Mekong Multi-Cooperation Frameworks: States, Regional Institutions, Private Sectors and Elites

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Abstract

Conflict and cooperation are key governance challenges in transboundary river basin governance. Hydropower has been at the center of conflict and cooperation in the transboundary river basin governance. Over time, hydropower produces a sort of material geopolitics within regions. Technological changes and the changing regional geopolitics create different power relations over hydropower. One of the gaps in current research seems to be about how technological and material transformations of hydropower have affected the transboundary river cooperation in the post-Cold War era.The paper uses a literature review and a case study of the Lower Sasan 2 (LS2) Dam to to study the changing political dimensions of the Mekong region from a confronting platform to multi-regional cooperation frameworks; and how powerful actors such as states, regional institutions, private sectors, and elites shape regional cooperations and produce competing programs and projects in the Mekong region..

It concludes that hydropower has been politicized and technologically manipulated by powerful actors in the last five decades of the Mekong River Cooperation. Cambodia has positioned itself strategically in its relationships with these hydro-hegemons to compete for hydropower dam projects and protect its interests but runs a significant risk of increased social and environmental impacts along with local resistances.

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Introduction

Conflict and cooperation are key governance challenges in transboundary river basin governance. Hydropower has been at the center of conflict and cooperation in the transboundary river basin governance. Over time, hydropower produces a sort of material geopolitics within regions. Technological changes and the changing regional geopolitics create different power relations over hydropower (Sneddon, 2015; Barry, 2013). One of the gaps in current research seems to be about how technological and material transformations of hydropower have affected the transboundary river cooperation and the nature of states in the post-Cold War era. In answering this question, the paper studies the Lower Sesan 2 Dam (LS2) in the Lower Mekong River Basin in Cambodia to examine the changing transboundary river cooperation and power relations to hydropower over time. Transboundary river cooperation features prominently in the schools of thoughts of conflict and cooperation. Many scholars argue that a growing problem of water scarcity in international river basins triggers conflict or enhances cooperation (Falkenmark et al., 2006; Srinivasan et al., 2017; Wolf, 1998). The increasing competition for limited freshwater resources along international rivers could escalate interstate conflicts (Gleditsch et al., 2006). Hence, rather than going to war over water, co-riparian states often choose to cooperate and share river resources and benefits (Pear-Smith, 2012).

Nonetheless, power asymmetries prevail in transboundary river cooperation. The literature on hydro-hegemony explains that conflict and cooperation over the shared international rivers are influenced by the combinations of the unequal military, political and economic power, and geographical positions (Zeitoun & Warner, 2006; Zinzani & Menga, 2017). Dinar (2009:115) argues that “Cooperation is deterred if the hegemon is upstream, given its economic and military prowess and strategic geographical position”. Furthermore, he points out that “Cooperation is most likely if the hegemon is located in a strategically inferior position – downstream – and if the hegemon’s relationship to the water resource is that of critical need” (2009:115). Nevertheless, a weaker state may have agreed to cooperate for strategic reasons, unrelated to the immediate water issues at hand; therefore, the degree to which this arrangement is truly “cooperative” is problematic (Zeitoun, Mirumachi and Warner, 2011).

Hirsch (2016) argues that hydro-hegemony is a form of geopolitics in a transboundary river basin. The Cold War Geopolitics drew conflict and cooperation in a transboundary river basin. In 1987, the Cold War ended, and the World geopolitics changed, transforming the global geopolitics, particularly the hydro-hegemony, into a complex set of inter-state relations. The geopolitics, particularly in the Mekong Region, has shifted from a “bi-polar” communist and capitalist alignment to one of the regional cooperation blocs with different cooperation frameworks (Onishi, 2011).Grundy-Warr (2016) highlights that geo-economics interests also drive Mekong regional cooperation. The Mekong’s post-Cold War era has been marked by changing economic dimensions and political platforms. The region has moved from a conflicting to regional cooperation. China has also changed its post-Cold War policy for promoting regional cooperation frameworks (Han, 2017). Many development actors have entered the Mekong region and established different regional cooperation frameworks. These frameworks bind states, private sectors, civil societies, and transnational actors into influential development processes. Many regional development programs have been designed and initiated by various regional and global powers, some of them completed, while others overlapped (Glassman, 2010). The development interventions, such as hydropower dams, a regional energy grid, and so on, are fundamental to the development programs and regional cooperation. Through these processes, biophysical, spiritual, and social landscapes are digested into capitalist processes

of wealth accumulations and produce harmful effects on rivers, water flow, biodiversity, and local people dependent on rivers (Hensengerth, 2017).

Hensengerth (2015) argues that transnational networks of actors such as the regional financing institutions, hydropower construction companies, and non-governmental organizations are formed behind these Mekong cooperation frameworks to finance the development projects and exploit resources in the Mekong river basin. The less developed countries, such as Laos and Cambodia, cannot fund and build the hydropower dams themselves, but depend on external funding and global operating construction companies to finance and build for them. These further transnationalizes the hydropower projects and diffuse the power of the states, which makes riparian states weaker.

On the other hand, within the states, elites drive the government works; some drive it from their positions in a government agency, while the others from the private sectors; but operate under the patronage system (Ockey, 2004; Kheang, 2005. In many cases, elites push the states to utilize the regional cooperation frameworks and transnational networks to further their interests and build hydropower (Giovannini, 2018).Thus, they draw in other actors such as development banks and private business in the transboundary projects. In regional cooperation and transnational networks, actors compete, cooperate, and politicize between them, providing the opportunities for riparian states to maneuver and bends through these networks and actors for their interests (Mirumachi, 2015).

The end of the Cold War brings about the rise of democratization,, people empowerment, and the proliferation of non-state actors across the globe and the Mekong Region to exercise supreme political authority against hydropower dam projects and other developments that affect the environment and local communities (Bair, 2016).. It also brings about the rise of China. This has affected power relations in the Mekong cooperation (Liu and Lim, 2018). Cambodia has moved into close ties with China and is distanced from Western countries, resolving the opposition party and moving away from a democratic process. Thailand overthrew the elected government led by Yingluck Shinawatra and was replaced by the military-ruled government. Laos remains a strong state-control, ruled by a communist party with a close tie with China, who funded most of the Laos mainstream dams in the Mekong River, while Vietnam is a communist ruling country with a close tie with the US to fight again China.

