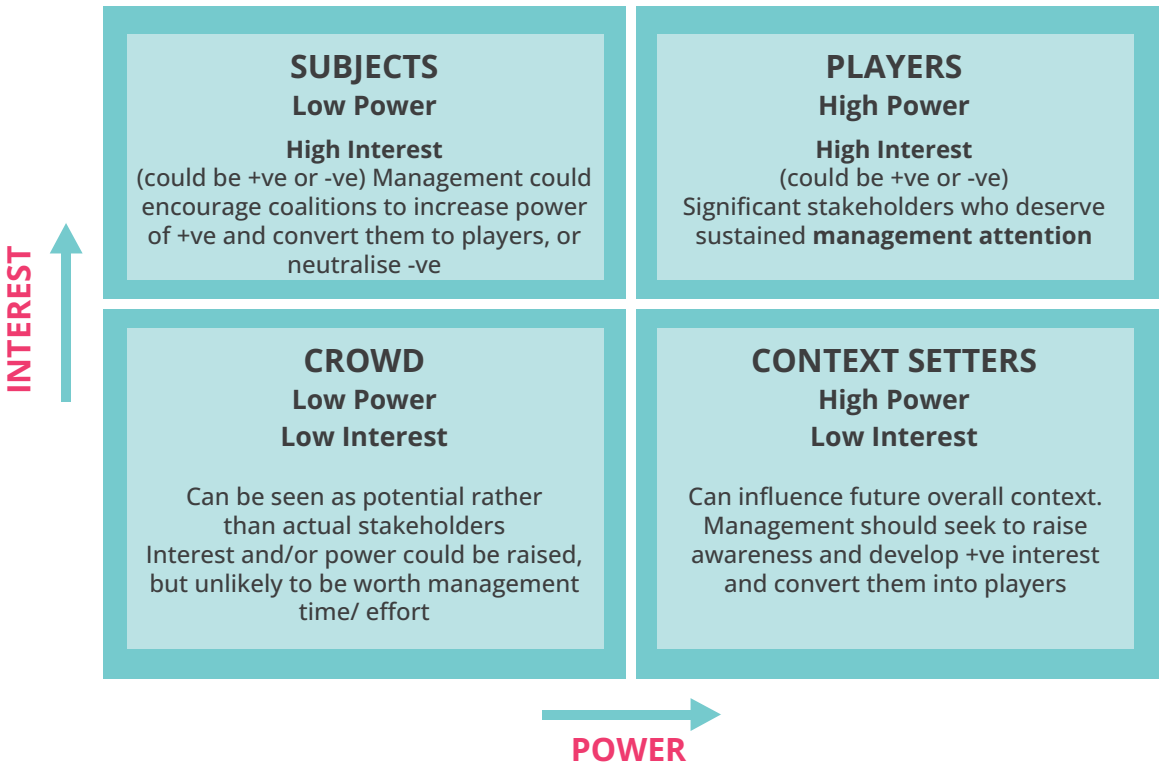
In the paper, the stakeholder analysis framework, including a power-interest grid, will be applied to clarify the posture of Vietnam and other countries on the political water-resources chessboard in the Mekong region. The response of Vietnam's government on different levels will be analysed to show whether those are sufficient to alter the confrontative developments in the Mekong. Moreover, policy recommendations for Vietnam suggest pertinent actions following its current position or policy alteration if Vietnam wishes to switch to a more favourable position in the future.

Analytical Framework

The stakeholder-analysis framework was first invented by Ronald K. Mitchell, Bradley R. Angle, and Donna J. Wood in 1997. It helps identify the group of stakeholders that receive management attention and the group that does not (Mitchell et al., 1997). In this paper, by analysing the relevant attributes of the stakeholders such as power and interest, the theory helps point out the exact position of each stakeholder on the power-interest grid. Hence, it will be easy to see which related party's actions are reasonable or not with their current position. At the same time, this theory will also indicate necessary strategies for stakeholders who want to chage their position on the grid.

Figure 1

Outline of Stakeholder Power-Interest Grid



Source: Ackermann & Eden (2011).

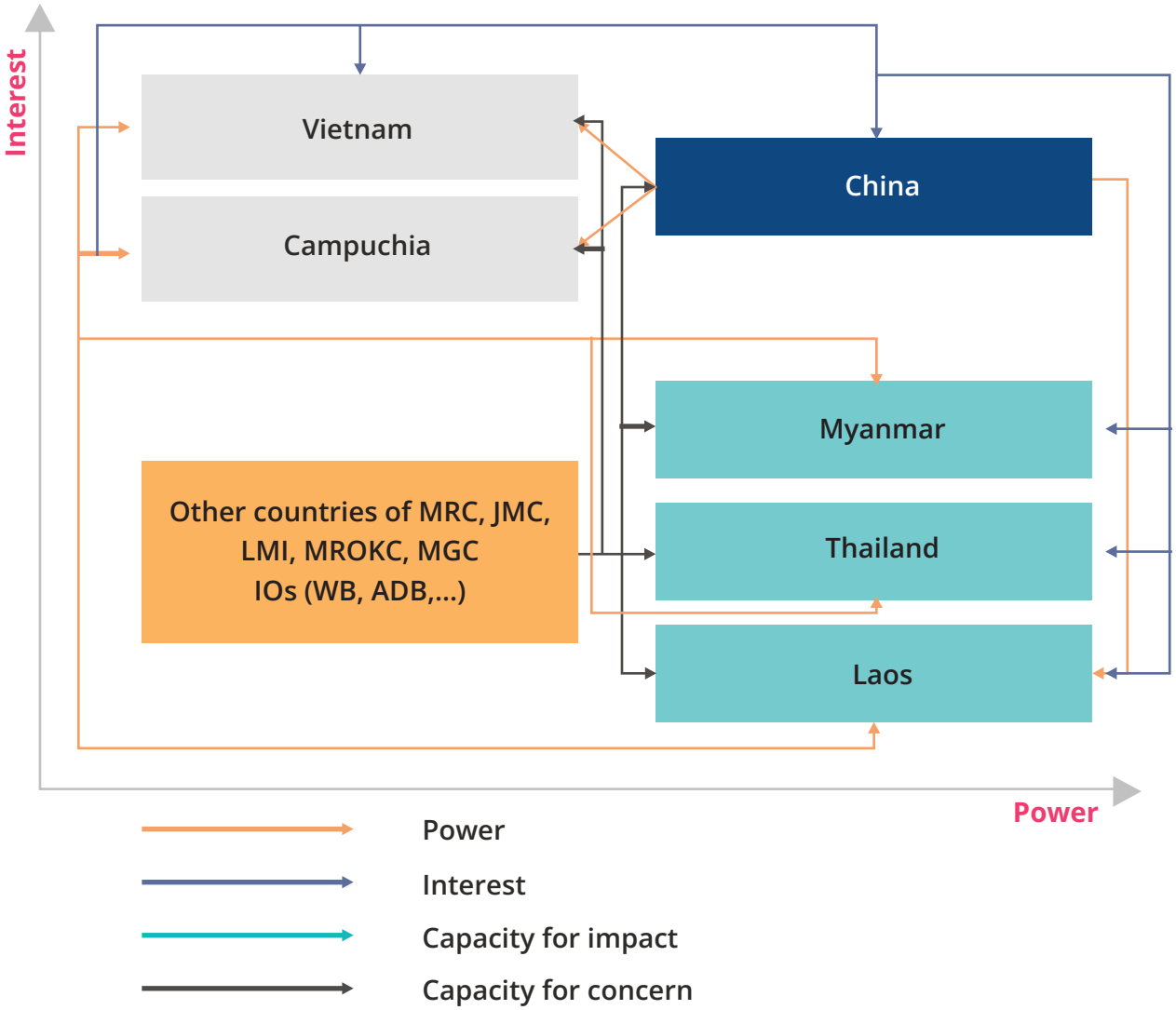
The Power-Interest Matrix of the Water Politics in the Mekong Region and the Vietnamese Government's Response

Vietnam is in the *low power-high interest* sphere, which puts the country in a position of tension and direct encounter with complex problems.[1] In terms of difficulties, Vietnam, along with Cambodia, is being put under lots of pressure from the imposition of power by other countries in the matrix. These difficulties are Vietnam's actual obstacles in advancing its response policies in the water-resources issue in the Mekong. Drastic responses of other countries in the region might be provoked if Vietnam establishes a policy that directly affects the power of other countries in the region. For the advantages, Vietnam has an intricate relationship of interests with countries on the grid; therefore, it still has negotiating powers that can be implemented in many situations. Major powers and international organisations are now

[1] *See Appendix.*

Figure 2

Stakeholder Power-Interest Matrix with Interactions in the Four Aspects



Source: Constructed by the authors.

paying significant concern towards the Mekong issue. Thus, Vietnam can take action to attract attention from the global sphere.

Regarding the problems of the Mekong River, Vietnam has established different policy responses. They can be divided into three levels: (1) specific adjustment policies for the Mekong delta, (2) general regulatory policy for Vietnam, and (3) international cooperation policies and mechanisms.

At level 1, Resolution No. 853/NQ-UBTVQH13 of the Standing Committee of the National Assembly is considered the first legal document that provides immediate and long-term solutions to effectively cope with the impacts of the Mekong upstream activities and climate change. The most recent documents are Resolution No. 120/NQ-CP (November 17, 2017) on sustainable development of the Mekong Delta to adapt to climate change and Decision No. 1055/QD of the prime minister (July 20, 2020) on the promulgation of the National Plan to adapt to climate change for the period of 2021–2030, with a vision to 2050. Those documents mention issues like hydroelectric dams, water resources, and severe drought caused by changes in the Mekong River.

Based on Decision 3815/BTNMT-KTTVBDKH (October 13, 2009) of the Ministry of Natural Resources and Environment, all provinces and cities in the Mekong Delta have established a Committee on Climate Changes & the Ocean (CCCO). For example, the Can Tho City Climate Change Office was set up under Decision No. 3135/QD-UBND of Can Tho City, promulgated on October 11, 2016 (Tyler, 2017).

The steering committees in the Mekong Delta have implemented many projects and practical action programmes, such as (a) the Project for Climate Change Adaptation for Sustainable Agriculture and Rural Development in the Coastal Mekong Delta in Vietnam, (b) the ODA-funded project Impact of Climate Change on Land Use in the Mekong Delta: Adaptation of Rice-Based Farming Systems (2011–2015) implemented by Southern Institute of Agricultural Science and Technology—Ministry of Agriculture and Rural Development, and (c) the programme Integrated Protection of Coastal Areas and Mangroves to Adapt to Climate Change in the Mekong Delta Provinces / Climate Change and Coastal ecosystems in the Mekong Delta of Vietnam (ICMP/CCCEP) (2008–2014) of the Project Management Board Forestry Project – Ministry of Agriculture and Rural Development.

Regarding the situation of drought and saltwater intrusion in the southern region from 2019 to 2020 due to impacts from the Mekong River, according to a report by the General Department of Disaster Prevention and Control under the Ministry of Agriculture and Rural Development, currently, 13 out of 13 provinces and cities in the Mekong has formulated a plan to prevent and control drought, water shortage, and saltwater intrusion during the

dry seasons (Ca Mau, Soc Trang, Hau Giang, Tien Giang, Ben Tre, An Giang, Kien Giang, Dong Thap, Vinh Long, Tra Vinh, Long An, Bac Lieu, Can Tho). Specifically, Tien Giang and Ben Tre Provinces have issued a decision to announce a state of emergency due to saltwater intrusion within the area. Kien Giang Province operates 55 sluices along the Cai Be River and 17 sluices in the U Minh Thuong area to prevent salinity and keep freshwater, among other purposes.

In addition, many projects are also being implemented. For the period 2017 to 2020, among those implemented were the (1) Ninh Quoi boat lock project; (2) subproject of water-source control, climate-change adaptation in the Nam Mang Thit region; and (3) ICRSL project (started in July 2018). Five projects were put into operation and use for saline control for the dry seasons in 2019–2020: (1) the Au Thuyen Ninh Quoi sluice project; (2) the three Vung Liem, Bong Bot, Tan Dinh sluice gates under the controlling-water-sources subproject, adapting to climate change in the Nam Mang Thit region, ICRSL project; (3) the irrigation system project of the Xuan Hoa pumping station; (4) the downstream-canal dredging project of May Phop Canal; and (5) 18 culverts of the North Ben Tre irrigation-system project (phase 1) (Ministry of Agriculture and Rural Development, 2020).

In the Mekong Delta, the focus on population arrangement and development of solutions for land and water-resource management has achieved significant results. Irrigation projects put into operation have had positive effects in preventing salinity and keeping freshwater, regulating water sources to serve localities. Those projects are in the essential regions of Kien Giang Province—Long Xuyen Quadrilateral, West Hau River, U Minh Thuong, and surrounding areas. However, most of these constructions use the local budget. Roads construction, especially highways, still have many shortcomings. Over the past ten years, the whole area has only 41 km of the Trung Luong–Ho Chi Minh City expressway, and an additional 52 km of the Trung Luong–My Thuan highway is on progress, while 23 km of the My Thuan–Can Tho expressway has just started. Thus, the whole region will only have a total length of 115 km highways, which is not commensurate to the area accounting for 13% of the country's total land area. Therefore, the implementation of infrastructure projects to adapt to climate change, such as roads, anti-flooding, and saltwater-intrusion-prevention projects, in the form of public-private partnerships (PPP) in recent years still has many

limitations. However, since the government issued Resolution No. 120/NQ-CP (November 17, 2017) on sustainable development in the Mekong Delta region adapting to climate change, infrastructure development has been accelerated (Hai, 2020).

At the national level (level 2), documents and policies can be divided into three main groups: (a) law documents and resolutions of the National Assembly; (b) the documents issued by the government, the prime minister, ministries, and departments; and (c) other documents such as national plans, national programmes, and scenarios.

For the first group, from 1994 to 2003, the document system on climate change or related to the Mekong Delta has barely been developed. Then from 2003 to 2013, the National Assembly strengthened the formulation and promulgation of policies and laws on prevention and mitigation of natural disasters, floods, droughts, salinity, and response to climate change. It indicated in the amendment of relevant laws, such as the Forest Protection and Development 2004, Environmental Protection 2005, Dikes 2006, Biodiversity 2008, Economical and Efficient Use of Energy 2010, Water Resources 2012, Natural Disaster Prevention and Control 2013, Science and Technology 2013, and Resolution No. 853/NQ-UBTVQH13 of Standing Committee of the National Assembly (December 5, 2014).

From 2013 to present, Clause 1 of Article 63 of the 2013 Constitution marks the first time that Vietnam recognised the response to climate change. From the Constitution, many laws have been subsequently promulgated, such as laws on Environmental Protection 2014, Construction 2014, the Natural Resources, Environment of Sea and Islands 2015, the Hydrometeorology 2015, Irrigation 2017, and Forestry 2017.

Based on the 2013 Constitution, the two most important are the laws on Environmental Protection 2014 and Environmental Protection 2020. These laws have clear provisions on responding to climate change, floods, and droughts. Inheriting the provisions of the law on Environmental Protection 2014, the law on Environmental Protection 2020 continues to dedicate its seventh chapter on 'Response to Climate Change', adding significant issues on the national database on climate change in Articles 94 and 95 on Vietnam Climate Action Report 2016. Thus, the national database system on climate

change has been identified for the first time. The Mekong issue does not appear directly in documents issued by the National Assembly or the Standing Committee of the National Assembly, but only as a component in the general matter of climate change.

In the second group, based on the law of the National Assembly, the government, ministries, and departments have also issued many legal documents to carry out activities to respond to climate change according to their functions, responsibilities, and competence.

According to statistics, from 2007 to the present, the government and prime minister have issued nearly 130 documents, including five resolutions, 24 decrees, 97 decisions, and two directives on climate change. Based on the Support Program to Respond to Climate Change (SP-RCC), issued together with Decision No. 44/2014/QD-TTg (August 15, 2014), the prime minister has assigned ministries and departments to advise on the development of 29 contents related to policies and laws on climate-change response to achieve eight goals in the field of climate-change adaptation. Thus, from 2007 until now, ministries and departments have implemented more than 214 action programmes to actively contribute to the legal system on climate change and ensure the actual enforcement mechanism (National Assembly IV, 2017, p. 224).

In the third group, from 2008 to June 2021, the government and prime minister have issued strategies, plans, and national target programmes to respond to climate change, specifically:

1) The National Target Program on Response to Climate Change 2008 was approved by the prime minister in Decision No. 158/2008/QD-TTg dated December 2, 2008.

2) The National Strategy for Climate Change was approved by the government in Decision No. 2139/QD-TTg dated December 5, 2011.

3) The National Action Plan on Climate Change for the Period 2012–2020 was issued based on the National Strategy on Climate Change 2011, dated October 5, 2012, under Decision No. 1474/QD-TTg of the prime minister.

4) The National Climate Change Adaptation Plan for the Period of 2021–2030, with a Vision by 2050, was issued under Decision No. 1055/QD-TTg dated July 20, 2020, of the prime minister.

5) The climate change and sea-level rise scenarios for Vietnam for each period are updated according to the roadmap identified in the National Strategy for Climate Change.

6) Vietnam Sustainable Development Strategy and National Strategy on Green Growth—On April 12, 2012, the prime minister issued Decision No. 432/QD-TTg approving the Sustainable Development Strategy of Vietnam for the Period 2011-2020.

The above document system has provided Vietnam with an institutional and policy framework to respond to climate change and the Mekong upstream activities. The promulgated documents are aimed at implementing short-term, medium-term, and long-term goals. National strategies and action plans are long-term documents that are the backbone to guide other documents and policies. The documents of the ministries and departments will be medium-term documents that adjust to each specific issue within a field. The documents and action plans of the localities are implemented to achieve the short-term goals and immediately deal with the arising problems.

The documents issued in the latter stages are of better quality than those in the early stages. In the first stage, the policy and legal system only focused on disaster prevention and control activities while not paying due attention to climate-change adaptation and specific issues of the Mekong Delta.

However, there is a lack of documents promulgating regulations on coordination between ministries, departments, and localities (especially in the Mekong Delta) dealing with natural disasters and incidents. No legal document regulates a long-term financial mechanism to attract financial and technical support in dealing with complex issues like water security in the Mekong. Some ministries and departments are still slow in promulgating documents under the prime minister's instruction without detailed plans and roadmaps for implementation. In some documents between ministries and departments, there exists an overlapping of contents. In promulgating several documents, the specialised ministries sometimes have a partial action.

According to the Mekong Delta Forum 2019 held by the Ministry of Natural Resources and Environment on 18 June 2019, the implementation of the Resolution No. 120/NQ-CP is slow and has many limitations and challenges. Sectors and localities are inactive in doing research, mobilising resources, and implementing solutions to overcome the negative impacts of climate change. Regulations on coordination, linkage, and cooperation within and between regions are still insufficient and ineffective. The mobilisation of resources to implement crucial infrastructure programmes and projects for the Mekong Delta is limited. There is no master plan for regional development. Basic investigation activities and interdisciplinary-data integration are slow, selective, and not synchronous. At the same time, the stakeholders lack policies to free up resources and mobilise businesses and the private sector in participating in development investment (Ministry of Natural Resources and Environment, 2019).

In general, the initial successes of the legislative process have illustrated a significant change in the perception of the whole political system. However, it is necessary to continue to improve the policies and laws that focus specifically on the Mekong Delta. These documents should be both legal frameworks and specific regulations for each issue arising in the Mekong Delta. The objectives and actions set out in the plans should be evaluated annually through reports of ministries and departments. The mechanism to cope with the impacts of upstream activities needs to be more practical, more effective and requires more capacity, resource mobilisation, and support from the central and local levels.

At the third level, Vietnam actively participated in the early formation of the Mekong River Commission (MRC), in which the remarkable achievement is participating in the successful construction and negotiation of the 1995 Mekong Agreement (Le, 2018), which remains as an important (even the only) legal basis for water resources in the Mekong region. However, Vietnam makes use of this agreement mainly to protect its interests in the Mekong Delta rather than to promote its regulatory role.

Vietnam also attracted attention when it successfully organised the second MRC summit in April 2014. At the third summit in Cambodia, the prime minister of Vietnam, Nguyen Xuan Phuc, also attracted the attention of the parties when setting out the contents of fairness, reasonableness, and

sustainability in the Mekong River issue in order to promote environmental protection and effectively implement the 1995 agreement.

Within LMC's framework, Vietnam also actively promotes related activities, launched many initiatives, and promoted discussion of imperative issues. However, these efforts of Vietnam have not yet brought any change since the MLC mechanism is chiefly influenced by China.

In terms of trade and investment, especially in intraregional mechanisms, Vietnam proved to be more dynamic and efficient by simplifying customs procedures, granting travel rights to means of transport in the territory of GMS members. Within the CLV-cooperation mechanism, Vietnam plays a leading role when formulating the Development Triangle Plan, assisting Laos and Cambodia in building routes linking border provinces and developing markets (Le, 2018).

However, Vietnam was confused in some certain situations. In 2016, there was a request from Vietnam to release water from the Jinghong hydropower project to overcome severe drought and saltwater intrusion in the Mekong Delta (Tiezzi, 2016). China, then, offered to discharge water. However, on the Vietnam side, even with the announcement on water discharge released to reassure people along the delta, the leader of the Ministry of Agriculture and Rural Development was not sure about the effectiveness of the additional discharged water. He even said that the drought alleviation in the Mekong Delta can only depend on the water release from Chinese dams or on rain (*Labor Newspaper*, 2016). This plainly shows an ambiguity in calculating Vietnam's specific strategies.

According Brian Eyler, Southeast Asia programme director of Stimson Research Center in Washington, DC, more than 100 hydroelectric dams have been constructed and operated along the Mekong River (Eyler, 2019). Specifically, there are 63 projects in Laos, 11 projects in China, 16 projects in Vietnam, 9 projects in Thailand, and 2 projects in Cambodia. Obviously, Vietnam has also developed hydropower on the Mekong as other countries in the region. So this triggers the question whether Vietnam is applying a double standard in the Mekong when on the one hand, it is opposing the hydropower projects of other countries, but on the other hand, it is rapidly developing its own hydroelectric projects.

When Xayaburi, the first hydroelectric dam downstream, was built, Vietnam repeatedly expressed opposition because of concerns about the direct impact of this project on the Mekong Delta. Save the Mekong Coalition (SMC) and Vietnam Rivers Network have sent a notice to the Lao government. While Vietnam's years of efforts have not yet yielded optimistic results to ensure water security for the Mekong Delta, a sudden movement has disrupted previous efforts. PV Pover, a subordinate company of Petrovietnam, a large corporation owned by the government of Vietnam, has made a surprising move when it participated in the construction of the Luang Prabang Dam in Laos with the Lao government and an investor from Thailand (Fawthrop, 2019). This decision caused much controversy and reaction in the country. Many experts still find it difficult to perceive that decision since Vietnam has persistently been calling for the postponement of the construction of hydropower dams in Laos on one hand but has let a state-owned enterprise invest in hydropower projects in Laos. The controversy reveals that Vietnam still lacks unanimity in terms of water security in the Mekong River.

In general, Vietnam's resources are evenly distributed. The government has not intentionally been focusing on a few core cooperation mechanisms. The problem of Vietnam falling into the 'cooperation mechanism matrix' mainly stems from Vietnam's policy confusions, not entirely from geographical disadvantages.[2] According to the analysis of three policy levels, Vietnam has distinct responses at levels 1 and 3 because the documents in those groups directly mention the Mekong issues. In level 2, however, due to the nature of the regulatory documents for the country, Vietnam has not yet made the Mekong a central matter but rather separate from the issue of climate change. The problems of water resources, saline intrusion, and drought caused by policies of upstream countries are still a component of climate change issues of level 2 documents.

