



# Riparian Community with a Shared Future: Improving Legal Mechanism for Transboundary Water Governance and Conflicts Resolution in the Lancang-Mekong Basin

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## ABSTRACT

Lancang-Mekong Cooperation (LMC) was officially launched at the First Lancang-Mekong Cooperation Leaders' Meeting held in Hainan Province, China. Water resources cooperation is one of the five priority areas of the LMC framework. It is a critical issue that all riparian countries are commonly encountering. Theoretically, international river governance and cooperation are primarily based on the riparian-states community theory. In practice, it is generally grounded in international conventions, agreements, charters, or customary law. However, the lack of a comprehensive legal mechanism for water resources governance has led to conflicts over water resource allocation and utilization in the transboundary river basin. For the LMC, this is an urgent difficulty to be solved. With the regional powers increasing their involvement in regional development, water issues have gone beyond science to become increasingly politicized. Therefore, this article is mainly based on qualitative analysis methodology to identify the space of improvement of Lancang-Mekong's water resources cooperation from the legal dimension, proposing legislative recommendations for improving the existing mechanisms and enhancing sustainable development in the region.

## 1. INTRODUCTION

Lancang-Mekong Cooperation (LMC) is a pioneering basin-wide cooperation mechanism in the shared Lancang-Mekong River. Thailand initially proposed it and officially established it under the leadership of China. In March 2016, the Sanya Declaration was adopted at the First LMC Leaders' Meeting by the leaders and governments of the six riparian countries, namely, China, Myanmar, Laos, Thailand, Cambodia, and Vietnam. Since LMC's inception, the Declaration has been a critical principal document for the members' collective actions. The Declaration is a politically binding international agreement that respects the Charter of the United Nations and international law [1]. On the LMC's nature as a basin organization, this organization can be regarded as "institutionalized forms of cooperation that are based on binding international agreements covering the geographically defined area of an international river or lake basin characterized by principles, norms, rules and governance mechanisms" [2]. The Lancang-Mekong River is an important transboundary river in Asia, and the riparian countries share its water resources. Whereas in the context of international river governance, the issue of water allocation is one of the most challenging aspects of LMC's institutionalization. Nevertheless, there are limited previous

studies that have been conducted to discuss from the perspective of law.

In light of this, research on the legal aspects that are helpful to implementing and overseeing scientific water resource allocation will be a welcome addition to the academic study on LMC's water resources cooperation. In the Lancang-Mekong River basin, water resource allocation issues are usually negotiated by sub-regional cooperation organizations, while each riparian country has legal norms [3]. The legal norms and descriptions of "water rights" still differ among riparian countries. Although LMC is a regional institution with the mutual respect of national laws, regional agreements, and international law among the member states, in reality, there is still a need for a regional legal framework that is more comprehensive, effective, and inclusive. This paper contributes to analyzing the legislative basis of water allocation rights, legislative needs, Lancang-Mekong water resources cooperation principles, conflict factors, and coordination approaches from a legal point of view. It also consequently proposes several legislative recommendations.

## 2. METHODOLOGY

According to the theoretical basis of the 'riparian-states community' (Community of Interest Among All Co-Basin States) [4] and mainly through qualitative analysis

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methodology for the review of the documentary and literature, this paper examines the primary approaches to solve the challenge of water resource allocation under LMC's water resources cooperation. Simultaneously, this paper uses international laws as the main regulatory measure in the framework of this cooperation mechanism and examines the water resources management among member states based on abiding by the key principles of international law following equitable and reasonable utilization, the obligation not to cause significant harm, and cooperation. Drawing on the results of quantitative analysis of water demand (e.g., the lowest water availability per capita per year in the basin is around 8000 m<sup>3</sup>) [5] of member states and combined with a comparative analysis of the narratives of water rights disputes from multi-angle regional documents and media, this paper identifies the corresponding legislative needs. Subsequently, it makes reasonable legislative recommendations by considering the more established international experience of international river basin governance. This paper's multiple literature and documentary sources were obtained from reliable academic databases such as CNKI, ScienceDirect, JSTOR, etc.; the official documents of the MRC, LMC, and UN, etc.; and news media such as Bangkok Post, Global Times, Xinhua News, The Economist, and The New York Times.

### **3. REGIONAL MECHANISMS AND LEGISLATIVE BASIS OF WATER GOVERNANCE IN THE SHARED LANCANG-MEKONG RIVER**

Because of the subregional developmental demands, some regional mechanisms have been established, such as the LMC, the Mekong River Commission (MRC), the Greater Mekong Subregion Economic Cooperation (GMS), the Mekong-US Partnership (MUSP), and Japan-Mekong Cooperation (JMC). These Mekong-based cooperation institutions have put water management and cooperation as a core development issue of the region. Meanwhile, the influential extra-regional powers intensify their involvement in Mekong regional development. However, beyond the tremendous development achievements of economic cooperation, the debate on water governance and allocation has become increasingly heated or has gone beyond science to become increasingly politicized.