This paper adopts the conceptual approach discussed above to analyze conflicts and cooperation in the Mekong River Basin. First, it reviews the concepts of conflict and cooperation in the transboundary river basin and the multi-regional cooperation frameworks, focusing on the Mekong Region.. Second, it utilizes the conceptual frameworks to analyze the material politics of the LS2 from the time it was identified to the time it was constructed, through different geopolitical platforms, involving diverse actors. Thirdthe paper examines the changing geopolitics and the changing power relations concerning the LS2 and analyses how states, semi-private sectors, and elites become involved and competed in the LS2 construction. Fourth, it assesses the environmental and social transformations caused by the LS2.Finally, the researcher concludes and makes recommendations for improving transboundary cooperation in the Lower Mekong Basin.

In addition to the literature reviews,, the empirical study took place in two phases. The first phase embarked in four different villages, namely Srae Kor Mouy, Srae Kor Pir, Kbal Romeas, and Phluk; between July 2013 and July 2014, before the LS2.constructed and interviewed 60 households and 15 key informants (Figure 1). Key questions asked were

around the livelihood security, incomes, resource bases, cultures, ethnicities, and strategies to deal with the LS2, dam builders, and government agencies.

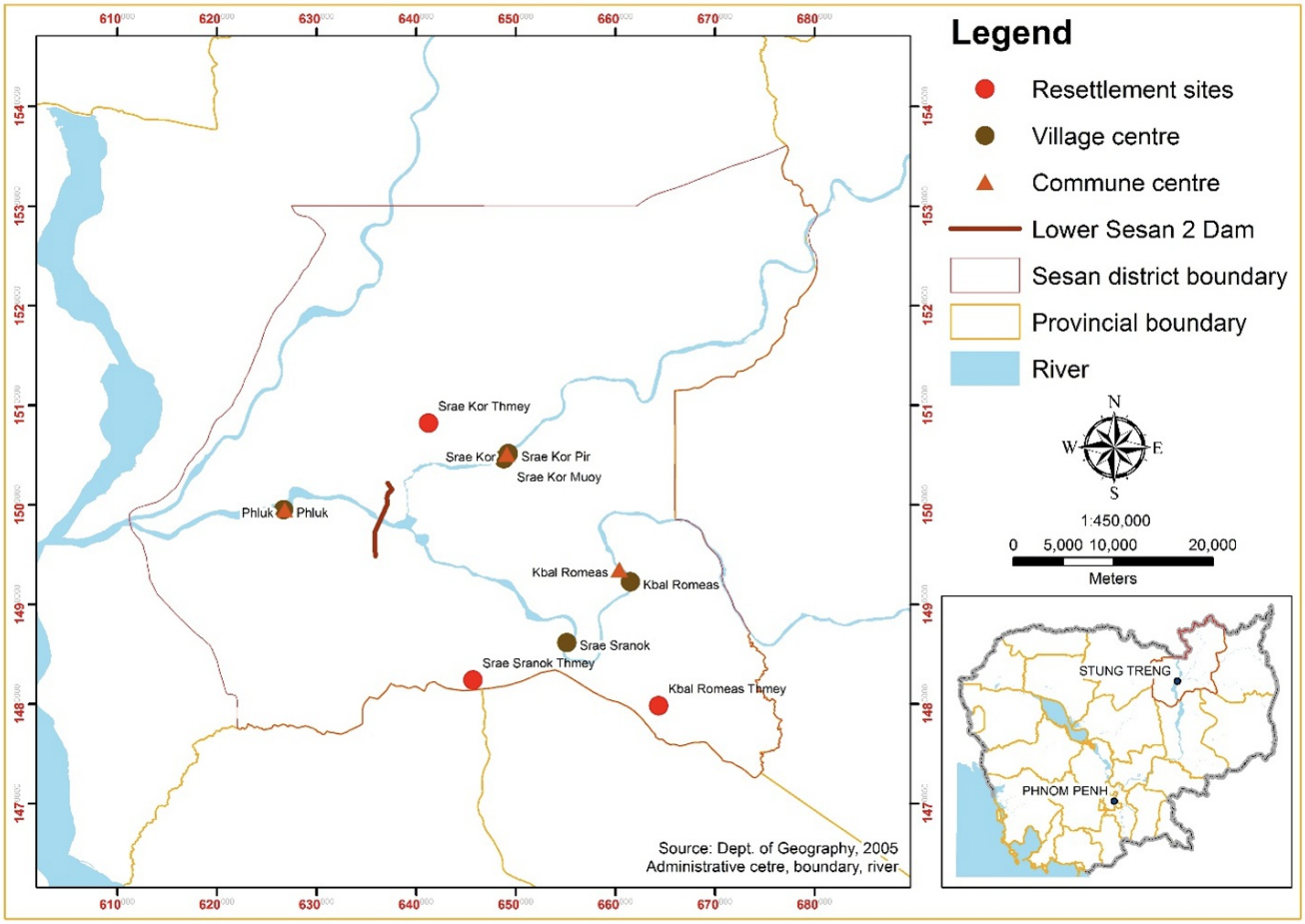

Figure 1. Map of the study areas

The second phase undertook between January 2016 and May 2017, during the construction of the LS2 and when villagers were relocating to new resettlement sites in Srae Kor Thmey and Kbal Romeas Thmey villages. The researcher organized four focused group discussions (FGDs): two in old Srae Kor and old Kbal Romeas villages; and two in the Srae Kor Thmey and Kbal Romeas Thmey villages . The researcher also interviewed representatives of the provincial government and provincial departments, including Agriculture, Fisheries, Environment, Water Resources, Rural Development, Energy, Women and Education, and District Authority. Key questions asked were around the impacts of the LS2 on rivers and livelihoods, the relocations, compensations, resettlement areas, local resistance, the role of NGOs and local government agencies, and the intervention of the national government.