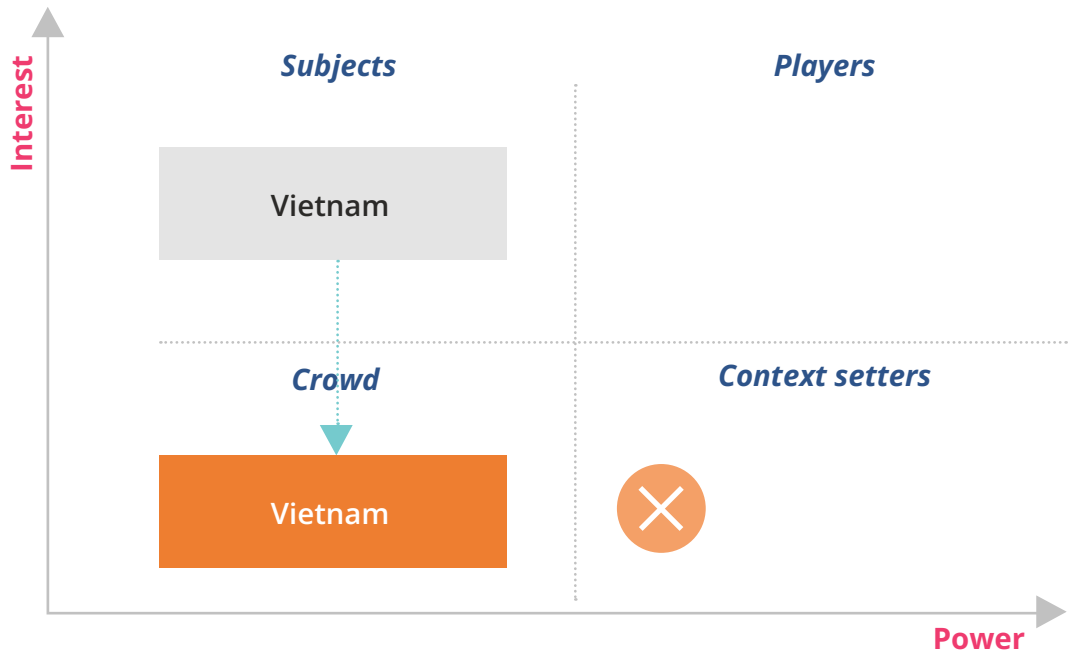
[2] *See Appendix.*

Table 1
Hydropower Development in the GMS

	Installed capacity (MW)			Number of projects
	Existing	2012	2015	Capacity addition 2013-2025
Cambodia	10,000	2	9	7
Laos	18,000	14	53	39
Thailand	N/A	6	6	0
Myanmar	40,000	19	39	20
Vietnam	35,000	46	85	39
Guangxi	122,000	14	39	25
Yunnan		14	15	1
Total GMS	Approx. 225,000	115	246	131

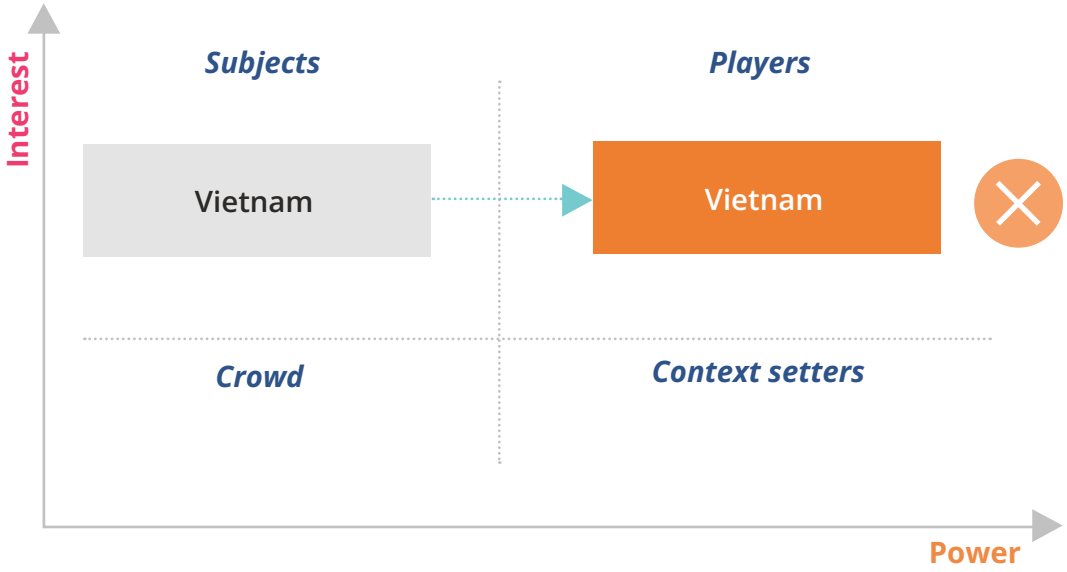
GMS = Greater Mekong Subregion
Source: ADB & ICEM (2013) and ADB (2016b).

Figure 3
Vietnam Shifts to 'Crowd' Position Scenario



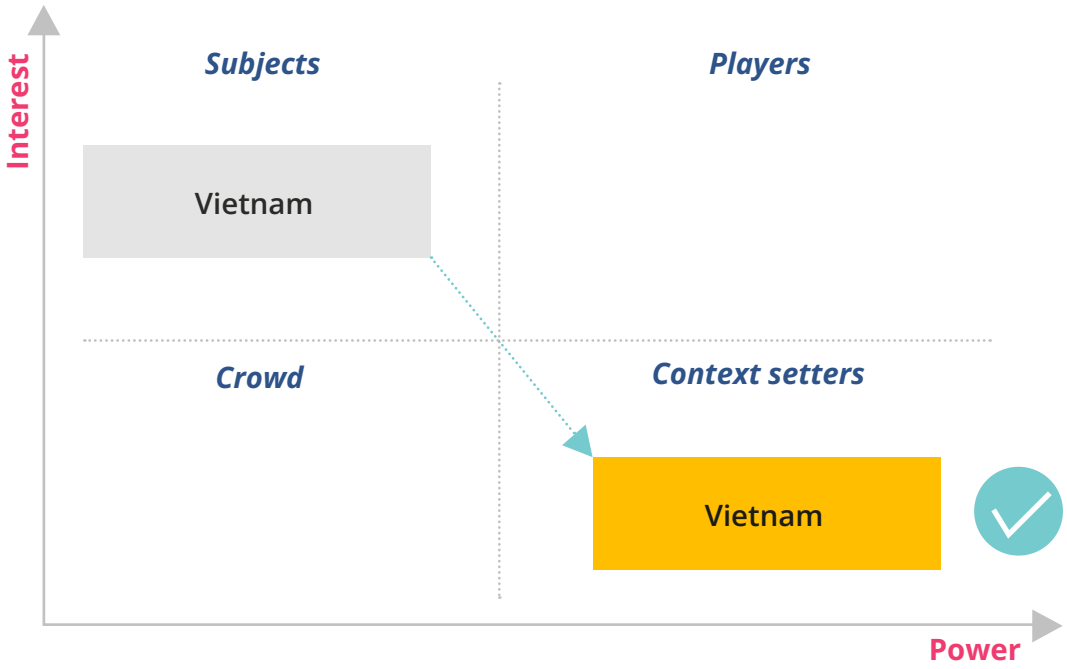
Source: Constructed by the authors.

Figure 4
Vietnam Shifts to 'Players' Position Scenario



Source: Constructed by the authors.

Figure 5
Vietnam Shifts to 'Context Setters' Position Scenario



Source: Constructed by the authors.

The Scenarios for Position Shift on the Matrix and Policy Implications for Vietnam in the Future

Developing policies to maintain Vietnam's current position is not an inferior decision. In the long term, however, Vietnam will gradually lose its proactive position in the Mekong's water-resources issue. Hence, Vietnam might seek for better position on the matrix.

Considering the *crowd* position in Figure 4, it is clear that the position is not suitable for Vietnam because it cannot renounce or deny the benefits associated with the water source of the Mekong River. Therefore, only two positions, *players* and *context setters*, remain.

The player position seems to be impossible for Vietnam since it requires a feature that only upstream countries could meet—locating at the beginning of the river.

The next position that Vietnam might consider is the *context setters*. At this certain position, Vietnam can reduce its beneficial dependence on the water resources of the Mekong River and enhance its power in decisive matters related to this river. In order to be in the context setters position, Vietnam should conduct strategies that are able to alter the balance of power-interest.

Regarding power, Vietnam should frankly admit that China holds a sole power with its upstream position on the Mekong River. Thus, the highest and most feasible goal in the balance of power for Vietnam is seizing the no. 2 position right after China. Vietnam should not try to challenge China's power in this regard for two main reasons: (a) wasting resources on unattainable goals and (b) easily being 'counterattacked' by China in other important fields such as trade and investment.

China's use of upstream power as a bargaining chip when negotiating with other countries is gradually decreasing. Many problems have appeared and are chiefly related to the prestige and quality of China's commitments. China, of course, is aware of this problem, but it is difficult for them to immediately fix it. Besides, China also has to devote resources to other crucial goals such as transcending the United States and affirming its position as a superpower in the world. This could be a power 'gap' that Vietnam can take advantage of to actively implement the second strategy—interests sharing to garner support and legitimacy.

Another approach for power reinforcing is inaugurating a dispute-settlement mechanism. According to the inspection results of the State Audit of Vietnam, legal documents such as operating regulations, manuals, technical instructions, and provisions for dispute settlement (if any) of cooperation mechanisms are still incomplete. Meanwhile, the dispute between the stakeholders in the Mekong River issue is becoming more and more complicated. In particular, only Vietnam joined the United Nations Convention on the Law of Non-Navigational Uses of International Watercourses in 1997 (Fitzmaurice, 1997, p. 501). Therefore, Vietnam needs to take advantage of this to proactively propose a code of conduct for the Mekong region in order to prove its leading role and reinforce its 'power' in practice.

In terms of interests, there are three important aspects Vietnam should address: (1) reducing the Mekong Delta's dependence on the Mekong River, (2) proactively sharing benefits to accomplish power reinforcement, and (3) promoting domestic and interstate renewable energy projects to get rid of dependence on hydropower, which is the most controversial issue in the Mekong River.

In the first aspect—reducing the Mekong Delta's dependence on the Mekong River—Vietnam should develop sustainable development policies in the Mekong Delta. Vietnam is compelled to invest in upgrading infrastructure to attract investments for the delta. Dependence on the Mekong River is one of the causes that urge people along the delta to migrate to other areas when their livelihoods are affected by the changes in the Mekong. The government should build up a strategy to attract more investors for the delta in order to enhance the 'internal attraction', making sure that they are not leaving. In this context, the policies that diversify the structure of industries will be effective since it helps in reducing the dependence of the region on agriculture and fisheries. Next, Vietnam needs to establish an effective regional-linkage mechanism so that the Mekong Delta provinces are able to reach a common development plan. The linkage might open up the idea of establishing a multinational association mechanism. These policies will facilitate Vietnam to reduce its dependence on the Mekong River, which is also the best way for Vietnam to reduce its own disadvantage on the balance of power-interests.

In the second aspect—proactively sharing benefits to accomplish power reinforcement—Vietnam should actively involve the subjects and context setters groups into discussion to choose the most effective mechanisms in gathering major resources and sharing benefits. The coordination centre for a chosen mechanism should be funded by Vietnam if the country wants to establish a leadership position. The centre will coordinate issues on infrastructure connectivity, energy cooperation, trade, transportation, agriculture, tourism, environment, border economic zones, etc. Vietnam should also be an active country in sponsoring or mobilising capital to implement programmes proposed and researched by the coordination centre. In addition, Vietnam should actively share information related to the Mekong with the crowd group to promote research participation and provide critical feedback.

Being a pioneer in building an interstate database system on the Mekong provides Vietnam an initiative in the region. All GMS countries are able to share a common vision on management, planning, and development of areas adjacent to the Mekong River according to the shared data. Currently, the Open Development Initiative (ODI) has already gathered many databases in Vietnam, Cambodia, Laos, Thailand, and Myanmar and made them public on each country's website (Open Development Vietnam, 2020). However, the initiative should be proposed to a government-wide initiative to gain a broader impact, and Vietnam will be compelled to be the proactive country to take this initiative to a new scale.

In the third aspect—promoting domestic and interstate renewable energy projects to get rid of dependence on hydropower—according to the MRC, from 1993 to 2005, the economic growth rate and increase in energy demand of countries in the Mekong River region was about 8% per year; it made the the region one of the places that possess the highest increase in energy demand in the world (MRC, 2010). Energy demand is expected to grow by 6–7% per year until 2025. This increase will meet the diversification needs of the economy as well as the population growth rate of countries. According to existing data, the capacity of 12 dams on the mainstream in the lower Mekong River has reached 14,697 MW, accounting for 23–28% of the hydropower potential of Vietnam, Thailand, Laos, and Cambodia (MRC, 2010).

These figures show the great dependence of countries on hydropower projects on the Mekong River. Hence, hydroelectricity plans constantly become a concern for GMS countries. These nations have both interests in hydroelectricity and use hydroelectricity as a tool to control each other on the river. Therefore, the initiative on renewable-energy development might gradually reduce dependence on hydroelectricity. It could help Vietnam and other countries reduce bilateral tensions to draw closer together. An alliance to resist the pressure from China might be easily formed then. In particular, on Vietnam's side, pioneering the development of renewable energy will accelerate the process of increasing power and influence on the Mekong River. At the same time, the development of renewable energy also helps Vietnam confidently limit coal power projects that are causing many social consequences in the Mekong Delta (Hoa, 2016).

Obviously, Vietnam has much experiences in confronting China in all aspects. In terms of prestige in international relations, Vietnam is recently considered a 'rising star' with rapid developments. In terms of urgency in action, it is clear that Vietnam (along with Cambodia) is in the weaker position in the power-benefit matrix, so it is necessary to take the initiative to change position.

Starting April 2022, the leaders of the four MRC member countries will meet in Laos on a regular basis every four years. The summit will be a great opportunity for Vietnam to start manifesting its new strategies. Those policy recommendations are necessary for Vietnam at the moment. Effective management of water-security issues in the Mekong River not only facilitates Vietnam in developing its 'internal state' but also fosters a great position for Vietnam to join the leading Asia-Pacific countries.

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Appendix

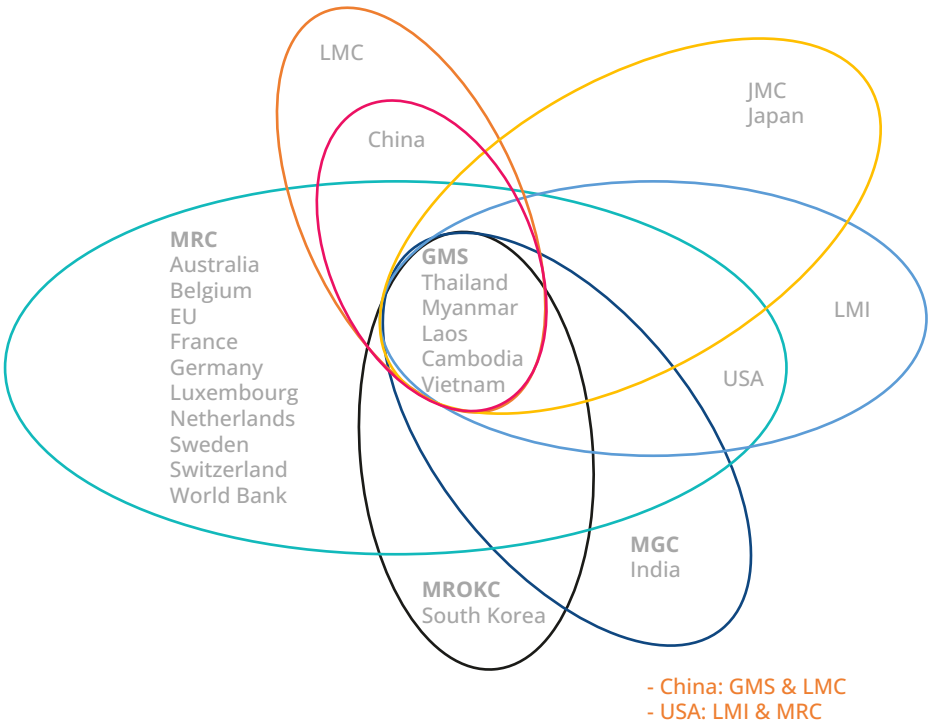
The Power-Interest Matrix of the Water Politics in the Mekong Region and Vietnam's Position

An Overview of Current Policy Implementation and Identification of Stakeholders

Major powers and international organisations are involved in water-resources issues in the Mekong region via organisations, committees, cooperation statements, etc. Stakeholders have been aggregated, as shown in Figure A2.

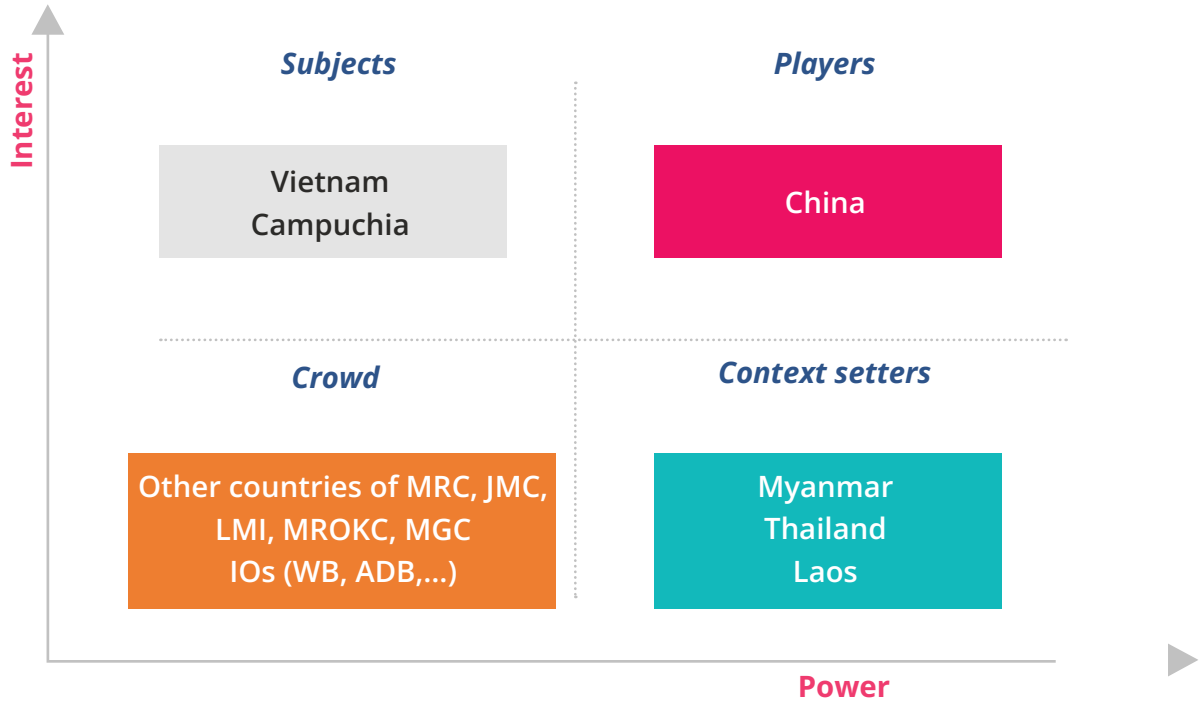
Figure A1

Stakeholders of Water Resources Management in the Mekong River



Source: Compiled from the official websites of the Mekong River Commission (MRC), Lancang-Mekong Cooperation (LMC), Lower Mekong Initiative (LMI), Japan-Mekong Cooperation (JMC), Mekong-Republic of Korea Cooperation (MROKC), and Mekong-Ganga Cooperation (MGC).

Figure A2
Stakeholder Power-Interest Matrix



Source: Constructed by the authors.

Based on the geographical location, current policy implementation, and interactions of countries on water resources in the Mekong region, stakeholders can be divided into certain groups.

The *player(s)* group is defined as China. China, one of the upstream countries in the Mekong River, has great power in this regard. In terms of interests, in addition to 'exploitation benefits' for riparian provinces, China also has 'instrumental benefits' by using the Mekong to control or exert policy pressure on other countries in water-resources issues. However, in the policies process, China must more or less observe the movements of other stakeholders to avoid drastic responses, which are detrimental to its reputation in the international arena. China is fully aware of its superior

position in the Mekong River. Therefore, China's policies related to the river have thoroughly exploited this advantage. China has continously constructed hydroelectric dam upstream as well as invested in plenty of hydropower projects in Myanmar, Thailand, and especially Laos. Many of these projects have also been incorporated into China's Belt and Road Initiative. China has not hesitated to show its intention to impose its own water-governance rules on the Mekong River and on the riparian countries. China's government has always made great efforts to institutionalise the rules of the game that it wants to impose on water management in the Mekong River. Hence, China's power over this river is evolving from time to time.

The *context setters* group includes Myanmar, Thailand, and Laos. These are the countries located in the middle of the Mekong River. The 200-km-long Mekong River forms the border of Myanmar and Laos. Meanwhile, another tributary of the Mekong forms the border of Laos and Thailand before the river reaches the interior of Laos. That makes all three countries also have the authority over the river, second only to China when it takes the initiative in policy and irrigation dams, hydroelectricity, and other projects on the river. Even if those constructions are invested by China, these countries also achieve indirect power. In addition, Laos and Thailand also have a reciprocal relations, as Thailand is both an investor and a consumer for a number of hydropower projects in Laos. Myanmar, especially at the time under Aung San Suu Kyi's leadership, has become an obstacle in the water-politics strategy of China (Thitinan, 2016). However, after the Myanmar coup d'état in 2021, the current pro-China government makes it no more a barrier for China in the water-resources management (Liu & Chau, 2021).

Theoretically, if these three countries have joined forces to strengthen their power and harmoniously share benefits related to the Mekong River's water resources, China's dominance will be somewhat reduced. However, the policy coordination of these three countries is quite 'fuzzy', as ethnic conflicts and border disputes among them still exist, and they might achieve more interests from bilateral relations.

The *subjects* group is composed of Vietnam and Cambodia. These two countries are located in the lower reaches of the Mekong River and have less possession over the river in comparison to other GMS countries.

However, these two countries have vital interests in this regard. The interests of these two countries in the Mekong are 'dependent benefits', especially Vietnam, since these are associated with the formation and development of the Mekong Delta. Any regulatory policy of the countries in the players group or context setters group can affect the interests of the subjects group. Therefore, the two countries in this group ought to act properly to form alliances and reduce dependence.

Cambodia is increasingly dependent on foreign aid and investment from China (Thitinan, 2016). Hence, it increasingly hands over its meager power over the Mekong River to China. Although Vietnam confronts China in the South China Sea dispute, it takes a step back to China on the water-resources issue in the Mekong River.[3] The reason is quite obvious since China is located far upstream with better position, and China is one of Vietnam's largest trading and investment partners. Therefore, the water-resources issue in the Mekong River is not the priority of Vietnam when it comes to bilateral relations with China.

The *crowd* is composed of the countries that want to enhance their image in the global sphere and increase their influence in this region by participating in many Mekong-related cooperation mechanisms, as well as being development partners such as the United States, the European Union, Japan, India, etc., and being partner organisations like the World Bank and the Asian Development Bank (MRC, n.d.). These are the actors that have little direct connection to the water-resources issue and are also less likely to contribute, influence, and change policies. However, these actors will constantly observe and have some indirect effects.

[3] *See more in Table A1*

Table A1

Analysis of Stakeholders' Attributes

Stakeholders	Power	Interest	Needs
China	Upstream, capacity for flow's alteration, water flow	Resources exploitation; hydropower development; Mekong as a bargaining tool in foreign policies, investment, and trade cooperation	Maintain a sole leading position in the Mekong
China	Middlestream; capacity for flow's alteration, water flow; proactively balance policies with upstream and downstream parties	Natural boundaries; resources exploitation; hydropower development; using the water resources in the Mekong to please China or put pressure on downstream countries	Using the Mekong's water-resources issue as a matter that needs to be conceded to China in exchange for support for the new government after the coup;
Thailand			Balancing economic and commercial interests are still the priority;
Laos			Concessions to China in exchange for other important commercial and investment projects
Cambodia	Downstream; capacity for flow's alteration before it enters Vietnam	Resources exploitation; hydropower; transportation; waterway trading	Not suffering too much in the Mekong water-resources issue and still being able to develop a good relationship with China
Vietnam	Downstream; no self-determination over upstream- and middle-stream affairs; having the least power of the nations	Resources exploitation; hydropower; transportation; waterway trading; key factor for the sustainable development of the Mekong Delta	Eliminate the disadvantage of a downstream country; actively create a leading position; develop appropriate response policies to convert the weakness into strength in the Mekong issue
Other countries of MRC, JMC, LMI, MROKC, MGC, IOs (WB, ADB)	No influential power, put GMS countries under pressure solely by flexible policies	Maintain good relationships with GMS countries, enhance global posture	Continuously maintain interests in the Mekong, act as bridge for initiatives and bring countries closer together

Source: Compiled by the authors.

The Interaction Matrix and Vietnam's Position

From the results of the stakeholder identification, a detailed analysis of the attributes and current needs of the stakeholders is conducted. The analysis in Table A1 provides insight for the stakeholder power-interest matrix, which draws a clear picture of the stakeholders' interaction in the four aspects—power, interest, capacity for impact, and capacity for concern. The origin of the four interactive aspects and the affected actors will be navigated by the direction arrow.

In fact, those difficulties have made Vietnam confused. Vietnam is now participating in almost all cooperation mechanisms/initiatives related to the Mekong water security. In terms of internal mechanisms, Vietnam is a member of GMS, MLC, the Cambodia-Laos-Vietnam Triangle (CLV), CLMV, and Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS). In terms of external mechanisms, Vietnam is currently a member of LMI, JMC, MGC, MROKC, and MRC. It is worth noting that these mechanisms are overlapping in the 'terms and conditions of cooperation', and some mechanisms have not yet performed any significant activities since their establishment.