Geo-hydro Politics and Economics Cooperation in the Mekong Region

The Mekong River Basin drains 795,000 km^2 from the Eastern watershed of the Tibetan Plateau in China to the Mekong Delta in Vietnam. It is the twelfth longest river in the world, flowing approximately 4,909 km. The Upper Mekong River

Basin (UMRB) is situated in China, stretching over 2,200 km. The Lower Mekong River flows for a further 2,600 km through Laos, Thailand, and Cambodia before entering the South China Sea via a complex delta system in Vietnam (Jacobs, 2002).

The conflict and cooperation in the Mekong Region has been influenced by the Mekong geographies, hydrologies, hydro-hegemonies, and geopolitics. The UMRB is located in Yunnan Province in the remote south-western corner of China and the poorest region, far away from Beijing; but the most strategic hotspots that the World Powers have utilized to influence China. In the Mekong Region, China is positioned in the most upstream area and is an influential hydro-hegemon. Hence, China controls the river and the discharge of water downstream. In this condition, China has little incentive to cooperate with downstream countries in the Mekong region. Nevertheless, China used water to leverage its influence against its neighbors (Han, 2017).

The Lower Mekong Basin (LMB) has been a geopolitics hotspot in Southeast Asia. The US utilized the Mekong River to unite four lower Mekong countries to counter Chinese influences and the spread of communist in the Mekong Region in the late 50s. The Mekong Committee (MC) was established in 1957 with the US support to manage the Mekong water resources. In 1995, the MC was reestablished by the four lower Mekong countries but renamed as a Mekong River Commission (MRC) to promote cooperation around the sustainable uses of water resources. China did neither join the MC nor the MRC but continues to confront the Lower Mekong Cooperation. Also, China used political tactics to divide members of the MC/MRC to weaken the effectiveness of their opposition to China and their hostility to Chinese dam construction in the upper Mekong (Ojendal, 2000; Hori, 2000).

Geography of the LMRB is marked by competing hydro-hegemonies. Vietnam is a downstream country in the Mekong River Basin but acts as the upstream using the Vietnamese 3S region to build many hydropower dams. On the one hand, Vietnam sees the needs to cooperate with the upstream countries to protect the Mekong Delta; but on the other hand, Vietnam built 15 hydropower dams and planned many in the 3S basin regardless of its impacts on the Mekong Delta and its neighbors.. Thailand does not see the needs to cooperate with downstream riparian states, only with the upstream states to protect their national interests in the Mekong cooperation. Laos views the Mekong's cooperation as a means and way to build hydropower dams, achieving its dreams of becoming the battery of Asia (MRC, 1995). Cambodia is the poor downstream state, relying on the mercy of the upstream, and has a little influence on the regional cooperation, but relies on international supports (Sithirith, 2016).

In the post-Cold War era, the Mekong region is constructed by a powerful force of the Mekong and non-Mekong states and actors, transforming the Mekong region from a conflict region into the market place. It has attracted many development actors to the Mekong and established regional Mekong cooperation to promote economic development and growth. More than eleven Mekong cooperation frameworks were established in the Mekong Region after the 90s. These regional cooperation frameworks produce overlapping and competitive regional development programs.

Hydropower is one of the development programs in the Mekong. It contributes to generating electricity to meet the increased energy demands in the region. In Cambodia, two dams are planned on the mainstream Mekong River in Stung

Treng and Sambo; five dams on the 3S rivers, and five dams on Tonle Sap Lake. Two dams in Cambodia's Mekong Basin are operational, including the LS2 (MRC, 2018; Piman et al. 2013). Furthermore, five hydropower dams in the coastal region of Cambodia were built and are now operational with a total capacity of 900 MW (Urban et al. 2018).

Materials Politics of the Lower Sesan 2 Dam (LS2)

The LS2 Through Multi-Mekong Cooperation Frameworks

The LS2 is one of many hydropower projects in the Mekong region. It went through a long and complex process of studies and re-studies, changing regional political dimensions, the changing development cooperation paradigm, changing technical aspects, and the changing socio-economic dimension. Actor, power relations, and politics over time have been employed and embedded in each of the above processes. Through these processes, actors influence how the LS2 was constructed and designed; and modified to fit with time, context, interest, and politics of the region and actors.

The LS2 was the Cold War's product, produced out of the US planning framework to construct a series of large dams in the Mekong Basin in the late 50s.. It was identified in a reconnaissance study by the Japanese team in the 60s, auspices by the United Nations, and the US Bureau of Reclamation and the US Army Corps of Enginee. However, 10 years later, particularly in the 70s, the MC Secretariat reviewed the hydropower projects in the Lower Mekong River and in the 3S basins, and identified 16 hydropower projects on the Sesan River Basin, including five projects in Cambodia, ten in Vietnam, and one international project. The LS2 was not included in the list, but the Lower Sesan 2/Lower Srepok 2 Project was included (Mekong Secretariat, 1970). Later, the LS2 designs, location, and outputs contained the US strategies of anti-communism (Ojendal et al. 2000).However, the LS2 was not built due to the Vietnam War in the 70s and the fails of Cambodia into the Khmer Rouge and the killing fields in the mid-70s. The MC was abolished in 1975.

In the 1984s, WATCO reviewed the hydropower projects in the 3S region, under the framework of the Interim Mekong Committee (IMC). The IMC was established in 1978 by three countries—Laos, Thailand, and Vietnam, after the collapse of Indochina into the communist blocs, in the absence of Cambodia under the Khmer Rouge rule, which conflicted with Vietnam. The WATCO study was based on the work of the Mekong Secretariat in the 1970s, but the communist ideology was embedded in the process of hydropower project development. The capitalist influence became less significant as the region moved from the battlefield to market place, as stated by the Thai Prime Minister in 1988. Nevertheless, the LS2 was neither selected nor included in the final list of the selected project by IMC (WATCO, 1984).

In the late 80s, the Cold War ended. The Mekong region entered into a new era of socio-economic and political developments. The Asian Development Bank (ADB) established the Greater Mekong Sub-region (GMS) in 1992 to promote economic growth, and it came with massive financial capital. In 1994, the ADB studied the Subregional Energy Sector as a part of the GMS program. The study was done based on the MC study in the 1970s and the WATCO study in the 1984s, combining the communist and capitalist perspectives into the design and planning of hydropower projects, but manipulated it in the interest of the financial institutions and riparian states. Six hydropower projects were identified, five

for feasibility studies and one for the implementation project. Furthermore, GMS/ADB strongly recommended the hydropower development in the Sesan, Sekong, and Srepok River Basin.

In 1997, the ADB funded the Sekong, Sesan, and Nam Theun (SKSSNT) River Basin Hydropower Study (Halcrow and Partners, 1999). The Mekong River Commission (MRC) jumped in immediately after its establishment in 1995 to interact in the project's multi-partite meetings and took a strong political interest. The SKSSNT studied 37 potential hydropower projects in the three basins. Eleven projects were prioritized—8 projects in Laos; three projects in Vietnam and none in Cambodia. Six projects were to be selected out of 11 projects for financing by the GMS/ADB. Vietnam refused to accept the decision, claiming that Laos would receive most of the proposed projects. Vietnam requested GMS/ADB to reconsider the ranking and reselection. The second decision was made by the GMS/ADB, following the Vietnamese opposition. Six projects were selected; including Sesan 3, Thoung Kontum, and Sesan 4 in Vietnam; Xe Kaman 3 and Nam Kong 1 in Lao PDR and Lower Srepok 2 in Cambodia, although the Cambodian site was not technically and economically feasible; but it was largely because of their high potential for electricity generation (Halcrow and Partners, 1999). Later, Cambodia refused to endorse the decision, as only one project went to Cambodia, but three to Vietnam, and two to Laos. Cambodia requested the GMS/ADB to reconsider at least two projects for each country. The Lower Sesan 2 and Lower Srepok 2 projects in Cambodia were immediately included in the list of proposed projects, and their ranking politically moved up to the 7th and 8th positions, respectively among 11 projects. These were motivated by the fact that projections were almost profitable and that its economic standing was only slightly below the other 11 projects. The addition of the Cambodian projects to the priority list was due to political pressure and the pressure to include two priority dams for each of the three countries (ADB, 2004).

In pushing the idea of two sites in Cambodia, the study suggested an alternative dam site for the Lower Sesan 2, but eventually, the new proposal could not compete and ended up with a lower economic value than the existing schemes. The original Lower Sesan 2 still appeared among the six priority schemes. Finally, the final six projects included the Lower Sesan 2 and the Lower Srepok 2 in Cambodia, the Xe Kaman 3 and Sekong 1 in Laos; and the Sesan 4 and Upper Kantum in Vietnam. This modification of the priority list was due to political pressure – not due to technicians' preferences. However, these projects were not built under the GMS Program due to lack of funding, lack of involvement of the private sector, and the lack of financing capacity from riparian states.

Vietnam was eager to build the hydropower dams in the 3S region, as it is the only region suitable for hydropower building for Vietnam in the Mekong River Basin and it is geographically located upstream of Laos and Cambodia. On top of that, Vietnam intends to maintain its influence in Indochina. Hence, in the 1999s, Vietnam established the Cambodia-Laos-Vietnamese Development Triangle (CLV) to promote the development in the corners of Cambodia, Laos, and Vietnam. The hydropower projects in the 3S were brought into the planning and mainstreaming into the CLV. For Cambodia, the CLV had planned to build the LS2 between 2012-2017 and the Lower Sesan 1/5 (LS1/5), LS2, LS3, Prek Leang 1 and Prek Leang 2 projects between 2015 and 2020 (ADB, 2010; CLV-DTA, 2010). *The Electricité du Viet Nam (EVN)* signed a memorandum of understanding (MoU) with the Cambodian government to build and connect the LS2 and LS1/5 and connect to the Cambodian and Vietnamese power grids (EVN, 2010 Under this MoU, two countries agreed that about 50 percent of the electricity generated from the LS2 would be sold in Cambodia and the remainder would be exported to

Vietnam (Phnom Penh Post, 2011a).

In the early 2016s, China established the Lancang-Mekong Cooperation (LMC) to promote cooperation and development in the Mekong region. The LMC enters into the LMB to harvest in hydropower projects. The LS2 Project was picked up by China, competing with Vietnam. China has not spent much resources to do the studies and the designs but has collected the fruits from the trees that were planted by the US, the GMS, and the CLV. On the other hand, the LS2 Project does not necessarily need to be profitable to be approved by China; rather, its investment serves as a placeholder for larger political and economic issues that contributes to magnificent relationship goals between Cambodia and China, and their political and economic strategies in the South China Sea.

States, Private Sectors and Elites Competing in the LS2

Vietnam concerned about China's trickle-down hegemony in the 3S region, and and immediately grabs the LS2 project, under the new wine of the CLV framework, but in the old bottle of Indochina. Vietnam leverages its relationship with the Royal Government of Cambodia (RGC) over the LS2. On 15th June 2007, the RGC granted Vietnam permission to do the feasibility study of the LS2. Vietnam delegated these tasks to the EVN. The EVN conducted the feasibility study for the LS2 in the late 2007s. The feasibility study of the LS2 Project was completed in the late 2008ss (KCC, 2009).

The feasibility report was submitted to the Ministry of Environment (MoE) for approval in late 2008. NGOs and civil society criticized the report for not having the consultations with the civil society organizations. The feasibility report was also weak on social aspects, in which it did not address the issues that affected the livelihoods and incomes of indigenous communities. Environmentally, the report did not address dam impacts on fisheries and biodiversity in the reservoir areas. Because of that Cambodia's MoE delayed the approval but requested the EVN to provide more information, particularly the fisheries and socio-economic impacts. The MoE took almost two years to approve the report.