Obviously, the confusion has resulted in inadequate decisions. Vietnam does not have a so-called filtration mechanism (or does not have enough time) to classify the importance of each organisation and cooperation mechanism. This confusion puts Vietnam in front of many crossroads, and unfortunately, Vietnam has desired to go all the way via a series of different policies. In fact, only a few policies demonstrate their potency.

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Section 2

Trade, Economic Development, and Labour Migration

Trade, FDI, and Growth in CLMV: Pre- and Post-Pandemic Evolution

Jayant Menon

Abstract

The four transitional economies of the Greater Mekong Subregion (GMS)—Cambodia, Lao PDR, Myanmar, and Vietnam (CLMV)—constitute one of the most dynamic regions in the world. Improvements in socioeconomic conditions in CLMV can be attributed to reforms that opened up these economies to the rest of the world, fuelling a rapid rise in trade and foreign direct investment (FDI). The coronavirus (COVID-19) pandemic has posed challenges but has also accelerated the move towards a digital economy, producing benefits and costs. To deal with the disruption to labour markets, regional cooperation initiatives such as the ASEAN Economic Community (AEC) and the Regional Comprehensive Economic Partnership (RCEP) must play a greater role in promoting trade, given the sensitivities associated with increasing factor mobility. Increased trade can produce similar outcomes to increased factor mobility by narrowing cross-country differences in labour wages and capital rentals and thereby reducing adjustment costs.

The four transitional economies of the Mekong region—Cambodia, Lao PDR, Myanmar, and Vietnam (CLMV)—present one of the most rapidly transforming regions in the world. Dramatic changes in social, political, and economic systems and conditions have occurred over the past three decades or so. A lot of the improvements in socioeconomic conditions can be attributed to a shift from central planning to market economies, followed by reforms that opened up these economies to the rest of the world. The subsequent dynamism of the region has been fuelled by trade and FDI.

This chapter traces the structural transformations that these countries of the Greater Mekong Subregion (GMS)[1] have undergone and the roles that trade and FDI have played in the process. It also examines how this process can continue into the future, following an increase in antiglobalisation sentiment fuelled by the coronavirus (COVID-19) pandemic. It pays particular attention to the increasing importance of regional cooperation agreements to which CLMV belong, such as the ASEAN Economic Community (AEC) and the RCEP, in ensuring future growth.

The chapter is in six parts. The next section describes the role that trade and FDI have played in the growth and structural transformation of the region in the period leading up to the pandemic. Section 3 looks at the social and economic impacts of the measures introduced by governments to try to control the spread of the coronavirus. The indirect impacts of the pandemic, particularly the push it has provided in moving towards a digital economy, are discussed in Section 4. Section 5 considers policy responses to these direct and indirect impacts of the pandemic, focusing on the role that regional cooperation agreements can play in promoting great capital and labour mobility, as well as trade. A final section concludes.

[1] *The GMS also includes Thailand and China's Yunnan Province and Guangxi Zhuang Autonomous Region. In this paper, the focus is on the CLMV countries because they are the ones undergoing transition from dirigiste to market-oriented economies. Thailand is already a thriving market economy of upper middle income status, while Yunnan and Guangxi are subnational entities.*

Trade, FDI, and Growth Leading Up to the Pandemic

The CLMV countries share a lot of things in common, but they are also a diverse group. Although they are all transitional economies, Vietnam has recently joined the high human development index (HDI) group,[2] while the other three are still classified as least-developed countries (LDCs). The CLMV countries are still largely agrarian economies, despite structural transformations that have resulted in the share of agriculture and related industries in GDP consistently declining over the years (Table 1). Even in 2018, the rural sector continued to employ more than half of the labour force in Lao PDR and Myanmar and a third in Cambodia and Vietnam. Nevertheless, the share of industry in GDP has more than doubled between 1995 and 2018 in Cambodia, Laos, and Myanmar and is currently above 35% in all four countries.

The structural transformation in CLMV has been driven by economic and financial reforms that have supported growth through increases in trade and FDI, dating back several decades (Menon & Melendez, 2013). Figures 1 to 4 depict the growth in imports and exports for the period 1995 to 2018, just before the onset of the pandemic, in constant price terms. Trade flows have been volatile during the pandemic, with trade falling sharply initially as borders closed, with the bottom being hit around May 2020. But it rebounded just as quickly, however, with trade volumes in the first half of 2021 exceeding prepandemic levels in 2019. For the Mekong region, the strong ties with China played an important role in the quick adjustment and subsequent rebound. In the first half of 2021, trade with China grew by an astounding 40% year-on-year (Wei, 2021). The rapid increase in both imports and exports from 2000 onwards leading up to the pandemic is evident across all four countries. Except for Vietnam, which has balanced its trade for most of the period, the other countries are running trade deficits. As a share of GDP, total trade (exports plus imports) has increased sharply in Vietnam, moderately in Cambodia and Lao PDR, and remained relatively unchanged for Myanmar over this period (Figure 5).

[2] *The HDI ranks economies based on a weighted average measuring life expectancy, education, per-capita income, gender gap, and poverty. Vietnam passed the threshold of 0.7 in 2019 to join the high HDI group.*

Table 1

Sector Share of GDP and Employment, Selected Years

Country	Sector	0% of GDP					0% of Employment				
		1995	2000	2005	2010	2018	1995	2000	2005	2010	2018
Cambodia	Agriculture, hunting, forestry, fishing	51.4	37.8	32.4	36	23.5	79.0	73.5	62.0	57.3	33.7
	Industry	12.9	23	26.4	23.3	34.4	6.1	8.5	13.2	16.0	28.3
	Services	35.7	39.1	41.2	40.7	42.1	14.9	18.0	24.8	26.7	38.1
Lao PDR	Agriculture, hunting, forestry, fishing	42.8	33.6	29.1	23.6	17.7	85.4	81.6	77.3	71.5	63.2
	Industry	15.7	24.1	26.2	30.9	35.5	3.5	4.5	6.0	8.3	11.6
	Services	41.5	42.2	44.7	45.5	46.8	11.1	13.8	16.7	20.2	25.1
Myanmar											
	Agriculture, hunting, forestry, fishing	60	57.2	46.7	36.9	26.3	66.6	61.5	57.1	53.5	49.7
	Industry	9.9	9.7	17.5	26.5	34.7	10.5	13.2	16.3	17.7	16.0
	Services	30.1	33.1	35.8	36.7	39	22.8	25.4	26.6	28.8	34.3
Vietnam											
	Agriculture, hunting, forestry, fishing	24.5	22.5	19.3	21	16.2	67.1	65.3	54.8	48.7	38.6
	Industry	26.1	34	38.1	36.7	38.1	11.8	12.4	18.8	21.7	26.8
	Services	49.4	43.5	42.6	42.2	45.7	21.1	22.3	26.4	29.6	34.6

Source: UNCTADStat, data downloaded November 27, 2020.

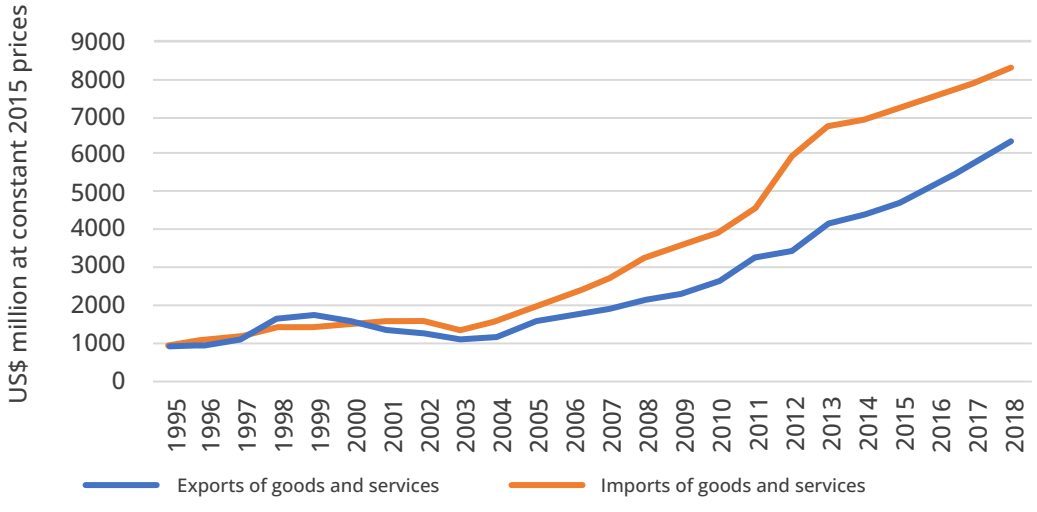
Figure 1

Cambodia: Exports and Imports of Goods and Services, 1995-2018 (in million USD at Constant 2015 Prices)

Source: UNCTADStat, data downloaded November 27, 2020.

Figure 2

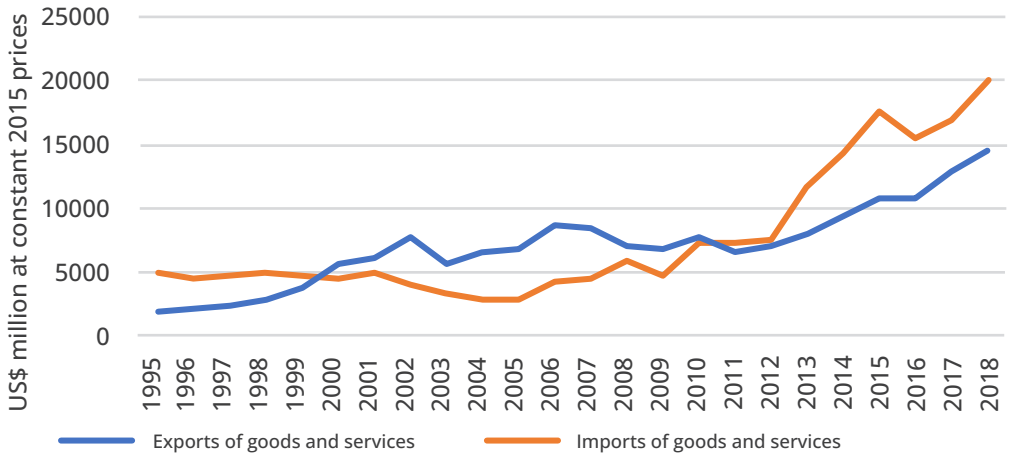
Lao PDR: Exports and Imports of Goods and Services, 1995-2018 (in million USD at constant 2015 prices)



Source: UNCTADStat database, data downloaded November 27, 2020.

Figure 3

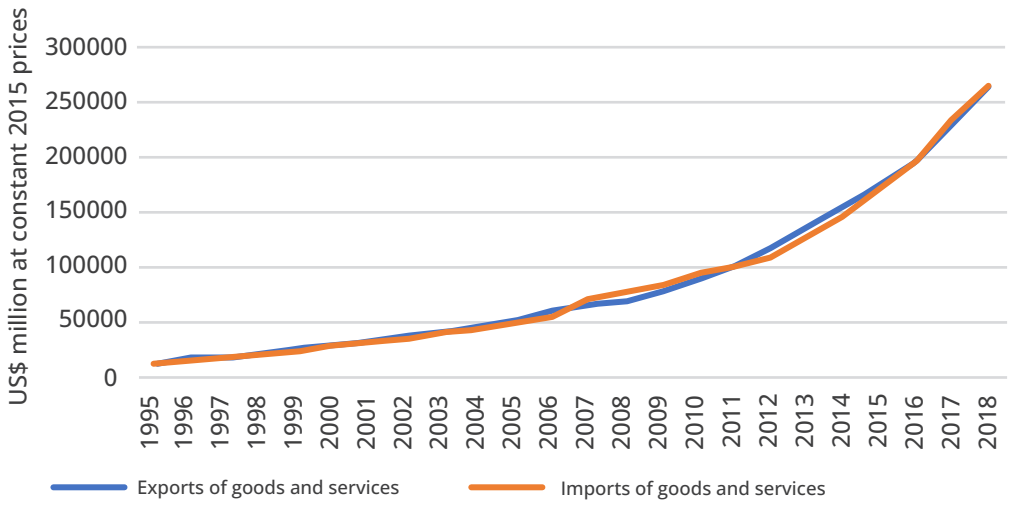
Myanmar: Exports and Imports of Goods and Services, 1995-2018 (in million USD at constant 2015 prices)



Source: UNCTADStat, data downloaded November 27, 2020.

Figure 4

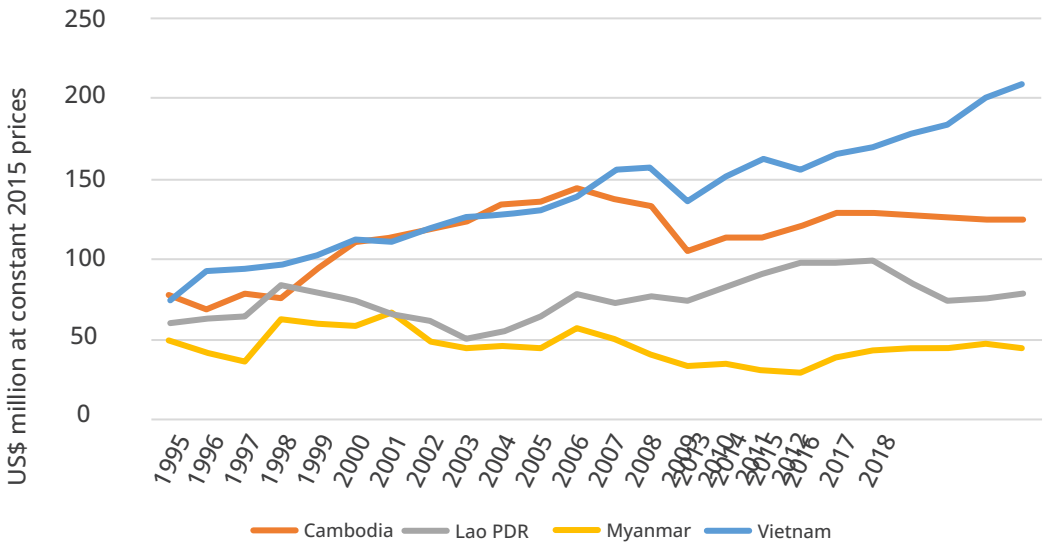
Vietnam: Exports and Imports of Goods and Services, 1995-2018 (in million USD at constant 2015 prices)



Source: UNCTADStat, data downloaded November 27, 2020.

Figure 5

Share of Total Trade in Goods and Services (X+M) in GDP



Source: UNCTADStat, data downloaded November 27, 2020.

FDI flows as a share of GDP between 1995 and 2019 for Cambodia, Lao PDR, and Vietnam are presented in Figure 6.[3] Vietnam displays a clear upward trend since the early 2000s, with annual flows higher than in Cambodia and Lao PDR. There were noticeable drops during the Great Financial Crisis (GFC) of 2008-2009, particularly in Cambodia and Lao PDR. Lao PDR has also had bigger fluctuations given the lumpy nature of investments in hydropower and extractive industries, which had also declined sharply before the pandemic.

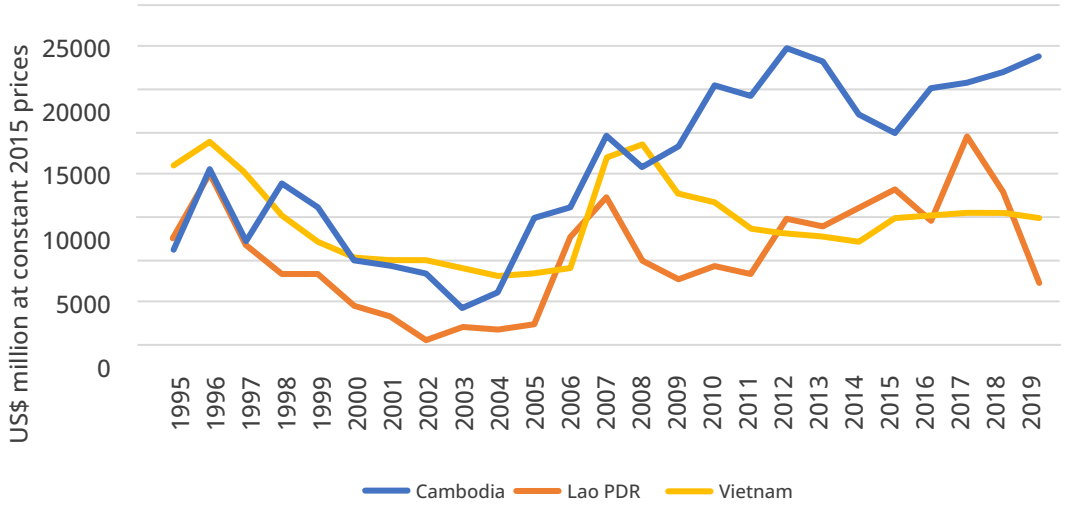
The rapid growth in trade and FDI has underpinned robust GDP growth in these countries (Figure 7). Over the past two decades, growth has rarely fallen below 6%. It fell to zero in Cambodia during the GFC due to its heavy reliance on the United States as an export destination and had started to taper slightly in both Lao PDR and Myanmar since 2018.

On the whole, strong economic growth fuelled by trade and FDI has resulted in remarkable achievements in the social sphere prior to the pandemic, especially in terms of poverty reduction (Table 2). While poverty headcount ratios (either US$1.90 per day or national poverty line estimates) were above 50% in the early nineties in CLMV, they had fallen sharply to below 20% by 2018.

[3] *Myanmar is excluded due to gaps and massive fluctuations in the data, raising concern over its reliability.*

Figure 6

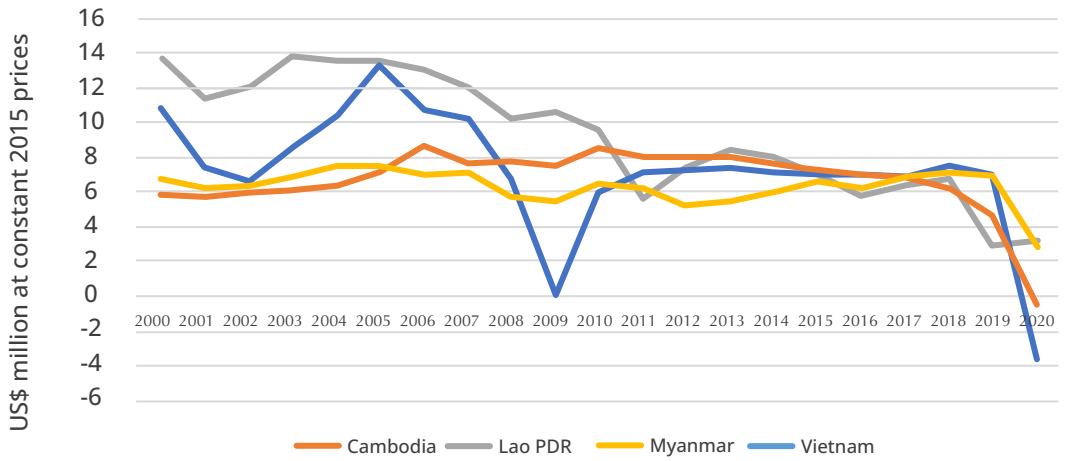
FDI Flows as a % of GDP, 1995-2018



Source: UNCTADStat, data downloaded May 27, 2021.

Figure 7

GDP Growth, 2000-2020



Source: UNCTADStat, data downloaded May 27, 2021.

Economic and Social Impacts of the Pandemic

The COVID-19 pandemic that started in early 2020 is threatening to unravel a lot of these achievements in the social and economic spheres. The lockdowns and other social-distancing measures introduced to contain the spread of the coronavirus resulted in recessions in 2020 in Cambodia (-3.5%) and Lao PDR (-0.4%) and dampened growth in Myanmar (3.2%) and Vietnam (2.9%). The IMF (2021) and ADB (2021) are expecting growth to rebound in all countries in 2021 except Myanmar. Both Cambodia and Lao PDR are expected to grow by more than 4% in 2021, while Vietnam is expected to grow by more than 6.5%. The political crisis following the coup in Myanmar could see the economy contract by up to 10% in 2021. These projections were made before the Delta-variant outbreak, which has produced the worst community-transmission rates and highest number of fatalities in all four countries. It is likely that the next set of forecasts will revise these growth rates downwards. Although the Delta variant may not send these economies near the bottom that was hit in the second quarter of 2020, the output lost to the pandemic is unlikely to be recouped in 2021.

The World Bank estimates that an additional 97 million people were pushed into poverty as a result of the pandemic in 2020, representing a historically unprecedented increase in global poverty (Mahler et al., 2021). The ILO (2021) estimates that the equivalent of 225 million jobs had disappeared in 2020, leading to US$3.7 trillion in lost labour income, raising the real risk of a lost generation. At the same time, Oxfam International (Berkhout et al., 2021) estimates that the 10 richest people in the world had their wealth increase by US$500 billion, highlighting just one of the many inequities that the pandemic has exacerbated.

Table 2
Human Development Indicators, Selected Years

Country	Indicator	1990s				
		1992	1995	1997	1998	2002
Cambodia	GDP per capital		1,182.4	1,228.3	1,252.3	1,642.6
	HDI	0.377	0.391	0.401	0.406	0.457
	Poverty headcount ratio at national poverty lines					
Lao PDR	GDP per capita	2,046.7	2,330.2	2,555.3	2,608.0	3,106.0
	HDI	0.415	0.432	0.453	0.460	0.486
	Gini index	34.3		34.9		32.6
	Poverty headcount ratio at $1.90 /day			50.4		31.8
Myanmar	GDP per capital	658.1	774.7	849.5	887.8	1,336.2
	HDI	0.363	0.380	0.392	0.396	0.432
	Poverty headcount ratio at national poverty lines					
Vietnam	GDP per capita	1,847.6	2,252.6	2,587.1	2,701.8	3,269.9
	HDI	0.504	0.537	0.597	0.547	0.602
	Gini index	35.7				37.0
	Poverty headcount ratio at $1.90 /day	51.9				37.1
	Poverty headcount ratio at national poverty lines					

Note: GDP per capita, PPP are at constant 2017 international $. Gini index data are based on World Bank estimates. Poverty headcount ratio estimated at $1.90 a day (2011 PPP). Sources: World Development Indicators, data downloaded November 27, 2020; UNDP Human Development Index, data downloaded January 11, 2021.

2000s							
2003	2004	2005	2006	2007	2008	2009	2010
1,752.0	1,902.1	2,120.6	2,313.3	2,511.9	2,640.6	2,603.6	2,716.7
0.470	0.482	0.494	0.506	0.520	0.525	0.528	0.539
50.2			45.0		34.0	23.9	22.1
3,245.2	3,399.3	3,584.3	3,830.4	4,052.8	4,296.5	4,542.2	4,850.2
0.494	0.503	0.512	0.514	0.527	0.535	0.545	0.552
				35.4			
				25.5			
1,507.1	1,696.9	1,912.0	2,146.6	2,388.4	2,617.1	2,874.8	3,129.9
0.442	0.452	0.461	0.471	0.482	0.493	0.504	0.515
		48.2					42.2
3,462.9	3,689.7	3,931.8	4,167.1	4,22.3	4,628.0	4,830.3	5,089.4
0.611	0.620	0.624	0.632	0.640	0.647	0.659	0.661
	36.8		35.8		35.6		39.3
	25.8		18.8		14.1		4.0
							20.7

Although it is still too early to report official data on the effects on unemployment, poverty, and inequality in CLMV, assessments by multilateral agencies and global trends suggest that the region would have been severely impacted as well. The United Nations (UN, 2021), for instance, is forecasting that poverty may double in Cambodia as a direct result of the pandemic and could reach almost 18% of the population. There are other reasons to suspect that the impacts on the CLMV countries will be as significant or higher than the global trends. As noted earlier, the COVID-19 pandemic is peaking in all four countries, with the Delta variant producing the worst outbreaks since the start of the pandemic. The social-distancing measures and mobility restrictions introduced to deal with the Delta outbreak have also been more severe and prolonged this time, in line with the veracity of the outbreaks. This suggests that growth in the remainder of the year is likely to be hit quite badly.

The pandemic has already lasted long enough, with the Delta variant likely to prolong it even further, for the long-term scarring rather than short-term fluctuations in growth rates to be its greater legacy. As is the case globally, the pandemic is likely to leave a larger pool of the poor and a rise in all kinds of inequality in CLMV. There are two main reasons for this. The first is that the poor and other vulnerable groups are more susceptible and have higher COVID-19 infection and mortality rates. Second, the poor are also likely to suffer more from the unintended consequences of lockdowns and other social-distancing measures (see Menon, 2020). The poor often live hand to mouth, and lockdowns prevent the poorest from begging or scavenging for food, or the millions in the informal sector from earning a daily subsistence income.

The poor in the formal sector may also be disadvantaged by the fact that the industries within which they tend to be employed are usually less amenable to the adoption of technologies that can help circumvent the impact of social-distancing measures. Physical contact may represent a critical aspect of work for low-skilled employees in the manufacturing or construction sectors, for instance. The introduction of social-distancing measures is more likely to leave them temporarily unemployed as a result.

Economic and Social Impacts of the Pandemic

The pandemic is also having a number of other direct and indirect effects that will be challenging to CLMV.

The pandemic is accelerating the move towards a digital economy. While this acceleration is generally welcome, there is concern that it may increase inequality within and between countries, further increasing the digital divide. The CLMV countries are clearly on the wrong side of the digital divide. The adoption rate of these technologies has favoured the more developed economies, as country preparedness is negatively correlated to their level of development. This will widen development gaps if left unaddressed.

Apart from digital infrastructure being limited in the CLMV countries, access to what is available can vary by income class within society. The poor in these countries are less likely to have the means to access this infrastructure and be further marginalised as a result. The inability of the poor to participate equally in remote learning threatens to perpetuate an intergenerational cycle of poverty and rising inequality.

The most serious challenge posed by a pandemic-driven acceleration towards a digital economy will be the impact on the labour market, as automation and increasingly advanced robotics and artificial intelligence take hold. Many low-skilled, repetitive jobs are already being automated in high-wage countries, but they are spreading quickly to the developing world. Although the net impact on jobs and the labour market, in the long run, remains unclear, there is little doubt that disruptive technologies will result in significant labour churning and job displacement in the short run.

For instance, McKinsey (2017) predicts that 800 million workers could be displaced and about half may need new skills for new occupational categories. Low-skilled, repetitive jobs, such as assembly-line workers are most at risk, and this is of particular concern to CLMV. Apart from the greater risk of unemployment in the lower-skilled categories, low wage growth in this sector relative to higher skills—some of which could demand a huge premium—will add to wage and income inequality (Nüesch, 2007).

The CLMV countries are not ageing as rapidly as the rest of ASEAN and have relatively young populations and bulging labour markets. For these countries, the biggest challenge lies in adopting policies that will allow them to utilise

the demographic window to achieve rapid economic growth, increase per-capita incomes, and build up human capital. This is going to be particularly challenging during and after the pandemic. Providing employment and enhancing skills of growing labour forces in these countries will be made more difficult by the negative impact that digital technologies will have on low-skilled workers in the short run.

Adjusting to a Post-Pandemic New Normal: The Role of Trade

CLMV face a host of grave challenges in recovering from the pandemic and adjusting towards a new normal. These include the direct impact of the pandemic on poverty and unemployment as well as the labour market impacts of the digital economy and demographic trends. The CLMV countries, with their expanding labour forces due to youth bulges, will need to either export labour or import capital, in the short run, to avoid further increases in domestic unemployment. Greater factor mobility can help reduce differences in capital-labour ratios and assist in productivity catch-up in the region to promote more inclusive growth.

FDI flows have collapsed during the pandemic and are unlikely to recover anytime soon. Migrant workers have been some of the first to be retrenched, and many have been repatriated home. Will a post-pandemic new normal restore capital and labour mobility to prepandemic levels? There are reasons to suspect that this may not happen automatically. The pandemic is being exploited by antiglobalisation forces to further their agenda. The focus has also shifted from the unequal distribution of the costs and benefits of trade liberalisation to factor mobility. Capital and labour mobility are now being targeted with calls for 'reshoring' of production and tightening of controls on the import and export of labour. Workers from the CLMV countries can be found throughout the ASEAN region and beyond. The porous borders in the Mekong region itself suggest that the reported numbers may not be a true estimate of the number of migrant workers in the subregion. Tightening restrictions on labour mobility will significantly increase the adjustment burden, going forward.

Regional cooperation initiatives could serve as a buffer to withstand such antiglobalisation forces and prevent a retreat behind borders. When they

promote greater integration through capital and labour mobility, they can also help mitigate many of the negative impacts that demographic and technological trends may have at the domestic level. The CLMV countries are members of the AEC and the RCEP, while Vietnam is a member of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP). To what extent can these agreements be relied upon to help in responding to these long-term trends affecting countries in the region?

In ASEAN, harmonisation and streamlining of employment visas has been an important initiative in reducing barriers to labour mobility. ASEAN economies have signed several mutual recognition agreements (MRAs) for skilled jobs, but implementation has been stymied by domestic rules and regulations on employment and licencing requirements. Furthermore, these MRAs will have to be more responsive to the rapidly changing skill and labour market conditions as a result of the pandemic and the 4IR. Most of the labour movement involving CLMV within ASEAN relates to low-skilled workers, and they are not covered by the MRAs. Needless to say, the informal or undocumented workers are not covered by these or other arrangements.

It is unlikely that megaregionals such as RCEP or the CPTPP will be able to significantly impact labour flows in the region. The labour chapter in the CPTPP concentrates on protecting internationally recognised labour rights and the enforcement of labour laws. Although these issues gain importance during crises when abuses tend to increase, they do not directly address the need to expand labour movement between participating countries. RCEP does not have a chapter on labour and does not directly address labour movement across borders.

Even if these agreements cannot promote greater factor mobility, they can assist by promoting trade by limiting the resort to protectionism and by keeping an open trading system for goods and services. As demonstrated by Samuelson's (1948) factor-price equalisation theorem, commodity movements and factor movements can serve as close substitutes in achieving similar outcomes. That is, even when the cross-border movement of labour or capital is restricted, trade in goods and services that are produced using these factors is sufficient to equalise wages and rentals in both countries over time. Kemp (2006) demonstrated how Samuelson's (1948) limiting two-country case generalised to the many-country configuration under less restrictive

conditions, increasing the practical value of the theorem. Therefore, trade liberalisation through regional agreements or other means can serve an important role in achieving the desired outcomes in the adjustment process when increasing factor mobility is difficult or delayed.

Regional agreements such as the AEC, RCEP, and CPTPP can generate greater welfare gains and be more trade creating if they are implemented faithfully and, over time, multilateralised so that their accords are available to nonmembers on a nondiscriminatory basis. That is, instead of maintaining two tariff rates for each tariff line—one preferential and the other most-favoured nation (MFN)—it would be administratively less burdensome and economically more beneficial if the two rates could be consolidated into one. Consolidating the preferential and MFN rates will remove the need to implement complex rules of origin since the origin of the good is no longer important, as there are no preferences to be provided. This would remove the potential for trade diversion. The original members of ASEAN have been doing this with respect to the implementation of the AFTA initially and its precursor, the ASEAN Trade in Goods Agreement (ATIGA).

The CLMV countries should follow suit. The share of intra-ASEAN trade has hovered around 25% for a long time, while the share of intra-CLMV and intra-GMS trade is less than half of that (Menon, 2021). Although the CLMV countries have resisted multilateralising their preferential tariff rates, the share of intraregional trade has been little affected. They have also avoided multilateralisation for fear of loss of tax revenue and being flooded with cheap imports, but both concerns are misplaced. On the revenue front, this is an opportunity to diversify the tax base and move the source away from trade taxes to domestic sources, which is less distortionary. The experience of the original ASEAN members suggests that concerns over a flood of imports are also unwarranted. Given the growing role of product-fragmentation trade associated with global supply chains, imports are tied ever more closely to exports, and reducing the margin of preference that separates preferential tariffs from MFN tariffs will support such trade and the growth and spread of supply chains.

Conclusion

The CLMV countries have been able to massively reduce poverty and improve livelihoods in less than a generation. These improvements in socioeconomic conditions can be attributed to market-based reforms that have driven rapid increases in trade and FDI. The COVID-19 pandemic that struck in early 2020 has halted growth and has threatened to unravel decades of progress on the socioeconomic front. There are both direct and indirect impacts arising from the pandemic that increase the importance of trade, going forward. The pandemic has accelerated the move towards a digital economy, which will have both positive and negative impacts. A major concern is that low-and medium-skilled working will see their jobs lost to automation and robotics, over time. The fact that this region has a relatively young population should be a boon, but it also presents a challenge in finding them good jobs paying decent wages.

The pandemic has shifted the focus of the backlash against globalisation from trade liberalisation to factor mobility. Growing calls for reshoring of supply chains and self-sufficiency suggest that cross-border movement of labour and capital will be significantly reduced in a post-pandemic new normal. This will affect the capital-importing countries of the region with young populations and bulging workforces more than others. Regional cooperation will have to play a greater role going forward. It would be best if such agreements could be employed to promote cross-border-movement capital and labour, but these are sensitive issues that are difficult even at the national level. What these agreements can do is help keep borders open and increase trade flows. Even if these agreements cannot promote greater factor mobility, they can help equalise factor prices by increasing commodity trade. That is, even if factors cannot cross borders, increased trade can produce similar results by narrowing cross-country differences in labour wages and capital rentals, and thereby reduce adjustment costs.

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COVID-19 and Rural Development in the Mekong River Region: Case Studies from Thailand and Laos

Hermann Waibel, Chompunuch Nantajit, Phouvong Phami, and Somkid Naprom

Abstract

This study is using household- and village-level data as well as personal interviews with village representatives in Mekong-near villages in Laos and Thailand. Results largely confirm what has been reported in various literatures on the development of the Mekong region and its downsides. The paper has three simple messages: (1) the rural people living in Mekong villages are the ones paying for the environmental costs of hydropower development while the benefits occur elsewhere in the economy, (2) the loss in natural resources is likely to exceed the gains in agricultural productivity by far, and (3) COVID-19 has exposed the weakness of rural economies in the Mekong Region and makes it harder to cope with other ongoing changes such as climate change. It is recommended that governments pay more attention to rural development with digitalisation and sustainable intensification in agriculture as core elements.

The Mekong River, stretching some 4,900 km in length and passing six Asian countries, has been labelled as the River of Life. However, such attribution is becoming disdained by the actual appearance of the river in some parts and during some months of the year when the river looks more like a 'dying giant'. The dramatic changes that have occurred in the Mekong Region in connection with the river are the results of economic development and structural transformation, aside from changes in the global and regional climate. Most visible are the hydropower projects, making the river and its tributaries a vehicle for generating electricity to supply the expected growth in energy demand of the countries in the Greater Mekong Subregion (GMS). According to reports by the Mekong River Commission (MRC), in the Upper Mekong River Basin (UMB) in China alone, 11 hydropower dams were already established by 2019, and another 11 projects are planned, making the total production capacity to exceed 30,000 MW. In the lower basin (i.e., Laos, Thailand, Cambodia, and Vietnam), currently 89 hydropower projects with over 12,000 MW capacity exist, and numerous further projects are planned until 2040 (MRC, 2021).

Undeniably, investment in hydropower dams and other development activities in connection with the Mekong River has facilitated economic growth but has also brought about negative environmental externalities. On the plus side, river-based investments directly and indirectly have created off-farm employment opportunities for many of the rural poor in the Mekong Region. Also, investment in irrigation has accelerated agricultural growth in Mekong-near communities and hereby contributed to an increase in agricultural output and thus rural household income. Also, domestic and international tourism in Thailand and Laos was boosted by the construction of bridges connecting the two neighbouring countries. For example, the bridge connecting Vientiane, the capital of Laos, with the provincial capital of Nong Khai in Thailand has turned the latter into a major tourist hub prior to the COVID-19 pandemic. Last but not least, navigation and river transportation are being facilitated by the increasing trade among regions and countries.

Overall, it appears that the economic benefits of Mekong River development activities are huge. In a technical report, the MRC has calculated the economic benefits of aggregate investments related to the Lower Mekong Basin (LMB) development (excluding China) with US$140 billion (expressed as net present value [NPV] until 2040 using hyperbolic discounting). The economic

loss of externalities arising from hydropower dams on the fisheries sector has been put at US$23 billion (Barlow et al., 2008). While both figures are debatable due to problems of valuation and dynamic effects, there is a broad consensus that human interventions along the Mekong River have been detrimental to natural resources, have increased the risk of natural disasters, and have led to a less sustainable environment. The disappearance of wetlands, deforestation, and the destruction of mangroves are unavoidable consequences of interferences that, in one way or another, alter a river's natural flow. Foremost, dams and reservoirs change the seasonal flow of water and modify the drift of sediments. This increases the risk of flooding when water flow exceeds the capacity of a dam. For example, in 2018, the uncompleted dike of a hydropower project on the Xepian River in Laos collapsed, killing at least 39 people, another 100 went missing, and numerous people lost their homes in several villages downstream (Lovgren, 2018). With weather extremes such as heavy and erratic, intensive rainfall events on the rise as a result of climate change, the risk of dams breaking or being forced to open is going up considerably.

Sand extraction is another variable in this 'externality equation'. Sand is a natural resource increasingly in demand, needed as construction material for the rapid expansion of urban developments in Asia. As pointed out by Bendixen et al. (2019), on a global level, sand and gravel are being extracted faster than they can be replaced. Jordan et al. (2019) show that in the Mekong Delta, almost 18 million m^3 of sand per year has been extracted and that the natural sediment supplies from upper parts of the river are insufficient to compensate for the loss of extracted bed, thus facilitating the intrusion of salty seawater with negative implications for agricultural productivity. As pointed out by Xiao et al. (2021), 62% of the changes in the annual streamflow are attributable to dams upstream reducing sedimentation in the delta. Further erosion of riverbanks has negative effects such as land loss and degrading water quality.

Undoubtedly, the major negative effects on natural resources have been taking place in the fisheries sector. Dams in the Mekong River cut off fish migration, and hydropower turbines can destroy fish. The near disappearance of the Mekong giant catfish is the most prominent example for the decline in fish populations. While capture fishery in the river is decreasing, some argue that substitution effects are taking place through animal-protein supply

from aquaculture and livestock development. Although such effects can be expected, their magnitude also depends on how well river development systems are being managed. By and large, the consensus is that 'compensation for loss in yield from river fisheries due to dam construction is impossible to achieve through development of reservoir fisheries' (Dugan, 2008). As regards substitution effects, Orr et al. (2012), using a water-footprint model, found that the amount of additional land and water required to replace lost fish protein with livestock products is high, and thus, the authors conclude that overall river development is likely to have negative food-security effects.

This brief review of some of the main Mekong River development issues will help to set the scene for this paper. Based on our empirical data of some 54 villages at or near the Mekong River in Thailand and another 10 villages in Laos, we will be able to undertake some ground assessment of the hypotheses that have emerged from the literature. While the longstanding 'economic growth vs. environmental externalities' paradigm—or as phrased through the concept of environmental Kuznets curve, 'Grow first and clean up later'—is already a difficult question, the analysis is further complicated by the emergence of the COVID-19 pandemic. Although countries in the Mekong Region have handled the pandemic very well initially and have had very low infection rates until about early 2021, virtually all GMS countries, with the exception of China, are now fully hit by the disease. During the first lockdown in early 2020 when the crisis started, infection in rural areas was basically absent, and resilience of rural households in GMS countries was considered to be high (Waibel et al., 2020). However, the mass return of migrant workers during the second quarter of 2021 has brought the disease to the villages. Moreover, returning migrants came back to rural villages with the burden of temporary or permanent job loss due to closure of construction sites and factories.

The chapter proceeds as follows. In the next section, we introduce our methodology and data-collection approach. In Section 3, we present and discuss our findings, and in the last section, we draw some conclusions.

Methodology and Data

This paper takes a qualitative research approach based on descriptive statistics from village case studies in Central Laos and Thailand and a database of villages at or near the Mekong in northeast Thailand. We use village- and household-level information to explore and investigate the major hypotheses that have been extracted from the brief literature review in Section 1. In this way we obtain real-time, on-the-ground verification of the claims made in numerous papers about the river. Recent information about the implications of the pandemic for villages along the Mekong basin can enhance our knowledge of the effects of the crisis and the coping mechanisms applied.

As regards our empirical basis, villages are located in the provinces of Nakhon Phanom and Ubon Ratchathani in Thailand and in the province of Savannakhet in Laos. The villages can be divided into two groups, namely, those who were in close vicinity of the Mekong River (i.e., about 5 km or less and those at a distance of up to 40 km maximum). Our study sites are located at similar latitudes, representing comparable ecosystems on both sides of the river in the two countries.

The number of villages included in the study is 54 for Thailand and 10 for Laos. The reason for the disparity is that in Thailand, we can draw from an ongoing long-term household panel that includes 2,200 households in 220 villages in northeast Thailand and has commenced in 2007 (TVSEP, 2020). While the household panel is representative of rural areas in northeast Thailand, we cannot claim this for the 53 households that we have selected due to their proximity to the Mekong River. In 10 of our Thailand Vietnam Socio Economic Panel (TVSEP) villages in Nakhon Phanom, one of the authors of this paper conducted semiformal village head interviews using 10 focal questions (see Appendix A) in early July 2021, just prior to the severe COVID-19 related restrictions imposed by the Thai government. In Laos, where restrictions are less severe, the same exercise was performed by another of the authors during the end of June 2021.

Our approach is that we first present the results of the semiformal interviews with the 10 households in Nakhon Phanom and the 10 households in Savannakhet. Making use and interpreting the testimonials of the 20 village

heads on both sides of the river, we can get a first empirical evidence and concretisation of the literature findings. We will pay particular attention to the subjective assessments of the village people regarding the course and expected impact of the coronavirus pandemic. These findings are complemented by selected results of a formal COVID-19 special survey in the TVSEP panel households in November and December 2020. In the last step, we delve more deeply into the panel data of the over 500 households and basically compare the 2007 data with the 2017 survey on the basis of selected economic and ecological parameters. This will provide quantitative evidence of the changes in the Mekong basin and its consequences and open up the avenue for drawing some conclusions and suggesting further research.

Results and Discussion

The 10 topics/questions of the semiformal interviews can be divided into three parts. First was a discussion about the current village situation, the major shocks, and their causes as perceived by the village heads. The second part dealt with the Mekong River, the perceived changes, and its causes and consequences. The third part focused on the pandemic (i.e., how is the situation in the village, what are the consequences, and what are future expectations).

Table 1a

Village Conditions, Major Shocks and Causes, Past and Expected Changes in the Mekong River, and Village Prospects in Laos

Village / Distance	Current Conditions	Major Past Shocks
1(a)	Positive: Expansion of agricultural production (livestock, two rice crops), better market access, livelihoods improved Negative: More soil erosion, less natural resources including fish, lack of irrigation	Flood & livestock diseases

Development of Mekong Villages

As shown in Table 1a, the conditions, major shocks and their causes, past and expected changes in the Mekong River, and development prospects for the villages in Laos based on subjective assessment of the respective village heads are presented. Villages 1 to 5 are those located no further than 5 km away from the river while villages 5 to 10 are between 5 and 40 km away from the river. As revealed by the interviews, there has been considerable development progress in all the villages, independent of their location, primarily in infrastructure. However, all villages also realised the downside effects of development. Aside from some infrastructure deficits like poor quality roads, human health care, and veterinary services, overwhelmingly, negative effects, as perceived by village representatives, refer to the destruction of the natural environments and the monetisation and commercialisation of livelihoods. This has made households more vulnerable towards economic shocks and reduced their resilience in the absence of formal insurance systems, which, in the past, have been provided by nature. As one village head put it, 'Food from natural resources is now difficult to find'. The second interesting point that emerged from the interviews with village heads in Laos are that only in villages near the Mekong do village heads make concrete observations about changes of the river and draw some connection with the prospects of village development.

Cause of Shocks	Past Changes in the River	Expected Changes in the River	Village Prospects
Climate change, natural resource extraction, use of chemicals, poor quality of imported feedstuff	Soil erosion, fish population decrease, sand extraction, riverbank protection in Thailand	Soil erosion, further decrease in fish stocks, changes in river water flow, agricultural land decreasing, flood and drought events increasing	Income of farmer and fishermen likely to decline

Village / Distance	Current Conditions	Major Past Shocks
2(a)	Positive: Infrastructure improved (road, health care, sanitation), no more poverty, more employment and trade Negative: Destruction of ecosystem soil erosion chemical, chemical pollution, lack of skills development	Storms
3(a)	Positive: Infrastructure improved (road, health care, sanitation), no more poverty; more employment and trade Negative: Destruction of ecosystem soil erosion chemical, chemical pollution, lack of skills development	Flood, drought
4(a)	Positive: Infrastructure improved (road, water, electricity) Negative: Natural resource base declined, less options for people, lack of riverbank protection, lack of irrigation canal	Flood, livestock diseases
5(a)	Positive: Infrastructure (including houses) improved; no more poverty Negative: Need irrigation canals, upgrade roads, and market for their production at reasonable prices. Also need more electricity power	Flood, drought, livestock diseases
6(n)	Positive: Economic and life condition improved. Negative: Road conditions, lack of veterinary services	Flood, livestock diseases

Cause of Shocks	Past Changes in the River	Expected Changes in the River	Village Prospects
Climate change, deforestation	Factories, tourism, hydropower dams, soil erosion, sand extraction, island in river disappearing, agricultural land decreasing	Tourism increasing, more landslides, soil erosion, declining fish stocks	Positive income effects of tourism but negative effects on environment, agriculture, aquaculture, 'Fish becoming more expensive'
Climate change, factories, hydropower plants	Soil erosion, illegal hunting, sand extraction, declining fish stocks, 'Water level in Mekong changing quickly between high and low', 'People no longer take a bath in the river', development of river banks with factories (in Thailand)	Fish stocks will decline further, more extraction of sand and stones (with explosives), more soil erosion, agricultural land and productivity declining, more flood and drought	'Difficult to make a living and generate income'
Climate change, natural resources destruction, use of chemicals and poor quality of imported feedstuff (livestock diseases)	Fish and aquaculture has declined, loss of farmland	Illegal hunting, extraction of sandstones, riverbank protection (Thailand) more soil erosion, fish stocks decline, shallow and deep part of river changed	'More difficult to generate income from agriculture due to loss of land and increased occurrence of flood and drought'
Climate change, destruction of nature, chemical use in agriculture, poor quality of imported feedstuff (livestock diseases)	Water level in Mekong lower, fish populations declined, illegal hunting, extraction of sandstone, 'River regulation and flood protection in Thai side causes changes in water flow on Laos side'	Further decline in fish stocks, price of fish increase, natural resource decrease, lower agricultural productivity	Poor prospects: 'Food from natural resources difficult to find, agricultural productivity declines'
Climate change and environment around the village destroyed; quality of imported feedstuff (livestock diseases)	None	None	No impact

Village / Distance	Current Conditions	Major Past Shocks
7(n)	Positive: Infrastructure improved, quality of life better, crop production and income increase Negative: Lack of irrigation canals, poor road condition and market access; electricity insufficient	Flood, dengue fever
8(n)	Positive: Infrastructure improved (housing); increased yields and rice self-sufficiency and food security Negative: Poor road conditions, lack of market access	Drought
9(n)	Positive: Infrastructure improved (roads, housing), life is better Negative: Lack of health care centre, lack of secondary school	Drought
10(n)	Positive: Infrastructure improved (transport, electricity, water supply, school, housing, health care) Negative: Lack of veterinary services, lack of irrigation canals	Storms, livestock disease

In a nutshell, the following issues are of concern to the Lao villages linked to the Mekong: (1) hydropower development, (2) unregulated sand extraction, (3) declining fish populations, (4) altered and irregular water flows, (5) weakening of irrigations systems, and (6) eroding riverbanks with large inequality between the Laos and Thai side of the river.

Among the 10 corresponding villages on the Thai side of the river in the province of Nakhon Phanom, four of them are in close vicinity to the river (Table 1b).

The same 10 questions/topics were asked to the respective village heads (see Appendix A). Clearly, villages on the Thai side of the Mekong are more advanced in terms of infrastructure development and economic diversification as compared to Laos, reflected in the generally positive situation assessment of the former.

Cause of Shocks	Past Changes in the River	Expected Changes in the River	Village Prospects
Climate change, environmental destruction, forest destruction (dengue fever)	None	None	No impact
Climate change, destruction of nature	None	None	No impact
Climate change, natural resources destruction	None	No answer	No impact
Quality of imported feedstuff (livestock diseases)	None	No answer	No impact

On the other hand, Thai villages have experienced downsides related to the process of commercialisation, participation in markets, including credit markets, which have created a major problem of household debt. Natural-resource destruction is mentioned as well, but this is judged as less important, perhaps due to a higher share of nonfarm income and a better integration in off-farm labour markets. Remarkably, Thai village heads are more aware of the Mekong situation and overwhelmingly blame China for the negative changes that the river has undergone, even if the village is not in very close proximity to the river. 'China's dams' is the most frequent expression by the village heads (Table 1b), and as one respondent put it, 'Someday the Mekong will be just a sandbar'. Most village heads see the shortage of water as a major detriment to agricultural productivity in their villages.