The Vietnamese government intervened in the approval process of the Project. In doing so, Prime Minister of Vietnam, Nguyễn Tấn Dũng, publicly wrote a letter to Prime Minister Hun Sen of Cambodia in November 2010 to request Cambodia to speed up th approval. The RGC took approximately two months to approve the contested feasibility report of the LS2.. Immediately, the Vietnamese Ministry of Planning and Investment licensed the EVN in January 2011 to invest USD816 million in the LS2 Project.

However, the LS2 was not profitable economically, but it costs a lot to build. Thus, Vietnam looked for a joint venture. Suddenly,, in January 2011, the Royal Group of Cambodia, the largest diversified conglomerate and holding company with investments in various industries in the country, jumped into the LS2 business, contributing 49 percent to the total cost. A powerful tycoon, namely Kith Meng owns the RG of Cambodia. He is also holding Australian citizenship. Furthermore, Kith Meng has a close tie with Prime Minister Hun Sen. There is a rumor that Hun Sen has a share in Kith Meng's Company.

Technically, the RG has no previous experience in hydropower development. As a powerful tycoon and a close

connection with Hun Sen, the RG was directly offered by RGC to invest in the LS2, without public bidding. On the other hand, the LS2 is a double-edge sword project, killing two birds with one arrow. First, the RG could benefit from investing in the LS2; and second, it took advantage of clearing the forest resources in the LS2 reservoir areas. The LS2 was also economically attractive to the RG as the LS2 site covered large forest areas. There was a rumor that the RG generated millions of dollars in timber sales to Vietnam from the forest in the LS2 areas. Vietnam has benefited from both the electricity and timber sales from the LS2. Despite the above, Vietnam still intended to withdraw from the project. The EVN decided on 2nd November 2012 to move out from the LS2, two months before the approval by the Cabinet of the RGC. These made Cambodia and the RG troublesome. Thus, it opens up the opportunity for China's Huaneng Group, whose subsidiary Hydrolancang International Energy to invest in LS2 and eventually replaced the EVN in the joint venture. China jumped into the LS2 investment, regardless of the profits. Indeed, it aims at building its influence in Cambodia and the region. The Council of Ministers of the RGC approved the 400 megawatts LS2 project on 26th November 2012 to be constructed by China's Huaneng Group and the RG (RGC, 2013).

In late November 2012, HIE signed the MoU with the RG for an "initial two-year cash injection" into the LS2 project (Phnom Penh Post, 2013). Sincethen, the LS2 developer has been the Hydropower Lower Sesan 2, a joint venture between the RG and HIE. The LS2 has a 45-year concession period that includes five years for construction. The new arrangement led to a revision regarding sharing investment costs. The joint venture directly financed 30 percent of the project with the remaining 70 percent was financed by an undisclosed bank loan. HIE provided the largest share (51 percent) of the project's costs, while the Royal Group reduced its share from 49 percent to 39 percent. The EVN eventually decided to purchase the remaining 10 percent of shares. Finally, the joint venture created the Hydropower Lower Sesan 2 Co. Ltd., to construct the LS2 Dam (Phnom Penh Post, 2011b).

The total constructing cost of the LS2 was USD816 Million (PECCI and KCC, 2008). The LS2 Dam is located about 1.5 km downstream of the confluence of the Sesan and the Srepok River and about 25 km from the Mekong mainstrea. Clearing of the reservoir area for the LS2 began in March 2013. The construction of LS2 began in February 2014 and was completed in 2017. Prime Minister Hun Sen presided over the ceremonial opening of the LS2 on 25 September 2017. At full capacity, the LS2 will generate 400 MW of electricity.. It is the first large dam on the Cambodian section of the 3S rivers (KCC, 2009).

Biophysical and Social Transformation: From a Rural-river Based Community to a Rural-market Based Community

This paper examines four out of six villages that were affected by the LS2 (Table 1). Kbal Romeas village is located on the northern bank of the Srepok River, about 15km upstream of the LS2. The Srae Kor Muoy and Srae Kor Pir villages are located on the southern bank of the Sesan river, about 9km upstream of the LS2. The Phluk village is located in the downstream area of the LS2, about 7km from the dam site on the southern bank of the Sesan river. All these studied villages administratively are located in the Sesan District, in Stung Treng Province (Figure 1).

These villages are home to six ethnic groups. About 97 percent of the population in Kbal Romeas belongs to Phnong ethnic group, and the rest belongs to Prove, Laos and Khmer. In Srae Kor's villages, about 98 percent of the population belongs to Laos ethnic group, and the rest is Khmer, Krung & Prov. Similarly, Phluk village is a village of the ethnic Loas, with few Khmer households.

Table 1. Numer of affected villages, households, and population by the LS2

Commune	Village	No. of households	No. of person	Total area commune (ha)	Residential area (ha)	Rice farming area (ha)	Chamkar area (ha)	Other areas (ponds, water body(ha))
Kbal Romeas	Kbal Romeas	142	732	73740	8364	648	418	64310
Sre Kor	Srae Kor Mouy	245	978	39870	200	579	75	39016
	Srae Kor Pir	232	951					
Phluk	Phluk	233	947	35606	25	455	38	35088
Total	4	852	3608	149216	8589	1682	531	138414

Villagers in the studied villages live dependent on rivers, water, fisheries, non-timber forest products (NTFPs), livestock, and agriculture. Sesan and Srepok rivers provide villagers a moderate lifestyle—river water for drinking, household uses, and agriculture. Fish, rice, and aquatic vegetables are their main foods. About 98 percent of households in studied villages are engaged in farming as a primary occupation and as the main livelihood activities. Among them, 87 percent supplement their incomes by fishing and 70 percent by Chamcar (crop fields) and collection of NTFPs. Animal raising is a household income supplementary activity that provides animal proteins for most households. Villagers lived in harmony with rivers and shaped their lifestyles as river dependent communities. This paper refers to this lifestyle as a 'rural-river based community' (Table 2).