Table 1b

Village Conditions, Major Shocks and Causes, Past and Expected Changes in the Mekong River, and Village Prospects in Thailand

Village / Distance	Current Conditions	Major Past Shocks
1(a)	Positive: People do more trading Negative: High expenditures	Flooding in rice fields
2(a)	Positive: None Negative: Price of rice is too low, household debts, drug problems	Flood
3(a)	Positive: Off-farm employment increased (government jobs, trade, tourism) Negative: Poor irrigation system	Flood
4(a)	Positive: Successful investment in rubber plantations, some migrant workers in Singapore and Taiwan Negative: Unemployment	None
5(n)	Positive: Most people have off-farm occupations, hire machinery services to cultivate their farmland Negative: Lack of good jobs with long-term prospects	Flood
6(n)	Positive: Two rice crops per year due to irrigation system Negative: Household debt is going up	Sometimes flooding

Cause of Shocks	Past Changes in the River	Expected Changes in the River	Village Prospects
Don't know	Less water, less fish, inconsistent water flow because of 'China's dam', forest loss, become rubber plantation	More drought and water shortage	Economic difficulties
Nong Han and Mekong River are the causes of flooding	Irregular water flow, can no longer predict; forecast like 'China's dam' they open and close as they want'	'Someday the Mekong will be just a sandbar'	Lack of water for agriculture
More people, China's dam	Low and irregular water level, cannot forecast unlike before, flood, affect vegetable and aquaculture at riverbank	More dam in China and Laos, more drought and more water disputes	Lack of water for agriculture
Not applicable	Less water, more sandbanks because of China's dam	River will become shallower and more sandbanks	Lack of water for agriculture
Poor drainage system	River became narrower and shallower, many shops along Mekong shore extended the area to Mekong	Will become further narrow and shallow	No significant effect for the village
Insufficient drainage system	Rivers get dry and more sandbanks, Thai shore above Laos side, making river shore in Thai side drier	More drought	No effect to the village because of long distance of village to Mekong

Village / Distance	Current Conditions	Major Past Shocks
7(n)	Positive: No mention Negative: Welfare decreased and HH debt increased	Flood and drought
8(n)	Positive: Agricultural system has become diversified (rubber, oil palm, etc.), welfare of village much increased (most HH now have a car) Negative: Infrastructure (road, irrigation, electricity) still insufficient	No mention
9(n)	Positive: Infrastructure improved Negative: 'Nature is gone, climate becomes drier'	Drought
10(n)	Positive: People rely more on commercial crops (para rubber and vegetable in a dome), irrigation system improved Negative: Prices of inputs going up while product prices do not, lack of long-term prospects in villages	Drought

While the interpretation of these in-depth interviews with Lao and Thai village heads would allow more discussion, the space requirements of this chapter demand to be brief. In summary, however, it can be well observed that many of the issues that emerged from the literature review in the introductory section can be confirmed and can be illustrated with examples from the ground. In addition, further topics emerge that give motivation for more scientific socioeconomic studies with a larger sample of the people directly affected by the changes in the Mekong River. Some first steps in this direction will be taken in the last part of this section.

Cause of Shocks	Past Changes in the River	Expected Changes in the River	Village Prospects
Natural resources destruction, especially forest, monetisation of village life	There is more construction along Mekong shore, a landmark and more local attractive tree, development project of the province is changing nature	Mekong will be dirtier	No answer
Village located on elevated land	More shops along Mekong, more concrete construction Because of trading, province's project, people have more income	Will be more beautiful	No answer
Negative effect of rubber plantation on microclimate and water table	Less water, the flow of water is not consistent, China's dam, lack of knowledge about managing water	More drought	Lack of water for agriculture
Forest destruction, unreliable water supply from Mekong	Less water, China's dam and Lao's dam	More drought and more flood	Lack of water for agriculture

Impact of COVID-19

In the following subsection, we attend to the COVID-19 situation as referred to in questions 6 to 9 in our discussion guidelines (Appendix A). In Table 2, a comparison between the villages on both sides of the river based on four topics is presented. The first is about the implications of COVID-19 on the village economy and village life.[1] It becomes obvious from Table 2 that

[1] *It must be noted that the interviews in Laos were undertaken during mid-June 2021 when infections in Laos were still very low and mostly confined to the capital Vientiane. This had changed profoundly by September 2021, when the final draft of the paper was prepared, and infections have been constantly going up due to return migrants from Thailand and local infection clusters. In Thailand, the interviews were carried out in early July, when the COVID-19 outbreak had started to affect the rural areas of Thailand due to lockdown measures in Bangkok and surrounding areas, including the closing down of construction sites and factories, which laid off many workers from rural areas.*

Table 2

Impact of COVID-19 on Village Development

Topics	Laos Villages	Thailand Villages	Comparison
Village economy and village life	Border restrictions, 'Cannot go to Mekong island for harvesting crops and fishing' (m), domestic trade and travel restrictions, remittances stopped, 'Children come home due to job loss'	Negative effects on employment and income (m); restrictions of market activities; people are stressed and more suspicious, lack of trust	The Mekong as a border becomes important for Lao villages
Village measures against COVID-19	Focus on own agriculture, engage in collection of nontimber forest products as substitute for fishing, watch Mekong to prevent illegal border crossing from Thailand (m)	Inform and encourage people to follow the rules (m); village COVID-19 cabinet (a special committee) to organise help; village quarantine centre; promote 'sufficiency economy concept'	Lao villages react to COVID-19 related restrictions indirectly; Thai villages react directly to the pandemic
Long-term effects of COVID-19 for village development	Decline in economic growth (restriction in international and domestic trade, prices increase) (m), 'People will be more concerned about health and sanitation'	Trust as a precondition for participation and cooperation is destroyed (m); lack of financial means due to economic decline will impair future village development	Lao village heads are more optimistic
Assessment of COVID-19 severity	No COVID-19 infections yet in village (m), 'COVID is more severe than other disasters'	The most severe among shocks (m); 'We can deal with flood—after 15 days it's over—but COVID never ends'	Thai villages already have COVID-19 cases; Lao villages don't

the impact of the pandemic is perceived differently between Laos and Thai village heads. While in both countries the economic implications of the anti-COVID-19 policies are apparent, in Thailand, psychological effects come in addition when people in the village no longer trust each other. In Lao villages, the fact that the Mekong is a border river suddenly became highly relevant. Majority of Lao village heads stated, 'People can't go any longer to the Mekong islands for harvesting crops and for fishing'.

The second point of discussion were the measures that villages had undertaken to cope with the pandemic. Again, there is a marked difference. While in Thailand, Thai villages react directly to the pandemic with various actions, including in one case establishing a 'crisis cabinet' or even 'village

quarantine centers', in Laos, coping is somewhat indirect, as farmers focus on production for home use in view of the trade restrictions.[2]

The third criterion is about the long-term effects of COVID-19 for the future development of the villages. Here it is noticeable that Lao village heads are generally a bit more optimistic. While they also highlight the negative economic effects due to trade restrictions, on the other hand, they expect people to be more health conscious and give higher priority to sanitation, as a lesson learned from COVID-19. In Thailand, however, the majority of the respondents worried that joint village activities will be very difficult to implement as the pandemic has destroyed trust among people, seen as a precondition for participation and cooperation in village development projects. These social effects come in addition to the negative economic implications caused by the decline of the Thai economy in general.

Regarding the severity of COVID-19 as a shock (4th topic, see Table 2), the Lao village heads, although they almost unanimously said 'COVID is more severe than other disasters', were less nervous about the disease in their villages, as the full impact had not reached there yet and was just 'something still in the news'. In Thailand, the government, by early July, had adopted a policy of sending migrant workers back to their home provinces.[3] Hence, outbreaks of COVID-19 were no longer confined to the Greater Bangkok area. Consequently, village heads judged the severity to be of extraordinary magnitude, as strikingly expressed by one respondent, 'We can deal with flood—after 15 days it's over—but COVID never ends'.

The Counterfactual COVID Survey 2020

In the next step, we expand the case study mode based on the semiformal interviews with village heads by making use of the data from a large-scale special household survey, which is part of the long-term household panel, the TVSEP, as mentioned in the introduction. This special COVID-19 survey was carried out in November and December 2020 (i.e., after the onset of the pandemic but prior to the surge of COVID-19 infections) in three provinces

[2] This situation had changed by September 2021, when Lao village authorities in some 'red zone areas', which included Savannakhet, implemented similar containment measures as the villages in Thailand.

[3] There were specially arranged trains, called the 'COVID-trains'.

of northeast Thailand.[4] Unlike previous TVSEP panel surveys, where a full account of living standard measurement variables (i.e., assets, income, and consumption) was administered, this survey was fully focused on identifying and, to the extent possible, quantifying the impact of basically the first year of the COVID-19 crisis in Thailand. Since the survey was carried out by personal interviews of household heads or their representatives in November and December 2020, the reference period concluded in October. It is divided into three parts—that is (a) before COVID-19 (05/2019–02/2020), (b) during the first lockdown (03/2020–05/2020), (c) and postlockdown (06/2020–10/2020).

In Table 3, a selection of survey variables is presented, which provides a kind of 'before (without) COVID-19 counterfactual' against the testimonials and the information delivered by the village heads and as summarised in Tables 1a and 1b and Table 2. One of the key questions asked to the respondents was whether they had any one in their household with COVID-19 symptoms, confirmed by PCR test, or if they'd know of someone who got infected. The

Table 3

Selected Parameters of COVID-19 Survey 2020 of 54 Mekong Villages in Thailand

Parameter	Unit	Value
Was infected or know someone who became infected with COVID-19	No	0
Average household income before COVID (< 03/2020)	THB/month	15,305
Average household income during first lockdown (03–05/2020)	THB/month	12,851
Average household income after lockdown (06–10/2020)	THB/month	15,294
Households who perceived negative financial impact during COVID-19	%	53
Households who did not perceive any financial impact during COVID-19	%	33
Households who perceived positive financial impact during COVID-19	%	14
Households who received government support (until 10/2020)	%	83.5
Average amount of COVID-19 assistance received	THB/HH	17,928
Households with return migrants during first lockdown (03–05/2020)	%	13.4
Households completely satisfied with national government during crisis[1]	%	30.1
Households completely satisfied with provincial government during crisis[1]	%	38.1
Households completely satisfied with village administration during crisis[1]	%	44.5

Note: 1 On a scale from zero to 10, with 10 = 'completely satisfied'.

[4] *Unfortunately, the household panel is available for Thailand (and Vietnam) only, but not for Laos.*

answer was a clear-cut no; there were simply no COVID-19 infections in any of the 54 villages by November or December 2020. It is worthwhile to note in this regard that by June 30, 2020, the total number of reported COVID-19 infections was just 3,171 in Thailand (population about 70 million) and only 19 cases in Laos (population about 7.2 million).

Another key question was the financial impact of the COVID-19 crisis. In fact, this was not due to the disease directly but rather attributable to the COVID-19 prevention or containment policies, implemented by the Thai government. By March 19, 2020, the government ordered an almost complete lockdown with business closures and severe travel restrictions that lasted (with some gradual lifting of restrictions) until May 2020. Nevertheless, financial support by the Thai government was rather generous, with a ฿5,000 THB per eligible person monthly dole out for the three-month lockdown period. Hence, an important question was if the lockdown had any severe negative effect on household income. The answer again is no, as shown in Table 3 when comparing average monthly household income during the three periods. Basically, after the lockdown period, households got back to the prepandemic income level. This rather mild financial impact is also reflected in the perceptions of the respondents. Almost one-half perceived no impact or even saw a positive impact. This answer is not surprising as the lockdown did not affect rural people too much. Besides, they spend most of their time in their farm.

The receipt of government support—which more than 80% of the households were able to get, with an average of almost ฿18,000 THB—came as an unexpected benefit to many of them. This is well reflected in the expression of satisfaction with the government handling of the crisis at that time. When asked to rate the satisfaction with the national, provincial, and village government on a scale of 0 to 10 (with 10 as 'completely satisfied'), 30 to 44% of the respondents gave the highest score. Interesting to note that the national government ranked clearly lower than the village administration. This also suggests a fair degree of social coherence in the village, a trait that village heads now see at risk (see previous section). In all likelihood, the answers to this question would be very different if asked by mid-2021 (i.e., a more negative assessment would be given).

By and large, the first lockdown in early 2020, other than the severe loss in the tourism sector, did not affect rural households too much. Confidence of the people that the crisis would be over soon is also reflected in the small share of 13.4 % of migrants who returned to their natal village during the first lockdown. A general lack of foresight (as is the case in most countries) may have contributed to the situation getting out of hand by 2021.

Table 4

A Decade of Development in 54 Mekong Villages in Thailand

Parameter*	Unit	2007	2017	Difference
Population				
Households per village	No./village	134	158	+24
Average population	Persons/village	589	612	+13
Average household income	PPP $/HH	5012	9899	+4887
Income Shares				
Crop production	%	17	18	+1
Livestock and aquaculture	%	3	11	+8
Natural resource extraction	%	7	1	-6
Remittances	%	20	16	-4
Off-farm wage employment	%	34	23	-11
Non-farm self-employment	%	15	20	+5
Public transfers & others	%	4	11	+7
Households engaged in fishing	No.	276	141	-135
Households with migrants	No.	300	273	-27
Average no. of migrants	No./HH	2.02	1.76	-0.26
Household Debt				
Annual debt repayment	PPP$/HH	663	3246	+2583
Overindebtedness (DSR>40)	% of HHs	12.5	25.4	+12.9

Note: The number of households interviewed was 537 in 2007 and 469 in 2017; there are 10 households per village in the panel; however, attrition has occurred.

* Numbers are rounded up or down.

Source: Calculation by the authors based on TVSEP panel data.

A Decade of Village Development

As a last step, we expand the picture of villages in the Mekong basin further and assess what effects COVID-19 might have for the development prospects of rural people in the Mekong River basin. Hereby, we draw upon the full TVSEP household panel database, starting with the years 2007, and extract relevant data from 54 Thai villages located in the vicinity of the river.

Table 4 shows selected development parameters covering a full decade, taking 2007 and 2017 as two points in time. The sampling strategy of the household panel is such that in each village, 10 households were selected based on systematic random sampling. As expected, there is some attrition during the 11-year observation period (i.e., about 12%). The first parameter in Table 4 is population. Both in terms of households per village and population per village, there was some increase between 2007 and 2017, which contests the fear of policymakers and development experts of 'deserted' rural villages. Although rural-urban migration has taken place even before 2007, migrants maintain close ties with their natal household in the village by sending remittances, among others. During our observation time, migration has declined both in terms of (a) total numbers of migrants and (b) migrants per household. While in 2007, households with migrants (~56% in 2007) on average had over two migrant members, these were well below two a decade later. The decline is also reflected in the share of remittances in household income, going down from 20% to 16%. On average, there are between four and five persons per household (i.e., between half and two-thirds of household members) who are absent from the village at least for some parts of the year.

Overall, household income, measured in 2005 purchasing power parity (PPP) in U.S. dollars, has almost doubled during the observation period, supporting the hypothesis that the development of the Mekong region has resulted in welfare gains also for the rural population. On the other hand, the composition of income has changed profoundly. While crop production did not change much, livestock and aquaculture has gone up, but perhaps not as much as expected. For example, only 33 households operated a fishpond in 2007, and in 2017, there were only 17 of the identical 436 households in the sample who kept their aquaculture business in operation. These data somewhat support the model calculations of Orr et al. (2012), as cited above. Most remarkable, however, is the reduction in the income share of natural-

resource extraction, which not only includes fishing in the Mekong but also the harvesting of timber and nontimber forest products (mushrooms, honey, game hunting, etc.). This supports the claims of those who warned about the downsides of overexploiting the river for hydropower generation.

These long-term panel data, collected independently and for research purposes only, fully support the testimonials of the village heads as reported in the section above. By and large, the natural safety net of rural people is gone, which weighs even more heavily with the pandemic finally coming to the villages. Another factor worth pointing out is that shares of off-farm wage employment have been going down by almost one-third, raising doubts if the pull effect of industrial development has been sustainable. A most dramatic picture emerges when analysing household debt. Annual debt repayments of rural households in the Mekong basin have increased by a factor of 5, and overindebtedness, as indicated by a debt-service ratio of greater than 40, has doubled in the same period. Rural debt and overindebtedness have become major risks for future development progress in Thailand, as demonstrated by several research, such as those authored by Kislat (2015) and Chichaibelu and Waibel (2017 & 2018).

In summary, while the panel data support the hypothesis that development and exploitation of the Mekong water resources has helped rural villages in the basin to gain more income, several factors suggest increasing vulnerability to external shocks, both covariate and idiosyncratic, and a weakening of the resilience of rural areas, mainly because of natural resources destruction.

Conclusions and Policy Recommendations

Although this is largely a qualitative study, it is based on solid household- and village-level data and trustworthy testimonials from people on the ground. While the study may lack the rigor of parametric and nonparametric statistical tests and the 'magic' of advanced positive or normative models, the authors believe that it can provide a lot of food for thought and open up the avenue for more quantitative and more specific research questions. Furthermore, based on the data available to us, we feel confident to draw some concrete conclusions and submit a few policy recommendations.

First, the simple reality that governments of the Mekong countries have captured the Mekong River for its capacity to generate electricity—with an ever-increasing number of dam projects in different parts along its course and considering that these are under different political and management regimes—this development has caused the river to 'choke'.[5] Ultimately, this is the result of diverging economic interests, where the people who live at or around the river have been largely ignored and are now trapped between a rock and a hard place. As one village head in Thailand put it, 'Someday the river will just be a sandbank'.[6] Although it is difficult to predict the 'service life' of the Mekong River as the 'battery' for the countries in Greater Mekong Subregion, recent studies (e.g., Siala et al., 2021) point out the possibility of alternative energy strategies that rely less on hydropower electricity. Such alternatives include solar photovoltaic and a better regional coordination with improved planning and more coordinated cross-border power trading. This could be a first step out of a one-sided development strategy that creates negative on-site, off-site, and off-time external costs and instead fosters more sustainable pathways for the Mekong's ecosystems and the people living there.

Second, it seems safe to conclude that the protein loss caused by depleted fish populations in the river has not been compensated by additional irrigated land, increased agricultural productivity, and expansion of livestock and aquaculture development. This is suggested by our simple comparison of the 54 Mekong villages between 2007 and 2017 that showed only limited expansion of livestock and even a reduction in aquaculture and fisheries. This

[5] *Based on the concept of a 'choke price' in the Hotelling (1931) model.*
[6] *One of the authors has repeatedly biked along (or near) different sections of the Mekong River in China, Laos, Thailand, and Vietnam between 2010 and 2020 and has clearly observed the number of sandbanks increasing.*

casual observation is, however, also backed by the scientific studies of Orr et al. (2012), which compared reduced fish catch and with additional demands for water and land to replace lost protein and calories. They found that, with some variation among the GMS countries, these demands are uncertain to be met, and thus, 'basic food security is potentially at a high risk of disruption'. Third, as found in numerous studies in developing and developed countries, COVID-19 exposes the weakness of economic and social systems. Thus, the negative environmental externalities of development along the Mekong will continue to occur, even after the pandemic is finally under control. However, COVID-19 is definitely making it harder for rural villages to cope. Most strikingly, as pointed out in a recent cross-country assessment of the impact of the pandemic on food systems in Asia, natural resources as a traditional safety net, with food from common-property resources, are under threat and need more attention (Dixon et al., 2021). Therefore, how resilient rural households in the Mekong basin will be on the longer term and how well they can overcome the challenges of both the pandemic as well as climate change will, to a large degree, depend on the future policies implemented and on the willingness of governments in the Mekong countries to cooperate.

Following the results and conclusions of this study, three major policy recommendations are submitted. First, COVID-19 has reminded the world that globalisation, based on the principle of a short-term view of comparative advantage in the production of goods, has its limits. For rural villages in the Mekong regions, this means that policymakers should promote the development of regional and local markets and reduce the incentive for a continuing flow of labour from rural areas to urban agglomerates. Second, more attention should be given to a rural development strategy that helps to make rural villages an attractive place of working and living. Foremost, digitalisation and development of other infrastructures should be supported through public investments. Finally, agriculture must be steered towards an ecology-based path with the promotion of climate-smart technologies and a more judicious use of potentially damaging external inputs, following the principle of sustainable intensification.

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Appendix A

Questions/Discussion Points for the Informal Interviews of Village Heads

1. Please describe the current situation and the life (economic / agriculture / social / ecosystem) in your village. How did the conditions change during the past 20 years?

2. What changes did you observe in the Mekong River and its environment? Please describe these changes. How does it affect agriculture and the livelihood of people in your village?

3. During the past 20 years, what are the main disasters that happened in your village (flood, drought, wildfire, or epidemic)? Please describe the disasters. What do you think are the major reasons that cause these disasters? Do you think the change of the Mekong River and its environment is a major reason for that too? If so, please describe.

4. In your opinion, what are the reasons why the Mekong River and its environment have changed during the past 20 years?

5. What changes do you expect from the Mekong River and its environment in the next 10 years? How will these changes affect the development of your village?

6. Please describe the effects of COVID-19 for the livelihood of people in your village (economic/social and health).

7. Please summarise the severity of COVID -19 when compared to other disasters that happened in your village.

8. What measures did your village undertake to reduce the effects of COVID-19?

9. What are the long-term effects of COVID-19 for the development of your village?

10. In your opinion, what is the most important measure that the government should do in order to improve the development in your village on the long run? (Note for interviewer: This is not in relation to COVID-19 but in general).

Water Politics in the Greater Mekong Subregion: Implications and Challenges on Thailand's Border Trade and Inbound Labour Immigration

Upalat Korwatanasakul and Wannaphong Durongkaveroj

Abstract

This chapter examines the consequences of water politics in the Greater Mekong Subregion on the Thai economy. The environmental impacts from the hydropower buildup in the region led to a significant reduction in border trade and an influx of inbound labour migration in Thailand.

For decades, the escalating demands for goods and services from a growing population and the stance as significant political power have shaped China's activities in the Mekong River basin. Energy security and strategic interests primarily drive China, a growing political actor, in increasing investments in hydropower in the region (Urban et al., 2013). This rapid development of hydropower dams has, in turn, influenced the political dynamics in the management of the Mekong River among the Greater Mekong Subregion (GMS) countries (*Bangkok Post*, 2021; Middleton, 2016, pp. 204–223).

Hydropower businesses in China have taken a significant role in advancing the country's aspirations in developing the GMS. The growing overseas hydropower investments by Chinese companies in the region, such as hydropower generation, redefine the relationship between China and the other GMS countries (Middleton, 2008). In particular, the new public and private hydropower developers and financiers are becoming prominent players in developing new energy infrastructure projects. While previous actors such as development banks impose more stringent social and environmental standards, Chinese hydropower developers and financiers lack social and ecological safeguard practices (Middleton, 2016, pp. 204–223). This case is alarming, considering that political and economic forces tend to create narratives that downplay the interconnections and trade-offs in the food-energy-water nexus, affecting the management of such trade-offs (Matthews & Motta, 2015).

On the one hand, China seems to be the key player in the regional hydropolitics with its dominant position in geography, economy, and political machinery. On the other hand, despite China's extensive support for hydropower generation in the Mekong region, it is argued that it does not equate to the emergence of Chinese ascendancy in Southeast Asia (Vu & Mayer, 2018). Concerns over impact assessments and differences in perspectives on the Mekong River as a shared resource make it difficult for China to establish a dominant position. The case studies of the Mekong River and the Nile River manifest that not only a geographic location but also the interaction between benefits and trade-offs among different stakeholders determine hydro leadership within regions (Meredith & Givental, 2016).

Against this backdrop, the GMS countries are at a critical juncture where subregional efforts and cooperation are necessary to fully address rapidly evolving economic, political, and social issues. The deliberation in this chapter sheds light on the development stages of the GMS countries. It identifies emerging opportunities and challenges in recent years, particularly in relation to economic and social issues that arose in Thailand. In particular, this chapter examines the consequences of water politics in the GMS on the Thai economy and suggests pathways towards the effective management of the GMS.

The Role of China in the Development of the Greater Mekong Subregion

Multiple studies show Chinese domestic hydropower generation activities affected downstream riparian countries in the Mekong region. Upstream dams in China have caused ecological and economic disruptions in the downstream riparian countries. The dams produce more frequent water-discharge fluctuation and a decline in sediment flux downstream (Lu & Siew, 2006), resulting in crop failure in Vietnam and depletion of fish catch in the Tonle Sap River of Cambodia (Hiebert, 2021). Meanwhile, the Thai government planned to raise concerns on the impacts of erratic water flow along the Mekong River, which locals believe to be the consequences of the dams in China (Sivasomboon & Phaicharoen, 2020). The issue deserves significant attention as China may potentially leverage this form of influence to pursue economic and political interests (Piesse, 2020).