The productive forest around their old villages is considered a "supermarket", providing them a wide range of foods and products, including non-timber forest products—vegetables, fruits, honey, mushrooms, resins, wood, plants, wildlife, and other resources—for free of charge. Culturally, villagers express that forest is also home to spirits, and cutting trees mean destroying the spirits' houses and make them angry. In return, the spirits will make villagers sick or unhappy.

Table 2. Livelihoods of peoples before the dam construction

Village name	No. of Interviewees	Farming		Fishing		*Chamcar*/NTFP		Raising Animals	
		No.	%	No.	%	No.	%	No.	%
Srae Kor Muoy & Pir	20	19	95	18	90	14	74	8	40
Phluk	21	21	100	18	86	14	67	6	28.57
Kbal Romeas	22	22	100	19	86	16	73	8	36.36
Total	63	62	98.41	55	87	44	70	22	34.92

Transforming and Changing Biophysical Landscapes

About 846 families with a total population of 4428 people in six villages were directly affected by the LS2 and displaced from their home villages. Subsequently, the LS2 has changed the lifestyles of the ethnic groups from a rural-river based community to a rural-market based community.

The LS2 has a large and flat reservoir area of 34,000ha. This reservoir swallows villages, homes, and productive farmlands. About 149,216 ha of three communes—Kbal Romeas, Srae Kor, and Phluk felled under the reservoir area and submerged under the water. The entire area of Kbal Romeas (73,740ha) and Srae Kor (39,870ha) communes were entirely in the water since December 2017. Only a small area of the Phluk commune submerged by the LS2, particularly the Phluk village. About 8,589 ha of the affected communes were the residential areas; 1682ha were rice farming areas, and 531 ha were the Chamkar areas (crop fields) (Table 1).

The construction of the LS2 had cleared 33,564 ha of forest areas, affecting fish habitats and biodiversities; of which about 350 ha were an evergreen forest, some 5073 ha were a semi-evergreen forest, and 27,711 ha were a deciduous forest (KCC, 2009). The clearance of logging in the LS2 reservoir took place in 2012 before the dam was approved. Also, the tree clearing at the Lower Sesan 2 was illegal as it extended well beyond the borders defined in the concession agreement. Many speculate that the Royal Group signed the dam agreements with RGC to access the valuable timber reserves. The LS2 was a means of laundering illegal timber.

The 3S rivers are home to 329 fish species–133 species in Sesan, 213 species in Sekong, and 240 species in Srepok (Baran et al., 2013). The LS2 has impacted fisheries, and fish catch would be dropped by 9.3 percent basin-wide, amounting to approximately 200,000 tons of fish each year (Ziv et al., 2012). The data collected by Inland Fisheries Research and Development Institute (IFReDI) in Cambodia as part of the Mekong River Commission (MRC) Fish Abundance and Diversity Monitoring Program in the 3S rivers (Halls et al. 2013) from 2007 to 2014 for pre-closure of the LS2 from May 2017 to April 2018 for the post-closure of the LS2 indicate the reduction of some fish species in the 3S.

The study found that there are differences in fish concentration between the up and downstream of the LS2 sites, and between the area within the reservoir and the river above it. About 75 percent of interviewed villagers report that there is no sign of a fish reduction in the reservoir areas, as there is more water, but they complain that areas upstream of the old Srae Kor (Muoy & Pir) and Kbal Romeas villages were not rich in fish. Furthermore, about 25 percent of interviewees revealed that fish is not abundant in the downstream river of the dam, particularly at Phluk village and further down.

In addition, most of the interviewees explain that the water level in the reservoir stays almost the same level year-round, and the fish habitat in the reservoir is changing from a flowing river to a homogeneous flow reservoir and in that it reduces the variability in the species and the catchability so that there is no longer a seasonal difference in the fish catch. Thus, there seems no seasonality, only homogenizing water flow conditions, and fish stocks are not replenished as there is no connectivity to the 3S and the Mekong river system. About 70 percent of respondents reported that the size of the fish does not change from peak season to low season in the reservoir.

Changing Social, Cultural, and Spiritual Landscapes

The LS2 does not only affect a human habitat, but also biophysical and spiritual landscapes., Villagers in the studied villages express that fthat forests and rivers are homes to spirits known as '*neakta'* (Work, 2019). Four different types of spiritual landscapes have existed in the areas—(1) the land spirit (*neakta*), (2) the forest spirit (*prey neakta*); and (3) water/river spirit (*neakta krahamkor*) and (4) ancestral burial grounds. Villages argue that these spirits protect them. Villagers pay respects their respective spirits day, night and year.

In Srae Kor commune, about 2031 ha of community forestry established in 2013 by the Ministry of Agriculture, Forestry and Fisheries along the Sesan River were cleared by the Hydro Power Lower Sesan 2 Co. Ltd. Inside the area, about 280 ha of *prey nkakta* or 'forest spirit' that were protected and sacred to villagers for a long time were destroyed on short notice in late 2014 and early 2015. Four burial grounds of about 50 ha each, two located along the Sesan and the other two located about 300 m from the river, were removed by the the LS2 builder, with the compensation of US$150-160 for each grave. Furthermore, about 1248 ha of 'wet rice field' and 57 ha of upland rice fields were lost to dam construction.

In Kbal Romeas commune, the RGC t granted an economic land concessions (ELCs) to Anmady Investment Group for planting rubber, covering about 3000 ha in the north-eastern part of the commune, denying villagers access to forest resources and agriculture. Furthermore, the Hydro Power Lower Sesan 2 Co. cleared the lands used by villagers for wet rice, covering 620 haThe clearance destroyed three burial grounds covering about 60 ha; 348 ha of a spirits forest; 358 ha of upland ricefields, a health center, and 232 ha of wet season ricefields.. The compensation covered only the burial land, rice field, and housing.