A large body of literature also studied how China influenced the occurrence of droughts in the region. Some reports claim that dams in China limit water flow to downstream countries (Beech, 2020; Bloomberg News, 2020; Johnson, 2020). The occurrence of drought affected by dam operations and worsening climate change threatens food security in the region (Lovgren, 2019). On the other hand, another group of the literature argued that it is unlikely for China to hold the large volume of water that would cause the drought but still acknowledged that China could have alleviated the situation by releasing water from its reservoir (Fallon & Kallio, 2020).

Unlike its regional transport infrastructure, which gained a positive attitude and feedback from the participating countries, China's hydropower projects received mixed sentiments, highlighting both positive and negative consequences, particularly environmental concerns. Consequently, China has pursued a development-oriented approach to its dealings with the other riparian countries in the Mekong River. It implemented initiatives, such as aid packages, to ensure downstream ecosystems' ecological health and prevent floods and droughts in the Lower Mekong River Basin in response to the ongoing concerns (Hu, 2021). These projects helped avert countermeasures against its dam projects and prevent significant conflicts due to overwhelming economic benefits (Biba, 2012; Pearse-Smith, 2012).

Nevertheless, this approach discounts the effects of the cooperation among the GMS countries, risking the overall development within the region (Sticklor, 2010). Chinese aid packages satisfy country-specific needs and national development goals. Therefore, they do not necessarily contribute to regional cooperation and sustainability in the GMS. For instance, Cambodia considers China's dam-building a tool for economic growth, whereas Vietnam highlights the potential adverse effects of these activities on national development and security (Urban et al., 2018). The sustainability of such initiatives and a growing backlash from multiple stakeholders raises the question of whether this approach will continue to work in the future (Zhang, 2020).

Despite these views of unilateral exploitation, it is notable that China has been pursuing more collaborative actions with downstream countries in recent decades (Han, 2017). The existence of multilateral institutions, the economic interdependence primarily of Yunnan Province with the downstream countries, and the broader economic potential of the whole Mekong region force China to build a closer tie with the other GMS countries (Ho, 2016; Neugebauer, 2016). It often pursues these cooperation mechanisms to avoid conflict escalation, albeit short term and reactive in nature (Biba, 2014).

The Responses of the Downstream Riparian Countries

Due to the promising economic benefits of hydropower, not only China but also the other riparian countries have pursued dam-building projects along the Mekong River. Activities by the riparian countries have an impact on the overall health of the river system. Several studies have highlighted the adverse effects of dam projects in these countries (Grumbine & Xu, 2011; Campbell et al., 2015; Soukhaphon et al., 2021). For instance, dams in the 3S river basins—Sesan, Sekong, and Srepok Rivers—of Cambodia, Laos, and Vietnam negatively affect fish migration, river hydrology, and sediment flux (Soukhaphon et al., 2021). Furthermore, damages caused by the collapse of the Xe Pian-Xe Namnoy Dam in Laos sparked debate on risk mitigation strategies (Eyler, 2020). These negative externalities came largely from profiteering measures by state and private actors (Matthews, 2012). For instance, the Thai government and private sector took advantage of Laos's weak enforcement of laws and regulations to benefit from hydropower investment projects in the country, while local Lao people were the losers bearing the investment's negative impacts on their livelihood and environment (Matthews, 2012).

As each country in the Mekong region tries to maximise benefits due to its location in the region, with less regard to the overall health of the river system, the upstream-downstream relations seem less defined (Kuenzer et al., 2013). Even though it is more common to perceive that downstream countries are suffering mainly from the negative impacts of dams in upstream countries, the GMS region manifests very complex relations through economic interactions among the GMS countries, which blur the line between upstream and downstream nations. Thailand and Vietnam finance hydropower development projects in their neighbouring countries while relying on electricity from Yunnan Province (China) and Laos. In other words, the economies of Yunnan Province (China) and Laos also depend on Thailand and Vietnam, the leading importers of electricity. Hence, the winners and losers are not always the nations but parts of the riparian population in the GMS countries regardless of the geographic position (whether upstream or downstream countries).

Nevertheless, it is difficult to deny that China, to a great extent, causes adverse effects in the Mekong region. The downstream riparian countries formed their institutes and mechanisms to counterbalance China's dominant position in the management of the Mekong River basin. One of the prominent

associations among these countries is the Mekong River Commission (MRC), which consists of Cambodia, Laos, Thailand, and Vietnam. However, the absence of China and Myanmar in the MRC; the lack of implementing mechanisms of its mandate; the failure of implementing the procedures for notification, prior consultation, and agreement; the lack of trust among member states; and the marginalisation of civil society erode its capacity to manage the river basin effectively (Soutullo, 2019). A study on regional cooperation for climate change among these member countries shows how the disparity in the political priority given to climate change at the national level affects such cooperation among MRC members (Lange & Jensen, 2013). Some countries are limiting their participation in the organisation. For example, concerns on national security and perceived limited gains hinder Thailand to share data with the MRC (Plengsaeng et al., 2014).

China's active and growing role under the Belt and Road Initiative and the hydropower sector paves the way for China to gain more control in the GMS. While China remains in the MRC as a dialogue partner, it took an active role in the GMS Economic Cooperation Program supported by the Asian Development Bank. China further extended its influence by introducing the newly formed Lancang-Mekong Cooperation (LMC) framework to which all Mekong riparian countries belong. Even though China has played a significant role in the economic development of the Lower Mekong River Basin, in the eyes of the downstream riparian countries, it looks like China is merely utilising the LMC to maximise national interests (Zaręba, 2020). It has even established a formal structure through annual foreign ministries' meetings and institutions such as the LMC Secretariat, a Water Resources Cooperation Center, and the Lancang-Mekong Environmental Cooperation Center, considered a strategy to reshape political order within the GMS.

The LMC framework may have also reduced the legitimacy of the MRC and undermined the influence of other partners such as the European Union, Japan, and the United States. For instance, Japan is interested in development assistance for Southeast Asian riparian countries but fails to build a strong institution. As Japan's development assistance schemes, such as technical cooperation and bilateral government loans, are relatively more complicated and require an extended approval process and substantial commitment, the

riparian countries find the development assistance programmes of China more attractive. Moreover, the inability of the riparian countries under the MRC framework to coordinate the varying interests of its member states, particularly in the field of development, contributes to weak institution-building with other donor countries (Yoshimatsu, 2010).

Impacts of Water Politices on the Thai Economy and Society

The Mekong River sustains approximately 60 million people who live in the Lower Mekong River Basin through economic activities such as agriculture, manufacturing, trade, and transportation. The growing population, together with greater industrialisation and economic-development levels, has induced higher demands of water and electricity in the region to satisfy diverse and more resource-consuming economic activities. Hence, the GMS counties have constructed several dams on the Mekong's tributaries to meet such growing demands in the past two decades. The year 2019 marked the lowest water level in the past 100 years. Among other possible reasons, many studies (Eyler, 2020; Fallon & Kallio, 2020) argue that China's cascade of dams possibly contributes to the ongoing drought in the Mekong Region, causing economic and social issues among the downstream riparian countries, and Thailand is no exception.

Border Trade

The increased connectivity in the GMS in recent years offers greater opportunities for border trade and investment in the region. The Laos-Thailand border and the Cambodia-Thailand border cover approximately 1,845 km and 817 km long, respectively, spanning from Chiang Rai Province to Trat Province. The long-range borders imply extensive economic activities covered by people living in the border communities and provinces. The border economy involves formal and informal border trade, such as illegal economic and social activities and off-record or underground trade in goods and services. This section, however, focuses only on formal border trade.

The low water level of the Mekong River possibly contributes to the decline in the GMS border trade. Thailand's total border trade with Cambodia and Laos fell by 3.6% in the last three years when the water level of the Mekong River hit the lowest. According to Table 1, total border trade between Thailand and the two neighbouring countries (i.e., Cambodia and Laos) between 2018 and 2020 decreased from ฿358,924 million THB to ฿345,963 million THB. On the one hand, border trade between Thailand and Laos accounted for one-fourth of total border trade, equivalent to ฿213,568 million THB in 2018 but declined sharply in the past three years with a growth rate of -11.1%. On the other hand, the share of the Cambodia-Thailand border trade increased from 17% to 20% during the same period, equivalent to a growth rate of 7.4%. However, between 2019 and 2020, the border trade between Cambodia and Thailand dropped from ฿161,211 million THB to ฿156,127 million THB.

Table 1
Thailand's Border Trade Statistics from 2018 to 2020

	2018	2019	2020	Growth 2018–2020 (%)
Total trade value (in million THB)				
Thailand–Laos	**213,568**	**197,447**	**189,836**	-11.1
Thailand–Cambodia	**145,356**	**161,211**	**156,127**	7.4
Thailand–Loas–Cambodia	**358,924**	**358,658**	**345,963**	-3.6
Total (Laos, Myanmar, Cambodia, Malaysia)	**855,807**	**826,412**	**760,241**	-11.2
Trade share (%)				
Thailand–Laos	**25.0**	**23.9**	**25.0**	0.06
Thailand–Cambodia	**17.0**	**19.5**	**20.5**	20.9
Thailand–Loas–Cambodia	**41.9**	**43.4**	**45.5**	8.5

Source: Department of Foreign Trade, Thailand (2021).

According to Thailand's border trade structure, the declining trend of Thailand's total border trade in recent years has been primarily driven by the decrease in the border trade between Thailand and Laos. Among other reasons, such as the appreciation of the Thai baht and trade war, water politics indirectly impacted the border trade through the sluggish economic performance. As the Mekong River runs along a significantly large part of the Laos-Thailand border, any adverse impacts towards the river (e.g., droughts and floods) definitely affect a wide range of economic activities along the border, including agriculture, trade, and transportation of goods and people. Thus, the impacts of the water politics in the GMS are one of the leading causes behind this declining trend in border trade between Laos and Thailand. By contrast, as the Cambodia-Thailand border is not divided by the Mekong River, the statistics show lesser influence of the Mekong River on the Cambodia-Thailand border trade. Therefore, the lesser extent of the drop of the Cambodia-Thailand border trade implies the significance of the Mekong River in the Laos-Thailand border trade.

The dried-up Mekong River in 2020 forced businesses relying on river transportation along the Mekong River to opt for new routes and means of transport, possibly increasing costs (e.g., fuel costs) and time and reducing loading capacity (Sripiachai, 2020). Therefore, the rerouting of goods and people transport adversely affects border trade, evidenced by the situation in That Phanom District. Furthermore, the drought jeopardises business and trade opportunities between the countries and, possibly, within the region, as it put the Laos-Thailand cross-border trade network at risk. This network resulted from diverse social interaction that helps facilitate information exchange and enable new business opportunities (Taotawin & Taotawin, 2020).

In addition, the development project that possibly aggravates the environmental problem in the GMS came from China's blasting project proposed since 2000. The project aims to make the stretch of rapids navigable for large cargo ships, expanding the river trade route from China's Yunnan Province to ports in Thailand, Laos, and the rest of Southeast Asia. Locals and activists strongly warned that dynamiting the rapids will harm the health of the Mekong River among the downstream riparian countries and, therefore,

only benefits China's trade. Under pressure from the locals and activists, the Thai government reconsidered the project in 2016. It hired a private consulting firm to conduct an environmental and social impact assessment while holding public hearings and joint-working-group meetings among the GMS countries, leading to the withdrawal of Thailand from the project in 2020. Consequently, the withdrawal caused tensions over the region, resulting in sluggish trade growth and inactive infrastructure development along the Mekong River put on hold by China (Zhou, 2020).

As shown in Table 1, the formal border trade in the GMS (between Thailand and Laos, and Thailand and Cambodia) accounts for more than one-third of Thailand's total border trade. Demands of products from Thailand (e.g., fuel, natural gas, and vegetables) and the neighbouring countries (e.g., rubber, non-alcohol beverage, and automobile) mainly contribute to the current large trade volume. The sets of goods demanded by each country imply different stages of economic development among the trading countries. In other words, cross-border economic activities are driven by differences in the stage of economic development and relative production costs. Therefore, it is questionable whether gains from the China-led blasting project will be equally shared among the Lower Mekong River Basin countries.

Inbound Labour Migration and Human Trafficking

Similar to the economic impacts, the social impacts of the water politics in the GMS fundamentally come from the unhealthy condition of the Lower Mekong River Basin. Political decisions and the actions of private corporate enterprises towards current and planned hydropower projects cause challenges to the availability and the quality of food and water in the Mekong River (Baker, 2012). Migration, commonly known as 'environmental forced migration' or 'climate refugees', is one of the few options available to people who make their living from the Mekong River.

Environmental forced migration, particularly dam-induced migration, is common in the GMS as hydropower development results in flooding and damaged ecosystem and, in turn, negatively impacts river-based activities

such as fisheries and agriculture in the Lower Mekong River Basin (Le Trexier, 2013). These economic activities are central to the livelihoods of millions of people in the GMS, such as those who live near the Tonle Sap Lake in Cambodia and the Mekong Delta in Vietnam, known as the 'Rice Bowl of Southeast Asia'. Scarcity of foods and destruction of livelihoods may even lead to the resettlement of entire villages (e.g., Nam Han Village) located where would become the reservoir area of Houay Ho Dam in Vietnam (Delang & Toro, 2011). In the case of Laos's tributary dams, the estimated statistics manifest that 70,000 people were subject to displacement (Baker, 2012; Le Trexier, 2013; Promburom & Sakdapolrak, 2012).

In search of jobs and prosperity, environmentally displaced people must decide between domestic rural-urban migration and international migration. They generally consider domestically migrating to urban areas due to lower transaction costs (e.g. search and information costs). Nevertheless, a large portion of migrants from the GMS still opts for international migration—of which the top destination is Thailand (Baker, 2012; Le Trexier, 2013; Promburom & Sakdapolrak, 2012). In 2018, the number of non-Thai residents within the country was 4.9 million, including about 3.9 million migrant workers from Cambodia, Laos, Myanmar, and Vietnam (Harkins, 2019). Most of them work in low-skilled occupations. The influx of inbound immigrants to Thailand possibly provides economic benefits while posing some economic and social challenges. On the one hand, Thailand benefits from the inbound labour immigration since Thailand has entered the ageing society while structurally transforming into a services economy (Korwatanasakul et al., 2021). The migrant labour fulfils the labour market segment shunned by local workers, such as the jobs known as 3D (dangerous, difficult, and dirty) jobs, particularly in the fishery and construction industries. Migrants constitute more than 10% of Thailand's labour force and contribute between 4.3% and 6.6% of GDP. On the other hand, inbound labour immigration possibly causes economic and social issues such as crimes, human trafficking, violation of human rights, and job losses of Thai unskilled workers.

In the GMS region, regardless of age and sex, human trafficking occurs primarily within the scope of labour migration moving from less developed areas to search for jobs, accounting for 4% to 23% of irregular migrants from

Cambodia, the Lao PDR, and Myanmar in Thailand. As shown in Table 2, the general trend of trafficking in Thailand is worrying. The number of cases of trafficking increased from 280 in 2014 to 310 in 2018. Furthermore, the number of cases was 642 in 2018, doubling the number in 2014 (303 cases). The number of female victims is the highest among all categories, accounting for 258 cases (40%) of the total cases. Thus, female young migrants tend to be the targets of human trafficking, while trafficking for prostitution and sexual exploitation are the two most commonly reported forms of human trafficking in Thailand. However, a dearth of data regarding the number of trafficked persons from Cambodia and Laos implies passive responses of the governments in the GMS.

Table 2

Thailand's Trafficking Statistics from 2014 to 2018

		2014	2015	2016	2017	2018
Investigation	Number of cases of trafficking	280	317	333	296	310
	Number of persons prosecuted for trafficking	442	591	600	433	516
	Number of persons convicted of trafficking	231	351	481	367	148
Victims	Boys	48	90	41	49	130
	Girls	90	146	241	316	258
	Men	140	201	201	43	154
	Women	25	34	34	63	100
	Total	**303**	**471**	**517**	**471**	**642**

Source: United Nations Office on Drugs and Crime (UNODC) (2020).

Pathways towards the Effective Management of the Greater Mekong Subregion

Overall Policy Implications and Recommendations on the GMS Regional Framework

Countries in the Mekong region share similar limitations of environmental impact assessments. The assessments are highly politically and economically oriented, especially those related to public accountability (Wells-Dang et al., 2016). Thus, evidence-based decision making and management in the basin, rather than simply employing political powers, is necessary. Scientifically sound strategies for managing transboundary waters proved long-term effectiveness and mutual agreement among the GMS countries (He et al., 2014). Therefore, the institutionalisation of transboundary impact assessments is potentially an effective tool in addressing the tensions among the GMS members (Goh, 2007). However, the MRC does not function well in transboundary impact assessments and has been criticised for its weak and insufficient mechanisms. In the light of this issue, this section provides a set of policy implications and recommendations, namely, (1) mutual recognition of the importance of coexistence; (2) regional cooperation for sustainable development; (3) transparent tools for monitoring, evaluation, and auditing of investment projects; (4) engagement of relevant stakeholders; and (5) learning from best practices.

First, the GMS countries must recognise the importance of the coexistence of all stakeholders at the regional, national, and subnational levels. As discussed, the relations within the GMS is complex because each economy simultaneously plays multiple roles, such as importers, exporters, donors, and recipients, manifesting mutual benefits and dependence among the GMS stakeholders. Thus, the GMS countries may adopt a sustainable, development-oriented framework to guarantee regional economic, social, and environmental development. Regionalising the sustainable development goals and applicable targets may also help the GMS to efficiently and effectively monitor the regional development progress, mainly the targets related to the environment and governance, which is the primary concern within the region.

To this end, effective cooperation among the GMS countries is essential to strengthening the region and maintaining a healthy ecological system.

Appreciating the diversity of actors and their perspectives within arenas with a whole area of power relations through deliberative processes can improve water-resource allocation (Dore et al., 2012). Moreover, applying the food-water-energy nexus in river-basin management can help realise the diversity of perspectives and multiplicity of actors and politics (Keskinen et al., 2016). Accordingly, sociopolitical structures regarding provisioning for food, water, and energy can further indicate issues surrounding the management of the basin (Foran, 2015).

The promotion of stronger regional mechanisms for monitoring, evaluation, and auditing of investment projects possibly affecting the Mekong River is necessary to strengthen the governance among the GMS countries. As raised in the previous section, governments and the private sector in advanced economies could utilise weak legislation systems in less developed economies to materialise hydropower investment projects. The proposed regional mechanisms should also involve international organisations, civil societies, and other relevant stakeholders to ensure fair and just mechanisms. Without these mechanisms and good governance, it is difficult to prevent (or abort) projects that potentially cause (or have already caused) negative impacts to the environment and the communities along the Mekong River.

The engagement of stakeholders, particularly civil society groups and local communities, is crucial in strengthening transboundary institutionalisation and management. Civil society groups are emerging as significant actors in the evolution of the governance mechanism for the Mekong River. For instance, scale frames and spatial imaginaries, which antidam activists use in their mobilisation strategies, influence the impact assessments of dam projects (Green & Baird, 2020). These constructs are essential, as they dictate the extent of dam-related projects. For example, a nongovernmental organisation (NGO) in Thailand is calling for an end in the financing of the Luang Prabang Dam project due to expected negative environmental and social consequences (Earth.Org, 2021).

Local communities are becoming more active in expressing their dissent. Non-state actors, such as affected communities, in collaboration with local and international NGOs, are beginning to play a greater role in holding the GMS government accountable for the impacts of its hydropower projects (Yeophantong, 2013; Yeophantong, 2020). For example, a community-

based environment movement in Thailand shows how river users respond to changing socioecological and political realities in the Mekong River as a transboundary commons (Yong, 2020).

Regarding institutionalisation of transboundary impact assessments, the GMS countries may learn from past successes and failures of similar international organisations. For instance, the World Commission on Dams, a global institution tasked with researching for the environmental, social, and economic impacts of dams globally, is one of the failed organisations in catalysing transformative change. This past failure demands a rethinking of how research institutions should inform policymaking (Hirsch, 2010). On the other hand, through the Water Convention and the Protocol on Water and Health (the Water Convention), the United Nations Economic Commission for Europe successfully strengthened the GMS countries' capacities and triggered better accountability for managing the river basin (Kinna & Rieu-Clarke, 2017). One of the takeaways from the Water Convention is that emerging and future schemes of governance must be more open to public scrutiny to determine which mechanism works better and reduce the role of water politics among the GMS members (Dore et al., 2012).

Policy Recommendations on Specific Issues

Specific Measures on Border Trade

Improving infrastructures and regulations, establishing joint one-stop service centres, and building capacity on digital skills are the programmes that could further facilitate the GMS cross-border trade. Even though some of these policy recommendations are not new and are currently in use, they are worth revisiting due to the slowdown of cross-border trade in recent years. Furthermore, the cooperation between GMS-based organisations (e.g., the MRC) and national trade agencies (e.g., Thailand's Department of International Trade Promotion) could further encourage and facilitate the border trade among the GMS countries.

The GMS countries may also adopt digital technology to create a virtual information hub and network connecting traders and communities in this region to address the risk of losing the Laos-Thailand cross-border trade network. This network potentially promotes job and business opportunities

and indirectly acts as a monitoring and tracking tool for migration and human trafficking.

Specific Measures on Migration and Human Trafficking

Proactive counter-trafficking policies and implementations are needed, particularly in data collection, monitoring, tracking, and reporting systems. As noted in the United Nations International Migration 2019 report, despite considerable efforts towards the human-trafficking problem, limitations on trafficking-related data are substantial (United Nations, 2019). First, most victims are unlikely to be officially identified, making it more difficult to assess the actual tracking situations. Second, data inconsistency and underreported cases are common among developing countries. For instance, Thailand's Ministry of Social Development and Human Security reported fewer human trafficking cases, showing that in 2017, there were 455 cases identified as trafficked persons, which is lower than the number reported by the United Nations Office on Drugs and Crime (Table 2).

In addition, the leading cause of forced migration and human trafficking in the GMS came from the declining water level of the Mekong River, implying that economies along the river primarily depend on the climate and the environment. Job and industry diversification may help alleviate the problem indirectly. However, this strategy will not be successful unless the GMS governments provide more education and necessary capacity-building programmes (e.g., digital literacy) to locals in the GMS, especially girls and their parents who are prone to human-trafficking risks (the highest number of human trafficking cases in Table 2). Better education and higher skills can facilitate their job and industry transition, for example, from the agriculture sector to the manufacturing or services sector, making them less vulnerable to the Mekong River's condition.

In conclusion, the issues surrounding the management of the Mekong River and the glaring impacts of the activities of all riparian countries are signalling the need for better alternatives. Indeed, Thailand-led initiatives among the downstream riparian countries (e.g., Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy) and the withdrawal from China's blasting project, to some extent, proved their effectiveness in counterbalancing China's power in the region. Nevertheless, the ecological systems in the Mekong River cannot be well sustained without the cooperation of China, the upstream nation, and better management among the GMS countries. As shown in the fourth section, economic and social issues in Thailand and cross-border exist under the current management mechanisms. Therefore, Thailand may take the initiative to put forth the suggested strategies and actions to improve the region's economic, social, and environmental situation.

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Labour Migration in the Mekong Region: Cambodian Workers' Mobility and Survival Strategies

Naomi Hatsukano

Abstract

A large number of workers from the Mekong countries migrate to work in Thailand. Cambodia is the second largest source of migrant workers in Thailand. Migration to Thailand has never stopped over the past 10 years, even if the economy has grown drastically. People's lives can still be easily affected by small or large external shocks. Enactment of programmes that not only create employment opportunities in the industrial sector but also support the agriculture, forestry, and fishing sectors is certainly important in mitigating the effects of shocks and managing migration flow. Preparing stable and reliable options for the people within the Mekong region is the responsibility of all governments in the region.

People in the Mekong Region have long been actively migrating within and outside the region. Sometimes it was because they are fleeing from a civil war; sometimes it was because they were seeking economic opportunity. For many years, Thailand sent many more migrant workers abroad; however, Thailand gradually changed its position in the region. It started to accept many unskilled migrant workers from neighbouring countries, which include Cambodia, Laos, and Myanmar.[1] Indeed, migrant workers have supported the Thai economy since the 1990s, when it started to grow rapidly. The economies in the neighbouring countries remained underdeveloped compared to Thailand for many years because of domestic political turmoil and civil wars. Therefore, the income gaps between Thailand and neighbouring countries, the lack of employment opportunities in the neighbouring countries, and the demand for a labour force in Thailand have brought about a huge inflow of workers from neighbouring countries to Thailand. In the 2000s to 2010s, even neighbouring countries have experienced greater economic development; however, the flow of workers has not changed because a certain number of poor people remain, with more vulnerable people facing difficulties from debt. Moreover, external shocks such as climate change can easily destroy people's everyday lives because many of them depend on agriculture, fishery, and so on. All these risks keep pushing people to migrate to Thailand.