On the Sesan river, about 2.5-3 km upstream of the LS2 sites, there is a water/river spirit house known by local villagers as *neakta krahamkor*. Villagers say that the spirit settled in this river in the early 1900s. Villagers told that the spirit often protected people and villagers traveled up this river. They prayed and provided offers to the spirit in a request for security, safety, and no disease. They also prayed when they fished around the spirit areas, at least to get the protection and to catch more fish. They also believe that when the spirit is not happy, they made villagers sick, the collapse of boats during the fishing, or they caught less fish. However, the LS2 destroyed the spirit house and that made the spirit hangry, and thus, villagers are in trouble.

Villagers in the 3S Rivers believe that 'blocking the river with the dam, clearing the trees and filling the river with concretes' damage the spirit domains. Thus, both the spirit of the water and the spirit of the tree are angry with us; they make people sick and have caused many to die' (personal communication, with Lem Leurt (63 years-old) in Srae Kor, 15 May 2014).

Transforming From Rural-river Based to Rural-market Based Communities

The affected villages and their populations (846 families) were relocated to four different resettlement sites, covering 4,000 ha. By the time this study was conducted, about 85 percent of the affected families agree to relocate to new resettlement sites. They received compensation from the LS2 builder for their relocations. The compensation package took two forms:

(1) a land and housing package and (2) a cash package. The cash package was USD500 per hectare for the lowland paddy field, USD740 per hectare for garden land, and USD230 per hectare for fallow swidden agricultural land (KCC, 2009). Some 12 families from Phluk chose the cash package (Phnom Penh Post, 2014). As part of this package, compensation for fruit trees was small. For instance, the compensation package for a banana tree grove was only USD6. Local people said they could sell the fruit from a single banana tree for much more over a year than the compensation that was provided for an entire grove.

The land and housing packages provided to the relocated households cover lands for farming and land for housing: (1) 5 ha of farmland, (2) 1000 m^2 of land for housing, and (3) a house of 80 m^2.. For a housing package, the relocated had two choices: (a) take a housing package built by the LS2 builder, or (b) take a cash package of of USD 6,000 from the LS2 builder to construct their own house. Two types of houses were built under the housing packag – wooden and concrete, and the relocated households were asked to choose one. About 50 percent of resettled families opted for the wooden houses, 18 percent chose concrete houses, 20 percent took the cash to build their own houses and 12 percent received only plots of land for housing without a house. They also received a financial package for livelihood restoration during the transition period. However, the ricefields lost to the LS2 in old villages such as in Kbal Romeas, and Srae Kor communes were of good quality; but, the compensated farmlands were not of good quality, which cannot be farmed in an immediate circumstance.

The reasons that families agreed to relocate included fears of negative impacts of the LS2 and, importantly, promises of compensation by the LS2 builder. However, they indicated that the relocation was a “no choice” option for them, regardless of whether the result was dissatisfaction or satisfaction regarding the terms of resettlement:

Mr. Chhang Chhoeun and his wife, Ms. Chrab Veth, with four children and one married daughter, said that they agreed to relocate to a new village and received a wooden house with a land area of 20 x 50 m^2 and 5 ha of agricultural land. They are happy with the compensation and the condition in the new village with a separated house for his married daughter, while in old Srae Kor village, they had only four ha of farmland and a tiny wooden house for the entire family.

Mr. Chheum Kea, a councilor of Kbal Romeas commune, decided to relocate to the resettlement village to avoid being seen as against the government project. His house in old Kbal Romeas village was about 99 m^2, and his kitchen was 30 m^2. He has three married children. In the new village, he received a two-roomed house of only 80 m^2, which is not big enough for all his married children. His married children did not receive a house because they married after the project started.

At each of four new resettlement areas, the LS2 builder built infrastructures such as roads, markets, health centers, temples, schools, and houses to accommodate the relocated households affected by the LS2. The ethnic groups from affected villages; including Laos, Phnong, Prove, and Kreung; have adapted to new living environments of man-built structures. They have switched from a cashless tradition to a rural-market based community, where buying and selling become common in everyday life. In the resettlement sites, the interviewed villagers expressed that the free collection of water and fish from rivers, the NTFP products from forest areas, and agricultural products from their paddy fields have

been replaced by paying to obtain them from a market place. In doing so, villagers said that they used their savings and cash from compensation to buy water, fish, and meats for their families. Also, they expressed that they used amounts of cash compensated by the LS2 builder to buy motorcycles, TVs, and other items, such as phones, fans, and other materials. As a consequence, many villagers concern that they may dry up their cash sooner.

Unlike in their old villages, houses in the new villages are built with toilets and water tanks in the backyards. Several tube wells were built in new villages by the LS2 builder to provide water for household uses. Villagers in Kbal Romeas Thmey and Srae Kor Thmey expressed that they did not get used to water wells, as it provides water in small quantities, and in doing so, villagers had to wake up in the early morning to collect water. Due to heavy uses by many hands in the new villages, some tube wells were out of orders in a short period, and few did not pump water, particularly during the hottest months of March and April 2017. Thus, waters were not enough for villagers in both villages. In this situation, the LS2 builder provided water trucks to carry water to supply to villagers—one per village. In one day, a water truck could take water only 2 times, equivalence to 10000 liters (one trip for 5000 liters) for villager's uses and the LS2 builder's uses. If villagers take water from water trucks, they shall wait for at least 3 days to one week in the queue. Due to high demands for water in each village, sometimes villagers could get water, but sometimes not. Thus, sometimes, they bought water for their uses. About 58 percent of villagers expressed that they used to buy water, one tank of 1000 liters costs 20,000 riels, and they can use at least 5 days to one week.

Fish is not freely available at new villages, as the Srae Kor Thmey and Kbal Romeas Thmey villages are located about 3-5 km from the Sesan and Srepok rivers respectively. Instead, villagers buy fish from fish traders or markets near their places and sometimes learn to eat different fish species, which they never had or ate before, such as sea fish. The price for fish is around 5,000-6,000 riels per kilogram, equivalent to USD 1.25-1.50, more expenses than their fish caught from Sesan and Srepok rivers, but the quality was low.