Accordingly, this chapter begins with an overview of labour migration in the Mekong countries, focusing on the relationship between Thailand and its neighbouring countries, especially Cambodia, the country that sends the second highest number of migrants to Thailand. It reviews the changes in Thailand since the 2000s, when the largest numbers of migrants arrived, considering not only the policy and economic circumstances of the host country but also the voices of the workers themselves. In addition, recent changes in labour migration during the COVID-19 pandemic and the efforts of governments to address them will be introduced.

[1] Thailand also accepts migrant workers from Vietnam, one of the Mekong countries. In this article, the neighbouring countries include Cambodia, Laos, and Myanmar. Only when necessary will Vietnam be referenced.

Overview of Labour Migration in the Mekong Countries

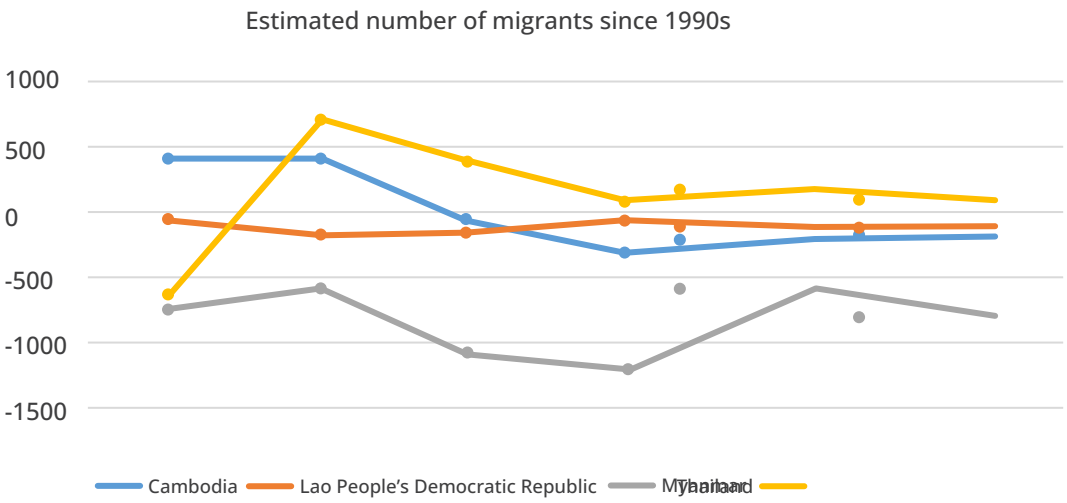
Flow of Migrant Workers in the Mekong Countries

Thailand sent more migrants throughout the world in the early 1990s (Figure 1). It still sends migrants abroad; however, it has hosted more migrants from outside the country, especially neighbouring countries, since the late 1990s (simultaneously, internal migrants fill the demand for the workforce in the big cities within Thailand). In 1990s, the Mekong area started to focus more on economic development after a long bout with political turmoil and economic recession. It stimulated the mobility of people in the region, and more people started to work in Thailand to seek more economic opportunity. This trend continued in the 2000s and 2010s.

Basically, Thailand is the main destination for migrant workers from Cambodia, Laos, and Myanmar. These three countries and Thailand share a long land border; therefore, managing the mobility of people is a big challenge for both governments. People often migrate to work in Thailand without the necessary documents, such as passports, work permits, and valid visas. Many unqualified brokers 'help' migrants cross the border to find jobs in Thailand, which sometimes leads to human trafficking or poor/exploitative labour conditions.

Figure 1

Estimated Number of Migrants in the Mekong Countries Since the 1990s



Source: International Migrant Stock 2020, UN Department of Economic and Social Affairs.

Many challenges remain regarding labour migration in the Mekong countries, and social discrimination has been sustained among the people.

Conversely, the economy in Thailand cannot survive without migrant workers due to social changes (such as the progress of an ageing society) and economic changes (such as a chronic labour shortage). In Thailand, the percentage of the population over 65 years old reached 7% in 2002, and it is estimated that it will be over 16% in 2025. Furthermore, the total fertility rate in 2018 was 1.52, while it was 2.58 in the Philippines and 2.05 in Vietnam. Unemployment rates have been kept lower; the average in 2001 to 2010 was 1.87%, and in 2011 to 2020, it was 1%. Even in 2021, under the COVID-19 pandemic, it was estimated to be below 2% (World Bank, 2021; United Nations, 2019; Wongboonsin et al., 2020).

Table 1

Number of Migrant Workers by Route (as of April 25, 2021)

	Cambodia	Laos	Myanmar	Vietnam	Total
MOU	197,092	143,069	381,833	230	**722,224**
August 20, 2019	140,915	37,089	760,081	-	**938,085**
August 4, 2020	63,519	13,071	146,559	-	**223,149**
December 29, 2020	43,920	24,698	113,666	-	**182,284**
Total	**445,446**	**217,927**	**1,402,139**	**230**	**2,065,742**

Note: Vietnam also agreed in an MOU to send workers to Thailand in the same scheme as Cambodia, Laos, and Myanmar. The Thai government's cabinet resolution approved workers' permission extensions on August 20, 2019, August 4, 2020, and December 29, 2020. Source: Department of Employment, Ministry of Labour, Thailand.

The Department of Employment within the Ministry of Labour in Thailand confirms that more than two million migrant workers from neighbouring countries work in Thailand (Table 1). This number includes both workers who migrate via official channels, such as Memorandums of Understanding (MOU), and workers who migrated without the necessary documents but registered later in Thailand, such as those who registered at one-stop service centres in Thailand and others. Two to five million migrant workers make up over 10% of the total labour force in Thailand. The International Labour Organization (ILO) says that more than four to five million workers are working, and the government of Cambodia also says there are almost two million Cambodian workers in Thailand. Since there are no accurate statistics, we cannot know the truth; however, the fact that so many migrant workers from neighbouring countries work in Thailand is true.

Sectors and Areas for Migrant Workers in Thailand

Migrant workers' lower wages have predominated in what is known as the 3D—'dirty, dangerous, and difficult'—sectors, such as agriculture, fishery, construction, and other service sectors. The younger generation in Thailand tends to dislike working in these sectors. Most migrant workers are seen in Bangkok and the surrounding area, in the construction and service sectors, such as food/beverages. Besides big cities, border provinces also accept more workers in the agriculture sector (Tables 1 and 2).

According to data from the Department of Employment in Thailand, more migrant workers are in the construction, agriculture, and agro-processing industries. The recent construction boom has necessitated more workers and more migrants to commute to construction sites in Bangkok and other big cities in the Thailand. A huge infrastructure development project will be conducted in the coming years (Kasikorn Research Center, 2020). Therefore, the construction sector will continue to expand and need more migrant workers. The agriculture and food-processing industry is also a popular sector among migrant workers. These sectors also depend heavily on migrant workers to maintain their production, and under the COVID-19 pandemic, it is said that labour shortages threaten these sectors (Orathai & Satawasin, 2021).

Table 2

Migrant Workers from CLMV Countries by Sector (as of April 25, 2021)

	Myanmar	Laos	Cambodia	Vietnam	Total
Construction	242,440	15,504	158,229	118	**416,291**
Agriculture / livestock	167,550	29,098	47,441	2	**244,091**
Agriculture processing	163,037	12,173	48,008	32	**223,250**
Service except contracting business	127,739	22,739	37,049	12	**187,539**
Food and beverage	103,430	48,388	27,228	4	**179,050**
Other	641,863	90,025	127,491	62	**859,441**
Housework*	78,455	27,889	9,137	2	**115,483**
Fishery*	25,733	1,877	12,169	5	**39,784**
Total	**1,446,059**	**217,927**	**445,446**	**230**	**2,109,662**

Source: Department of Employment, Ministry of Labour, Thailand

Table 3

Migrant Workers from CLMV Countries by Region

	Myanmar	Laos	Cambodia	Vietnam
Bangkok	302,799	78,544	97,257	37
Outside of Bangkok	1,113,141	139,383	348,189	193
Suburbs	421,971	47,925	111,149	53
Central	273,015	45,281	204,344	48
North	155,470	6,313	3,296	4
North east	20,368	23,035	15,973	5
South	242,317	16,829	13,427	83
Total	**1,415,940**	**217,927**	**445,446**	**230**

Note; The number of workers included the number of MOU workers and temporary work-permit holders based on the cabinet resolutions of August 20, 2019; August 4, 2020; and December 29, 2020, but never included the number of irregular migrant workers without any types of official permission. Source: Department of Employment, Ministry of Labour, Thailand.

Migrant workers from Myanmar and Cambodia work more in the construction, agriculture, and agroprocessing sectors (the same as the total trend). However, workers from Laos tend to work more in the food/beverage, agriculture, and housework sectors. The food/beverage and housework sectors merit more human resources with Thai language knowledge. Laotian workers can take advantage of the language similarities between Thai and Lao.[2]

The fishery sector in Thailand is also a major destination for migrant workers, even though more trafficking cases have been raised in previous years. The number of workers is not the big majority, but there are almost 40,000 workers in the fishery industry and almost 30,000 migrant workers in the fish-processing industry as of 2021. Provinces by the sea, such as Samut Prakan and Samut Sakhon, are known as migrants' areas. When Myanmar's Aung San Suu Kyi visited Thailand after winning the election in 2012, she also visited Maha Chai in Samut Sakhon to meet more Myanmar workers there.

Thailand's Policies, Laws, and Attitudes towards Migrant Workers

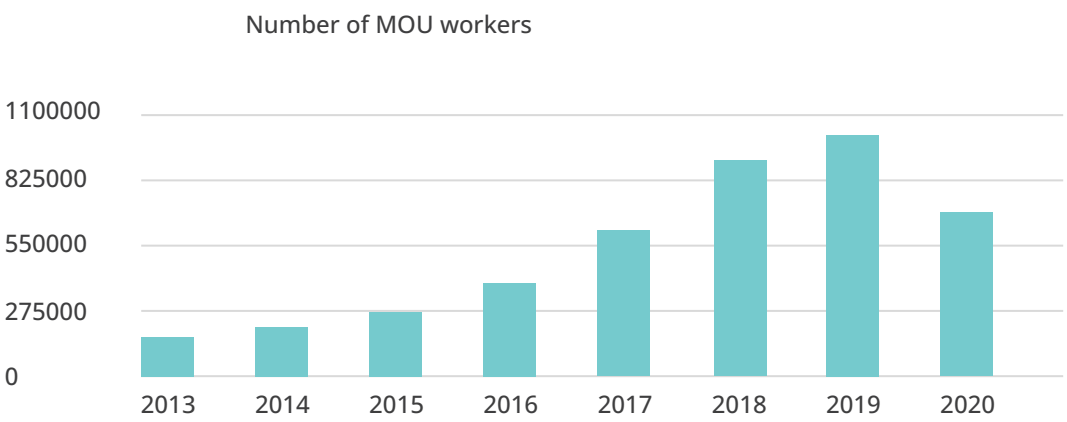
In the 1990s, the Thai government refused to accept foreign workers because migrant workers could take advantage of domestic people's employment opportunities. However, more and more workers have already started to support the Thai industry in agriculture, factories, markets, domestic work, and so on, especially around the border with Myanmar. Myanmar's workers have been employed in factories in Mae Sot. The Thai government decided to approve their legal status in a 1992 cabinet resolution. The government allowed Myanmar workers in the border area to stay and work there, providing amnesty. This temporary resolution was repeated several times to expand to Cambodian and Lao workers all over the country.

In 2002 and 2003, Thailand and its neighbouring countries agreed on bilateral MOUs to send and receive migrant workers through official routes to manage the migrant workers' recruitment and gradually started to send workers through this legally approved channel. However, the higher cost of recruitment and the extremely inefficient documentation process prevented people from using it. People kept flowing into Thailand without official

[2] Workers from Myanmar and Cambodia also try to learn the Thai language. However, Laotian workers have the highest ability with the Thai language among the three countries.

Figure 2

Number of MOU Workers (Three Countries' Total in 2013–2020)



Note: As of December of each year.

Source: Department of Employment, Ministry of Labour, Thailand.

documents, such as passports, work permits, and so on (Figure 2). It is said that using the MOU channel often cost US$500–US$700, and applicants had to wait one to three months in the shortest cases (Chan, 2009; ILO, 2015; Hatsukano & Chalermpol, 2015). However, if people use the unofficial channel, it costs less without waiting. All three neighbouring countries share a long land border with Thailand; therefore, it is not difficult for them to travel. There are more than double, triple, or more undocumented migrant workers than legal migrant workers in Thailand.

Managing these undocumented migrant workers has been the biggest challenge in this region. The Thai government has decided to provide amnesty several times. In the amnesty process, people received pink cards, which allow them to stay and work temporarily, and they had to see embassy staff from their original countries to get the nationality verification. Finishing all these processes took some time, but it was much easier and more reasonable than the MOU process. Therefore, many workers rushed to register themselves with this scheme after entering Thailand. The Thai government has often announced that it would finish the registration process within a certain time frame, such as six months, and issue pink cards. Unfortunately, the number of undocumented migrant workers is always greater than the government's capacity. Therefore, the Thai government has often extended the deadline of the nationality verification. Accordingly, many undocumented migrant workers who have not finished the legalisation process remain.

Since more migrant workers tend to choose unofficial routes to work in Thailand, there have been more unofficial brokers who help them, and more migrant workers have faced difficult situations such as human trafficking in the worst cases. Undocumented migrant workers worry about deportation without/before earning enough money; therefore, they are afraid of the Thai police. Every year, a few hundred migrant workers are deported because they do not hold the necessary documents.

Because most of them are quite vulnerable and have less negotiation power, their salary remains lower than the Thai workers' salaries. The 2018 study showed that more Cambodian women workers in Thailand tended to be paid less than ฿310 THB per day, the minimum wage in 2018 (IOM & ARCM, 2019); however, it is still higher than that in their original countries.

In 2014, after the coup d'état in Thailand, rumors spread of huge crackdowns or violence against migrant workers, especially targeting Cambodians. More than 220,000 Cambodian workers rushed back home in June 2014. Cambodia could not prepare the necessary job opportunities for them that quickly, and Thailand's industry lost a large amount of its workforce and needed it back. Again, Thailand's National Council for Peace and Order (NCPO) prepared the same system to register migrant workers with nationality verification. It set up a one-stop service centre to conduct this process quickly.

In 2017, the NCPO drafted the Royal Ordinance on the Management of Foreign Workers' Employment to put stricter penalties on irregular migration, targeting both employers and workers. Since this law was drafted with a poor consultation process, many stakeholders got confused. Penalties included fines and prison sentences of up to five years. It was revised the next year. It was intended to control migrant workers and employers more strictly, but the fines were reduced compared to the heavy fines initially imposed (Harkins, 2019).

Furthermore, in 2018, the NCPO decided to finish the temporary extension of work permits through the nationality verification process by mid-2018. The Cambodian government sent more officials to help the workers register themselves by the deadline; however, not all workers made it. Again, governments failed to manage migrant workers, and COVID-19 limited the government from finishing this process in 2020.

It is almost impossible to eliminate undocumented migrant workers; governments have repeated a similar process for 20 years. However, this does not mean there was no improvement from this experience. The number of people who use the MOU channel have gradually increased in the last 10

years (Figure 2). The number of unqualified brokers has lessened, so the Thai government prepared a consultation department for migrant workers to support them.

Migrant workers themselves have come to obtain more information about the dangers of unofficial migration through the international organisation and the government's safe migration campaign. In addition, various news about trafficking has made people fearful. The exodus of 2014 pushed the Cambodian people to use MOU channels more than before.

Regarding the author's interviews about migrant workers' situations in Cambodia, people have become more aware of the dangers of labour migration, and governments, international organisations, and non-governmental organisations have made increasing efforts towards safe migration in recent years. However, the number of undocumented migrants has also been increasing at an even faster rate, and determining the true numbers continues to be difficult (even though we can collect official statistics from the Thai government and the International Labour Organization). When the Thai government changes its policy or enforces laws on undocumented migrant workers, many people rush back to their home countries, but they return to Thailand when it appears safe to do so.

Even though only 30% of Cambodian migrant workers are registered, and most Cambodian workers register themselves after entering Thailand under the nationality verification scheme, more workers are not covered by either the MOU route or the nationality verification scheme, and nobody knows the exact number of migrant workers in Thailand. It means that many people face any kind of difficulties to make a living in their home country and have to choose to work abroad, sometimes without waiting for the necessary official process.

As economic development and job creation in their countries of origin progress, it is naturally expected that this flow of people may change. However, it is not currently changing the flow significantly, which is likely due to the wage gap between Thailand and neighbouring countries. It may take much longer until the structural change of migrant workers occurs in this region. Additionally, COVID-19 and the coup d'état in Myanmar in 2021 made it difficult to reform migrant workers' management.

Workers' Reasons for Migrating and Future Options

Workers themselves also have their own strategies for survival. If people have a stable and satisfying environment in their hometowns, they do not have to migrate. Poverty, lack of employment opportunities and alternative sources of income, landlessness, debt, and natural disasters and various reasons push people to migrate. External shocks can easily push people to seek more opportunities outside of their communities. In the following part, Cambodian migrant workers' situation will be focused.

Inside Cambodia, there are very limited employment opportunities. Even though the government tries to create more employment opportunities, the number of workers in the manufacturing or service sectors is limited. For example, the number of garment factory workers is about 700,000, which is less than the total number of the Cambodian workers in Thailand. Only 39% of the population lives in cities, and 61% of the population still lives in rural areas as of 2019 (NIS, 2020). This means that agriculture, forestry, and fishery are still quite important sectors in Cambodia. They support people's livelihoods but are often affected by climate. Recently, there has been flooding or drought almost every year. The government is trying to prepare more efficient irrigation infrastructure for agriculture. As for the inland fisheries, the government is trying to promote the more efficient management of fisheries and promote the conservation and management of fisheries and aquaculture in a sustainable way in Cambodia's Climate Change Strategic Plan 2014–2023.

With the government and citizenry's efforts, even if more flooding and droughts has hit Cambodia, the production of rice has grown continuously. The production of fish has not clearly improved, with inland fish production decreasing, but increasing the production in aquaculture, marine fisheries, and other sources of protein augments the food security of the Cambodian people. However, at the micro level, each family can easily be affected by such climate change without receiving the benefits of newly prepared irrigation or aquaculture infrastructure.

The author met two migrant workers in Thailand and in a border city of Cambodia. One said that due to climate change and not being able to catch enough fish in his hometown, he left home to work in Thailand and

just returned to the border city. The other answered that due to the lack of income from agriculture, he left Cambodia to work in Thailand.

The 2019 population census showed that the percentage of migrants (residing at different locations from the previous survey) in Cambodia was 21.5% (NIS, 2020). The population of persons living in the same place has increased in the last 20 years, from 68.5% in 1998 to 78.5% in 2019. Among those who migrated in the country, more people used to choose rural-to-rural migration in 2008, but in 2019, more people came to choose rural-to-urban migration; however, still 61% of the total population live in rural areas as of 2019. This means that urbanisation is still halfway through and that livelihoods in rural areas are very important in Cambodia.

In the 2019 census, among migrants, 4.2% answered that they returned from outside Cambodia, compared to 2.7% in 2008, which means that more migrants have tended to choose international migration in recent years (NIS, 2020). Since more people have migrated to Thailand in the last 20 years, they have more experience and human networks. For example, Prey Veng Province is far from the Thai border; however, some villages send more migrant workers as far as Rayong Province in Thailand. People from the same villages have shared the information, and their human networks have helped with migration. Prey Veng's economy is mainly based on agriculture, fisheries, rice, and fruit, and factory work is available but limited. Therefore, it is subject to the external shocks from climate change. To work in factories in Phnom Penh and border areas with Vietnam can be another option for the people there; however, because of the human network, people there often chose to work in Rayong Province in Thailand (Hatsukano, 2019).

In Cambodia, the minimum wage of factory workers is US$190 per month as of 2020, and it is still lower than the minimum wage in Thailand. Such a wage gap attracts more workers to Thailand. However, people who work in border areas within their own countries could earn double or triple the money if they traveled a few kilometres more into Thailand. The workers there sometimes choose to work in Thailand and sometimes work in their own countries based on their survival strategy.

In the case of the Cambodia-Thai border in Poi Pet City, Banteay Meanchey Province, there are some factories, casino hotels, and more construction sites in Cambodia. According to the author's interview with former migrant workers there in 2016, they had experience working in Thailand; however, for several reasons, they returned to Cambodia. Some of the answers will be introduced here. One man said he preferred working in Thailand because Thai bosses were more reliable. Another man said he had already been cheated in construction work in Cambodia, so he was looking for another job where he could work with an actual salary. A female factory worker answered that she chose to work in Cambodia because of her parents. If anything happened to her parents and she was in Thailand, it would be difficult to support them; thus, she chose to remain in Cambodia at that point.

In 2014, Thailand's NCPO announced the new policy to develop special economic zones (SEZ) in border cities to create economically productive areas in Thailand. To attract more FDI, generate employment, and improve living conditions around the borders, SEZ development was targeted. Simultaneously, these SEZ developments were aimed at tackling the smuggling of migrant workers from neighbouring countries. Border areas in Thailand and Cambodia were also targeted, and Sakeo and Trat Provinces in Thailand were involved in this plan. However, it has not yet worked effectively. Logically, if border SEZs are developed properly in Cambodia and Thailand, these can help create employment opportunities and help both Cambodian migrant workers and Thai workers and employers. However, because it is initiated by the motivation to control migrant workers and is motivated to shore up national security, not much thinking is devoted to workers' convenience and employers' benefits, and SEZ development plans haven't change the mobility of migrant workers yet.

It is also critical for Cambodia to think more about its job creation and workers' proper work environments for its economic development through promoting its domestic industry through its Industrial Development Plan 2015–2025. It is necessary to help people who wish to stay and work without migrating outside of the country. Furthermore, supporting the agriculture, forestry, and fishery sectors in the country is another important intervention to increase people's options for survival.

In this era of COVID-19, more migrant workers have had to stay in an unstable situation. Some rushed back home; some decided to remain in Thailand, but were involved in the pandemic and lockdown for a while. Some returned but faced economic difficulty in Cambodia and tried to smuggle themselves to Thailand again. Preparing stable and reliable options within the Mekong region is the responsibility of all governments in the region.

Conclusion

Thailand has accepted more migrant workers from neighbouring countries. The poverty level in the Mekong countries has improved drastically in the last 20 years; however, people's lives can still be affected easily by small or large external shocks. Water and climate change have a direct impact on farmers or fishermen's livelihoods and the loss of income sources from a variety of factors often causes people to migrate. More people depend on migration to Thailand to save their families. Industrial development to create more economic opportunities in each country is definitely important, but simultaneously, saving and promoting the agriculture, forestry, and fishery sectors to mitigate the shock is also an important option. In 2020 and 2021, when the COVID-19 pandemic started, it seriously damaged the migrant workers' situation. However, agriculture supported people's living and national economy as well. The future is still not yet clear, but even after COVID-19, we must rethink the economic opportunities within each country and in the Mekong region, not only the manufacturing industry but also sustainable agriculture, forestry, and fishery.

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Conclusion: The Responsibility to Protect

Frederick Kliem

The first personal Mekong River experience transports this author back in time by over two decades, travelling on a relatively small barge and marvelling at the most astonishing and complex natural beauty of the Mekong subregion, a multination subregion along the Upper and Lower Mekong basins, home to some 300 million people and some of the least-developed economies in Asia. It is hard to describe the gruelling sense of naiveté seeing three elderly women, fellow boat passengers and presumably local residents, throwing their plastic food containers into the river. More than twenty years later, this memory is still vivid and connected with a deep sense of disbelief. It was not that plastic ending up in the river per se that was surprising; it was the attitude, so very casually, with which this group of elderly folks polluted the river, the life artery that sustains their very own community. Some weeks later, driving through the delta and its copious rice paddy fields that sustain the income of millions in the Lower Mekong Basin, this author was reminded of the classical tragedy of the commons (Thompson, 2004). Every individual depends on a specific resource and acts in what appears to be their own individual rational interest—consuming as much as possible of the said resource while simultaneously under-investing in its upkeep and longevity. The tragedy of the commons ultimately results in total depletion and degradation of the resource. No one is to blame per se; the tragedy is fuelled by what appears to be rational human behaviour. And yet all bear the collective responsibility for the demise of the resource they depended on.