Interviewed villagers in the studied villages have expressed that agricultural lands provided to them by the LS2 builder cannot be cultivated in immediate circumstances, as it was a forest land that needs land preparation and the clearance of the forest. Villagers complained that it would take time for them to transform the bushlands into agricultural lands. In the first year, villagers were not able to grow any crop on those lands. Also, there were neither enough water nor irrigation schemes that could provide water to irrigate the rice paddy or crops. Thus, buying some foods, using their compensated amounts of cash, were the main choice for villagers in the studied villages by the time the study undertook.

Furthermore, new houses are connected to electricity grids. Electricity is not free for the relocated households, only cheaper than the ordinary villagers, which is 350 riels (USD 0.087) per kilowatt (KW). Villagers seem to enjoy life in the new villages, as they are exposed to modern facilities such as electric fans, telephones, and TVs. However, they complain about the electricity bills, as they were not used to a monthly payment modality. These are typically new experiences and worrisome for ethnic resettlers in new villages.

More importantly, villagers adopted the buying and selling cultures in the newly resettled communities, but they are not fairly treated in the new places. The adaptive interactions discussed above require the relocated households, mostly ethnic people such as Laos, Phnong, Krung, Prove, Jarai, to speak more Khmer if they need services from these

agencies. Culture and identity for each of the different ethnic groups gradually intertwined with the Khmer, leading them to poorly exercising their own cultures and traditions.

Learning from the relocated households, about 15 percent of the LS2's affected villagers refused to leave their home villages. As of May 2017, some 126 families from Srae Kor Muoy, Srae Kor Pir, and Kbal Romeas villages refused to move out of their places and decided to stay there (Table 3). The refusal continued to prevail until mid-2020. As of mid-October 2020, some 53 families from the old Kbal Romeas village continued to boycott the relocations and remained at the site, about 2-3km away from their old village. Villagers requested the provincial government to establish the community forestry over the bushland of about 800 ha, partly for not relocated villagers in old Kbal Romeas to protect forest resources and uses it for their living. However, the provincial government has refused to accept this request but may consider providing only 400 ha. Despite that, the decision has not been made.

Table 3. Number of families accepting and refusing compensation

Village	No. resettled families	No. agreed to relocate	%	No. refused to relocate	%
Phluk	12	12	100	0	0.00
Chrab	47	47	100	0	0.00
Srae Sranok	168	168	100	0	0.00
Kbal Romeas	142	112	78.87	30	21.13
Srae Kor 1	245	202	82.45	43	17.55
Srae Kor 2	232	179	77.16	53	22.84
Total	846	720	85.11	126	14.89

These families refused to relocate to a new resettlement area because they had a good house in a good location in the old villages, with access to rivers for water and fish; to forest areas for non-timber forest products; and to religious sites for tombs of their parents and grandparents as well as the shrines of the forest spirit that they believe provides them security for their living. The new villages cannot guarantee this same quality of life, as project-constructed houses in the resettlement locations are smaller, made of low-quality wood. Also, in new resettlement sites, there is not enough drinking water and water for household use. Many of the hand pumps built by the LS2 builder were not operational at the high demands, particularly in the dry season. Further, water tasting and its quality were not acceptable by villagers. Mentally, villagers are not happy, as they are separated from the tombs of their ancestors and the forest spirit.

Conclusion

Geographies and water resources of the Mekong River drive conflict and cooperation in the Mekong region overtimes. These are complicated by hydro-hegemonies and geopolitics of the Region. The cooperation among different actors and riparian countries involved in the LS2 project noted above does not happen without conflicts. Cooperation operates as a

factor within power relations, power asymmetries, hydro-hegemony as well as the interests of strong and weak hegemons, which might together be termed “riparian realpolitik”.

Cambodia, as a weak downstream riparian state in the Mekong, has reoriented itself several times from the 1960s through the present to adjust its interests with hegemonic interests to better its position. Even now, Cambodia cannot escape from this type of cooperation. It continues to cooperate with riparian states in the Mekong River Basin to manage, use and share river resources, while at the same time, it navigates conflict, competes for advantage and colludes with others to exploit the river resources. Thus, cooperation, collusion, and competition enable the riparian states in the Mekong region to extract resources, depending on the country’s capacity, economic power, and geography. On the other hand, cooperation can be used by powerful and rich countries to collude with poorer and weaker states to exploit resources on a larger scale than they could manage in isolation, and, in return, they share the benefits.

The capital accumulation process binds the state, elite, semi, and private sectors in the so-called development processes that cut across sectoral boundaries and local communities. Those who criticize these developments are called out for being “anti-development”. The impacts of these development patterns extend beyond the rivers, fisheries and political boundaries into forests, wildlife, spiritual traditions, uplands, and mountains.

Hydropower dam has been at the center of conflict and cooperation. It has been utilized by the riparian states to control river water and to generate electricity for promoting development. It has been used by the US in the lower Mekong cooperation during the Cold War to counter China’s influence in the Mekong region as well. One of these hydropower projects is the LS2. This paper has highlighted how the LS2 has been studied, re-studied, designed, planned, constructed ad built. It was conceived and framed during the Cold War. Consequently, the LS2 has carried forward the geopolitics characteristics and the US influence into different political dimensions, development cooperation paradigm, and socio-economic development in the Mekong region. In the process and overtime of the LS2 study, design, and planning, the Cold War geopolitics, the US influence, and the Upper and Lower Mekong relations have evolved and changed.

Through these changes, more actors enter into the Mekong region and initiate different development programs. The LS2 has been picked up and dropped down several times by diverse initiatives. Due to regional politics and state interests, the LS2 has ended in the hand of local elites, Chinese investors, and Vietnamese companies. It was China that was successful, competed with Vietnam for the control of the LS2, and through this approach, China has harvested the bounty from the seeds planted by the US in the 1960s.

The state drives elites, Chinese and Vietnamese companies into the LS2 development. The state is behind the elites. Some of the elites hold state positions and take the state programs into the hands of elites. The collusion and nepotism between the elites and state officials have drawn regional and financial actors into the state's development programs but in favor of the elite interests.

Statements and Declarations

Conflict of Interests

No potential conflict of interest was reported by the author.

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