One of the conclusions from the tragedy of the commons is that safeguarding valuable resources must ultimately be enforced by the state. While the responsibility rests with each individual, a bureaucratic mechanism must enforce the upkeep of a shared resource that, if left to 'rational' individuals,

would stand little chance of survival. One of the most important international norms emerging from multilateral processes over the past few decades is the so-called R2P, the Responsibility to Protect, which requires each state to protect individuals and groups from atrocities and violation of human rights.[1] Rather than a whimsical liberalist addendum to global hard-power politics, the R2P norm is essentially the legal consequence of a common realisation that state sovereignty is never absolute. More precisely, modern interpretations of international norms bestow upon states a responsibility to safeguard human security. Beyond human rights, the United Nation's Sustainable Development Goals (SDGs) have further specified what this includes. A great number of SDGs are of direct relevance to the protection of the Mekong, its ecosystem, and the communities and people residing in the subregion, including food security and the mandate to protect natural ecosystems as an end in and of itself. As such, the SDGs—and the protection of natural ecosystems—are not an afterthought to the state's responsibilities but, in fact, essential guarantors of future security. The broad SDG umbrella de facto widens the definition of what makes states and the world as a whole safe, secure, and worth living by making humans and all living creatures the major reference point of security, not just the state in its Westphalian conception.

The problem, of course, with many ecosystems, including the oceans, many mountain ranges, and large lakes and rivers, the Mekong specifically, is that they are transboundary (i.e., shared among several states). With this, as this volume has shown, the tragedy of the commons has, unfortunately, an international dimension. Further, in addition to the tragedy of the commons, an internationally shared resource becomes subject of interstate relations.

[1] *See UN Chronicles for the evolution and content of the Responsibility to Protect as an international norm. https://www.un.org/en/chronicle/article/responsibility-protect.*

Like all transboundary rivers, the Mekong River and the subregion it sustains continue to be subjected to interstate political dynamics, and even conflicts, that inevitably spill over into second-order policy domains, such as river management—equitably sharing and jointly managing the Mekong becomes increasingly difficult. This volume has reinforced the cooperation imperative—the need to elevate ecological, political and diplomatic, economic, and social issues of and around the Mekong River and its subregion onto the agendas of highest regional governance. All chapters, in their sum, echoed the fact that multilateral mechanisms are the only conceivable pathway towards sustainable management of the Mekong and its connected ecosystem. The multilateral imperative is this volume's overall conclusion.

As Brauer and Perez have argued in their foreword to this volume, the Mekong is in trouble, and there is an urgent need to reset both the institutions and the rules that govern its usage of. If all stakeholders, from states and regional organisations to civil society, collectively fail to do this, this unique ecosystem sustaining the lives of millions of people as well as freshwater and land-dwelling wildlife will die—and with it the great cultural, indeed anthropological diversity of the subregion.

This volume and the diverse range of topics its individual chapters covered showed that the Mekong is more than a river. The unique combination of the Mekong's abundance of natural resources, its biodiversity and unique ecosystem, its geography, its almost mystical significance for river-dwelling communities and their culture, and its geopolitical relevance as a river penetrating six very different countries make the Mekong a human experience, an economic lifeline, a flashpoint for inter- and intrastate challenges, a geopolitical minefield, and a source of opportunity and potential. This complexity makes writing a simple conclusion an impossible task. Furthermore, each chapter has its own bespoke conclusion. Instead, these final pages will reflect on three broad core themes that ran through this book as a whole. The first theme picked up across many chapters is the Mekong as a source of electric energy, generated by the many hydropower dams that have been built over the years. Second, many chapters touched on

the nexus of ecological, developmental, and social aspects, making Mekong management relevant for the socioeconomic well-being and for the prospects of all the people of the Mekong subregion. The third recurring theme was the prevalent role of the People's Republic of China (PRC) and the manifold ways in which policy decisions in both Beijing and in provincial administration centres in the Upper Mekong Basin are of increasing relevance for river management and the development of the subregion.

This conclusion will then finish with some personal reflections of and broader ideas about the unique responsibilities, challenges, and opportunities not just for the riparian countries but for the international community of nations and civil society organisations, all of which have an equal duty to protect one of the worlds' most precious places on earth having a unique biodiversity and exceptional natural and cultural wealth. With this, the editors and authors hope to have spurred greater interest in studying and (sustainably) visiting this magnificent part of the world in the hope that raising awareness of its significance, challenges, and potential will help preserve its longevity.

Damming the Mekong

While there is some unquestionable potential to generate low-carbon energy, increased dam building poses a challenge to the ecological health of the Mekong River as both an ecosystem and an economic and social lifeline for dozens of millions of river-dwelling individuals and communities—indeed a challenge to the riparian states as such. Human reengineering of the river's natural flow to harness hydro energy is depleting the Mekong's natural resources and inducing severe negative impacts on water flow and quality. Arguably, hydro energy is the least sustainable of all renewable energy sources. The eleven dams on the Mekong mainstream are all in its upper basin, while several hundred litter the Mekong's tributary river system further downstream. The megadams on the mainstream especially are impeding the natural flow of the river from its headwaters in the Tibetan Plateau all the way to the Mekong Delta in Southern Vietnam. Despite increasingly clear evidence of the detrimental ecological effect of the dam building, China,

Laos, and Cambodia are still planning further expansion of their hydropower industry well into the 2040s.

There is space for hydropower in both Mekong basins, and there is an unquestionable development potential in hydro energy and dam construction, especially for landlocked developing countries. It is also true that hydropower is generally a low-carbon source of renewable energy. In addition, the experience in the United States, Europe, and China shows that dam building also produces reliable and economical electricity supply. Against the backdrop of climate change and the ambitious targets to reduce the reliance on fossil-energy resources, hydropower can be a reasonable option (International Atomic Energy Agency, 2020). But it is well documented across this volume, as well as in numerous studies elsewhere (Chantha & Ty, 2020), that the already completed upstream dams especially have detrimental effects on the Mekong River's health and natural flow. Although the precise nature of the substantial ecological consequences are yet to be fully understood, these human-engineered impediments to the river's natural flow are already causing significant changes in downstream water levels, including reduced freshwater access for downstream countries, natural flows of both fish and critically important sediments, and leading to the salination of the Mekong Delta—with severe consequences for arability of the delta and its agricultural industry. Irreparable damage to fish stock and river-dwelling wildlife of the world's second most biodiverse river as well as the quality of the subregion's arable land has already occurred. The Lower Mekong countries, Vietnam in particular, regularly experience droughts, which are only partly the result of climate change, weather phenomena, and non-dam-related ecological degradation. There is sufficient evidence to directly link both droughts and floods in the Lower Mekong Basin to upstream hydropower development, especially along the river's mainstream (Eyler, 2020), when either too little or too much water is being released, sometimes without any forewarning. The Mekong subregion's hydropower industry literally 'choke' the Mekong, as one of this volume's chapters, 'COVID-19 and Rural Development in the Mekong River Region', puts it nicely. Islands and rock features that are typically submerged are now frequently exposed, fishing communities struggle to sustain themselves with less than half of their regular catch, and some even lose complete access to freshwater altogether.

Furthermore, several chapters in this book have highlighted that, notwithstanding the many plans for future dam building, the further potential of ever-more and ever-greater hydropower stations is at least questionable. First, hydropower does not necessarily contribute to greater electricity access or poverty reduction in rural, less developed areas, weakening any socioeconomic case for dam building; nor does further development of a singular industry help with the necessary structural transformation of regional low-income economies. Interestingly, Laos, to pick just one example frequently referenced in this book, already produces more hydro energy than it requires for national consumption. At the same time, energy export defies long-term economic logic. In fact, the idea of becoming the 'Battery of Asia' had already outlived its viability by the time it was conceived. Taking into account the real losses of fish catch, agricultural land, and the social costs, Laos will only gain a mere US$700 million in net revenue over five decades (Eyler, 2019). For now, Thailand is the greatest importer of Laotian energy. In the subregion, it is often joked—and not entirely incorrect—that each mega shopping mall in Bangkok is directly connected to one dam in Laos. Once Thailand and other countries in Asia reduce their dependency on energy imports, there is little need for the many dams on Laos's Mekong tributaries. Given the speed with which sustainable alternative energy sources and battery-storage capacities are being developed, this time will come sooner rather than later.

In sum, hydropower is neither a particularly environmentally friendly energy source nor is it economically viable in the long term. The ecological impact beyond carbon emissions is significant. Moreover, the social and economic impact is unclear at best. In combination, these factors do not warrant further hydropower development. Hydropower should, therefore, be seen as only one small part of diverse portfolio of renewable energy resources. National strategies that utilise it as the main constituent of their economic future are ill-advised and unlikely to be a policy success. As for the already existing dams, it is important to see their construction and operation neither as an end in itself nor as completed projects. Instead, it is important to reconsider the ecological and social impacts of existing dams and improve their structure and mechanics. So far, there is little consideration for the downstream effects when local officials and energy companies determine water-level targets, nor are things such as fish ladders or flushing mechanisms

for sediments thoughtfully taken care of. As several chapters in this book have demonstrated, doing so would significantly increase hydro-energy costs, but it would reduce the whole slew of other negative consequences and diminish the negative impacts on the Mekong's ecological system. Having said this, this volume underscored the existential importance of a healthy river system, and if anything, it should reinforce the imperative to reduce electricity consumption across Southeast Asia in general.

Socioeconomic and Environmental Sustainability

The second big theme permeating this book was the complex social and economic situation in the Mekong subregion and how this links with the increasing ecological challenges and the developmental challenges and potential. This highly complex nexus cuts across several often interconnected dimensions. Environmental concerns have long moved beyond the policy realm of Green parties and ecological civil society organisations and have entered the hard-nosed security discourse. The almost infinite number of threats, from climate change to pollution to declining biodiversity, is recognised by the vast majority of security scholars as one of the most serious nonmilitary threats to both national and human security. Indeed, the nexus between ecological degradation and socioeconomic dynamics is increasingly becoming one of the world's topmost security challenges (Caballero-Anthony, 2018).

The introduction to this volume introduced some of the most pressing ecological challenges to the Mekong River and the subregion, and several chapters picked up these general thoughts, applying them expertly to specific policy challenges, such as migration, development, and prospects for economic growth. Specifically, these environmental challenges include the ecological consequences of dam building, as discussed above. But deforestation, agriculture, and manipulation of natural waterways have detrimental effects on both the quality of arable land and the hydrological cycle of the complex Mekong River system too. To make matters worse, the effects of climate change are beginning to add a whole new dimension to this, potentially drastically compounding existing problems while adding new pressures on human security, including food security, natural disasters, and increasing uninhabitable space.

Several chapters in this book showed that social and developmental challenges in the Mekong subregion go beyond the ecological health of the river and the subregion. River and border trade, labour migration, transboundary crime, rural development, and not least the COVID-19 pandemic are all issues of utmost importance in the Mekong subregion and are characteristic of a multinational, transboundary region that connects rural communities of mainland Southeast Asia, often detached from the central government in often faraway capitals (Scott, 2010). This book showed how economic development has lifted both economic growth and average income levels across both Mekong basins, but particularly in the lower basin as a result of foreign direct investment (FDI) and cross-border trade. All four so-called CLMV countries (Cambodia, Laos, Myanmar, Vietnam) have been able to reduce poverty and improve livelihoods as a result of developmental assistance and targeted FDI from China, Japan, and other third parties, coupled with domestic market-based reforms (Menon, 2022). We also specifically learned about the significant role of the Mekong River as a trade route among the countries of the lower basin with China upstream and how river trade significantly increased since the time Chinese engineers dynamited a series of rapids and rocks at the beginning of this century to make the river more navigable. Trade by riverboat just between China and Thailand jumped by more than 50% in the first 10 years after such dynamiting.

But beyond such micro- and macroeconomic statistics, this book's analyses showed at times that the unique characteristics of the Mekong have created unique communities of fate in the subregion beyond national borders and state jurisdiction. In other words, the Mekong is more than just a connecting pathway for trade. It creates, shapes, and sustains communities, and it connects various communities that exist along the river's banks—some of which lived removed from the state and autonomous from centralised governance for centuries (Scott, 2010). Several chapters discussed the impact of often well-intentioned economic and social development of rural communities along the Mekong River. Dam building is one pertinent example, special economic zones another. Governments and construction companies offer compensation packages to communities that are being resettled for dam construction. However, resettlement is often nothing but displacement. The loss of livelihood these communities made from living and working on and with the Mekong and its tributaries cannot be renumerated.

Families may receive the equivalent of a year's worth of income and a new and modern house elsewhere, but they lose the occupation, sometimes centuries-old traditional farming and fishing techniques. With this, a loss of identity brings a whole new level of challenges, often leading to erosion of community, often causing either despair or emigration to more urban areas, especially to Thailand, the subregion's richest economy. As a result, despite the significant economic improvement in terms of income levels and gross domestic product across the Mekong subregion in recent decades, the poverty level remains the among the highest in Southeast Asia. Hydropower, modern rice farming and fishing, and burgeoning industrialisation does not trickle down lightly to those who have lived on these lands for generations. And as of 2020, the COVID-19 pandemic virtually halted further growth by harming cross-border movements of both capital and labour, threatening to unravel decades of socioeconomic progress.

In sum, this book invites its readers to think about the Mekong as a highly nuanced, organically grown, yet fragile ecosystem of great social, economic, and environmental complexity. The challenges to the long-term sustainability of the Mekong River as both a unique ecosystem and an economic lifeline and social reference point for dozens of millions of river-dwelling communities—and indeed the riparian countries as a whole—are complex and multidimensional. This complex socioeconomic, environmental nexus is under stress, and managing it will require a new mindset. First, a new mindset in terms of policy making must account for this complex nexus. Social, economic, and developmental questions may appear to be unique policy areas. But all these are increasingly linked to and severely compounded by ecological degradation. It is, therefore, necessary to appreciate the socioeconomic and ecological nexus in the subregion and address these issues holistically. Second, a mindset that recognises the insufficiency of policy making within state boundaries is required. The Mekong subregion, as an ecosystem, a living space, and an economic zone, does not know an upper and a lower basin—it is one large and complex space. New multilateral structures that transcend international politics as a whole are urgently needed to address the transboundary needs and meet the transboundary challenges of the subregion.

The Unique Role (and Responsibility) of China

All the countries of the Mekong subregion are featured in this book—the state of Vietnam's Mekong Delta region, fisheries in Cambodia, dams in Laos, socioeconomic development in Myanmar and Thailand, and much more. However, not one country dominated just like the People's Republic of China. China's economic weight and political decisions made in Beijing permeate this volume, appearing in every chapter, from the introduction to this conclusion. Therefore, these final paragraphs must reflect on China's critically important role, its unique position and great responsibilities.

This is predominantly a consequence China's geographic and political position, presiding as the sole sovereign over the Mekong River's headwater, the Mekong River's source in the Tibetan Plateau. This makes the Chinese government ultimately responsible for the sound and sustainable management of the entire Upper Mekong Basin and gives it enormous influence over the condition and health of the river downstream. In recent decades, the Mekong and its management have primarily been discussed as an environmental concern as well as a subregion with great yet unfulfilled developmental potential. China's upstream dam construction and its investment in, economic engagement with, and developmental assistance to the Lower Mekong subregion have been and remain of great interests. This is clearly reflected in this volume. However, as geopolitical tensions in the wider Indo-Pacific region heighten, international politics has increasingly infiltrated the Mekong discourse and policy analyses. While environmental degradation and socioeconomic development remain important concerns, the Mekong basins are becoming a superb example of 'geopolitics'—one of the world's most misused and misunderstood terms. It is worth reminding of the preoccupation of the early thinkers of geopolitics, such as Halford Mackinder, Karl Haushofer, or Nicholas Spykman, all equally intrigued about the impact and relevance of geography for interstate relations and foreign policy making.

Of course, the Mekong has long been geopolitically relevant. In 1859, French imperialists invaded Saigon and established in the city the central administration of their colonial governance of Indochina. Colonial exploitation of Indochina knew hardly any boundaries, and it was not by coincidence that the French chose a city so close to the Mekong. From there,

the French believed it possible to penetrate southern China, gaining access to and exploiting the resources of an instable and weakly governed China. Moreover, the many tributaries and canals allowed small gunboats to better control the delta region. Much later, during the Second Indochina War, the United States equally recognised the delta region and its canals and rivers as a way to assert control over a strategically critical region. Likewise, the local resistance fighters, the Viet Minh and Viet Cong, used the delta and its vegetation to hide and launch attacks on the invasion forces. The scars left by Agent Orange are still palpable in the delta region.

Today, however, control of the Mekong, and the exploitation of the leverage this control gives, must be thought of from the other direction—it is no longer the delta but the headwaters that allow control and geopolitical leverage. Several chapters in this volume discuss the impact of China's Upper Mekong Basin dams in general, and in terms of geopolitical leverage that the upper basin control gives China over downstream countries, Vietnam is particularly affected. For three decades, China has been building these large dams on the upper basin both for energy generation and for freshwater storage. Ecological concerns aside, the greatest worry for downstream countries is that China can quite literally 'turn off the tap', and studies show that this is not unreasonable anxiety but has indeed occurred numerous times, most evidently in 2016 and 2019 (Eyler, 2020). As downstream countries experienced unusual wet season droughts, China held back much more Upper Mekong water than usual, causing erratic and devastating changes in water levels downstream. At the least, Chinese dam operations are causing erratic and potentially very damaging changes in water levels downstream, especially caused by the Dachaoshan Dam and the Nuozhadu Dam. Unexpected water releases cause rapid river-level rises, while impounding and storing water decreases both river level and natural flow. Both cause damage to the Mekong's ecological health and its hydrological cycle and imperil the livelihood of large river-dwelling communities, many of whom experience significant drops in rice production in Thailand and Vietnam, less hydropower potential in Laos, and fish stocks in Cambodia.

From the discussions in previous chapters, one can gather that China considers the water of the Lancang, as the Mekong is called in China, a Chinese

rather than a shared resource. China has not signed international treaties on its management of the Lancang and considers the upstream water flow as a commodity protected by China's economic sovereignty, similar to an exclusive economic zone in the maritime space, rather than a freely shared natural good. Western observers often make the point that there is a strategic motivation behind the flow restrictions in order to gain leverage over other Mekong countries. Frankly, there is no evidence in support of this argument. More likely, water is being held back to recharge Chinese reservoirs during dry season in order to optimise power production and maximise profits when electricity prices rise in dry season (Eyler, 2019). Hence, it is more likely a profit motive, not a geopolitical master plan that regulates the river's flow. Indeed, this author's own research shows that many local officials in Yunnan Province do not even realise the ecological connection between the Lancang and the Mekong, which some even incorrectly believe to be different river systems.

But that does not mean that the potential of 'turning off the tap' does not exist and does not affect bilateral relations with downstream countries. For example, in response to the 2016 drought in Vietnam, Hanoi was forced to request a discharge from China's Jinghong Dam to ease fresh-water shortages, to which Beijing agreed. After the discharge, China's Foreign Ministry released a statement that 'China and Mekong River countries on the Indochina Peninsula are friendly neighbours...nourished by the same river. It goes without saying that friends should help each other when help is needed' (Foreign Ministry of the People's Republic of China, 2016). As helpful as the discharge was, firstly, it came at a little cost and, secondly, it only slightly relieved an ecological emergency that was at least partially caused by Chinese dam management in the first place. An important effect of the discharge is that it reminded downstream countries of just how much influence Beijing has over their economic, ecological, and socioeconomic security. The extent to which downstream riparian countries depend on Chinese goodwill has since been a frequent point pf discussion in mainland Southeast Asia.

Where to Go from Here? Regional Solutions to Regional Problems

Reflecting on all the individual conclusions drawn in each chapter of this book, all astutely and constructively showing pathways forward to better navigate the negative geopolitical, ecological, developmental, and socioeconomic challenges of the Mekong subregion, there was one commonality all chapters shared, one mutually identified pathway to progress—more multilateralism both intraregionally and with external third parties. Regional cooperation will have to play a greater role to promote and facilitate cross-border exchanges and movement of labour, goods, and capital and to generally maintain open borders and as much free trade flow as possible. This has contributed to the great developmental success of all countries in the subregion, and especially in the post-pandemic era, it will be important to resist national impulses and remember the value of openness. But regional cooperation transcends questions about trade, development, or labour regulations. In order to jointly manage the Mekong, harness its opportunities, and, importantly, present a united voice, the countries of the lower basin especially need to cooperate to promote a more harmonious Lower Mekong subregion.

Cooperation on the Mekong faces several challenges discussed in this book. The most problematic are the differing developmental paths and plans for the Mekong. While some upstream countries, such as China, Laos, and Cambodia, intend to capitalise on the Mekong's and its tributaries' hydropower potential, Vietnam and Thailand are more concerned about the negative ecological and socioeconomic impacts of Mekong development. Other ASEAN countries, the maritime member states predominantly, resist elevating Mekong questions to pan-Southeast Asia relevance. External third parties, meanwhile, see the Mekong subregion often as an extension of great power relations and a necessary component of their respective strategies for regional influence. This applies to all the major economies of East Asia, just as much as to the United States and the European Union too.

Any effective and sustainable multilateral management of the Mekong will require a set of institutions. Institutionally, the Mekong is not a vacuum, but it is deeply problematic that existing multilateral mechanisms are overlapping and exclusive. There is little information sharing among them, and none has any meaningful enforcement capacity. There is still too little multilateral cooperation, based on rules and processes, between China and the Lower Mekong countries nor between all Mekong riparian countries and external

stakeholders. But once again, the Mekong or the Lancang does not know an upper and a lower basin; they are just one river from Tibet to the South China Sea. This brings us to a third challenge discussed in this book—the geopolitics of the Mekong.

As China has become the main reference point for the future of order and security in the Indo-Pacific, it is increasingly difficult to approach challenges along the Mekong from a positive sum perspective. In fact, the Mekong region and virtually all its issues are being securitised. Geopolitical dynamics are infiltrating the management of the Mekong, and interinstitutional competition, mutual condemnation, and othering are all symptoms of this deeply unsettling developments. Underpinning this are at least two deeply flawed logic. One, it is illogical for China and other countries upstream to treat the water of the Mekong as a sovereign resource within its own jurisdiction. A flowing river is unlike a static economic commodity within one's own sovereign economic jurisdiction, as hydrocarbon resources, for instance. A cross-boundary river is a shared resource; and without sound and inclusive multilateral agreements that are rigid, standardised, and enforceable, the tragedy of the commons, as discussed above, will run its course. Second, it is flawed logic on the part of the maritime ASEAN states as well as of external third parties to not see Mekong management and subregional development as an international issue that concerns all stakeholders alike. Mekong management is neither a negligible subregional issue that can be solved bilaterally among the immediate parties concerned, nor should it be seen as a further platform for geopolitical competition.

This final chapter does not aspire to find a solution. It seeks to draw general conclusions from the individual chapters. This volume has forcefully demonstrated the ecological, security, and socioeconomic relevance of the Mekong River and the subregion as such. The good news is that although the topic is still at the margins of the multilateral regional agenda, the wide-ranging group of stakeholders is increasingly successful at raising awareness of the cooperation imperative in terms of Mekong management. Harmonising all these divergent interests is necessary to jointly manage this vital resource, and appreciating the Mekong as an opportunity for positive sum cooperation will deliver great benefits for all in the long term. Throughout this volume, it has transpired that Vietnam and, to a lesser extent, Thailand

have special roles to play in uniting and galvanising the Lower Mekong subregion. Thailand has had some success with arranging small and targeted multilateral mechanisms, and Hanoi has a special leadership role in terms of bringing Mekong management onto the agenda of broader regional multilateralism, including ASEAN. It is not only that Vietnam has most to lose, bearing in mind the importance of the delta. Hanoi also has the greatest diplomatic capacity and experience to navigate between China, the ASEAN countries, and external third parties, such as the United States and Japan. It has the most remarkable development trajectory of all the CLMV countries, and it has long functioned as the informal mediator between ASEAN's five founding members, external third parties, and the CLMV countries. Hanoi should use this position to promote information sharing and transparency as the building blocks for joint-management mechanisms and decision-making processes. More specifically, Vietnam should spearhead functional cooperation on a minilateral basis to manage the most pressing issues and allow each stakeholder to achieve their most important priorities. As we have discovered in this volume's analyses, the most pressing concerns for Mekong management are in cross-border trade and migration, agriculture, energy production, water and reservoir management, and ecological sustainability. But there is space for broader internationalisation too, including extraregional players, especially the European Union, Japan, and other unsuspicious actors without hidden agendas. Internationalisation can help raise awareness and put pressure on the regional countries to act, and it can raise significant funds for regional programmes to implement sustainable development projects. But ultimately, addressing regional problems in a sustainable manner requires regional agency.

The editors believe that this volume has achieved its purpose if it has raised awareness of both the great importance and developmental potential of the Mekong and the severe, potentially existential challenges that plague this wonderful subregion. In the long run, the status quo is not sufficient, and without significantly improved multilateral organisation and management structures that require the goodwill of all stakeholders alike, the challenges in the Mekong subregion will soon overtake the wider region's capacity to manage and contain them.

Here is to hoping that this awareness will precede, not succeed, a point of no return.

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