#### ***3.1 The Regional Cooperation and Water Management Mechanisms of Riparian States***

Since the United Nations Economic Commission for Asia and the Far East observed the development of the Lower Mekong River in 1951, the Committee for Coordination of Investigations on the Lower Mekong River Basin was founded in 1957 at the recommendation of this Commission. This culminated in 1995 with the signing of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (The 1995 Mekong Agreement) by

Laos, Thailand, Cambodia, and Vietnam and reaching the consensus on joint management of shared water resources and the promotion of the river's economic potential, all these resulted from the creation of MRC [6]. Alongside the traditional areas of concern, such as hydropower construction, river navigation, sustainable development of fisheries, and protection of ecosystems, in recent years, the MRC's members have also paid attention to the impact of phenomena related to global change, such as extreme floods, persistent droughts, and sea level rise, and have achieved some progress in cooperation. Nonetheless, this mechanism lacks the direct participation of upstream states such as China and Myanmar because these two countries serve as dialogue partners of MRC instead of the full members. Meanwhile, there were the different socio-economic development levels and targets of the four lower Mekong countries. All these situations cause certain difficulties for MRC in playing its role in water allocation [7].

Another regional development initiative, GMS, established in 1992, is a more economy-driven integration mechanism. Concerning energy development, the GMS has enhanced the interdependence of water resources cooperation among member countries in the Lancang-Mekong subregion and has alleviated their contradictions in distributing water resource benefits. It has also been dedicated to the shared development of the regional economy, the harmonious integration of basin ecosystems, and the promotion of sub-regional security, all three of which are the core of water resource issues in the Lancang-Mekong subregion [8]. Yet, there are some dimensions of the mechanism that deserve future improvement. For example, the disparities between the water resources dependency, project development objectives, and development capabilities of the member countries have affected the water resource equitable and reasonable utilization; Secondly, the increasing politicization of economic development of the Mekong water resources; and thirdly, the coordination of the various stakeholders involved in water resources cooperation deserves attention. The key participants in the Basin include the six GMS member governments, international organizations, and NGOs, together with international project investors.

For the LMC, a Joint Statement on Enhancing Sustainable Development Cooperation was made at the Sixth LMC Foreign Ministers' Meeting on 8 June 2021. This statement has reaffirmed the principles of LMC: "consensus, equality, mutual consultation and coordination, voluntarism, common contribution, and shared benefits to promote sustainable development in this region [9]." Through multi-actor consultation, there are some positive examples showing the significant role LMC can play in water resources management, such as the six countries that signed the Memorandum of Understanding (MOU) of China consistently implementing hydrological Information Sharing Platform of the Lancang River with the other Five

Member Countries throughout the year [10]. Six foreign ministers also point out that,

“...regional cooperation and conflict management need to be conducted concerning the UN Charter, ASEAN Charter, and international law, as well as adherence to each member’s laws and regulations [10].”

However, there is a question that is necessary to consider. For example, in the case of water conflicts, which legal standard should be used to resolve such a conflict? Therefore, there is potential to improve the legal aspects of water cooperation under the LMC framework, protect the interests of riparian countries, and promote conflict resolution and accountability through the harmonization of domestic law and international law.

### 3.2 The Legislative Basis for Water Allocation Rights of Riparian States

Water allocation is the most critical among all issues of transboundary water governance. Han Ye points out that the essence of the issue of water allocation is the dispute over water rights, which refers to competing rights between a set of ownership rights and a set of utilization rights, and that the competition of “rights norms” is the essential issue of water-resource allocation in an international river [11]. Hydro-management can cause both conflict and cooperation between countries. The benefits of politics, economy, and ecology, will be boosted by cooperation, while the challenges are in balancing the trade-offs among the relevant states [12]. There are certain explanations for the issue of water resource allocation; some perspectives are grounded in the dilemma of insurmountable power distribution and struggles highlighted by realism, which points out the riparian geographical position the economic and military power will influence the allocation of water resources [13]. Besides, functionalist viewpoints emphasize “revenue-demand” cooperation to achieve allocation cooperation, namely, to realize cooperation in allocating water resources under particular demand-allocation factors and to anchor the distribution in market mechanisms. Furthermore, from the standpoint of the international political economy, domestic politics and the economy can affect the present status of international inter-basin allocation cooperation. Hence, the solution to water resource allocation lies in domestic reforms [3]. In a nutshell, the current research is mainly based on conventional views, such as realism, functionalism, and political economy, to explain transboundary water governance on an international level.

At the micro level, studies on allocating international river water resources generally depended on the theoretical basis of “riparian-states community” and on the premise of respecting the sovereignty of waterbody. Meanwhile, the norms of international cooperation are used as the main line to clarify the logical relationship between the various principles of international water law, and ultimately to achieve the allocation of water resources under different

rights norms. The allocation to international rivers broadly comprises two major schools of thought, namely water quantity allocation based on an environmental science perspective and revenue distribution from a geo-economic viewpoint.

Some scholars argue that in the background of sharing water resources, water demands are an essential carrier for water resources and water interests of basin countries. The conflict of interest in international water cooperation is mainly reflected in the allocation of transboundary water flows amongst basin countries [14]. As regards the distribution of revenues, some proposed that the water demands of the upper-reaches and lower-reaches countries of the Lancang-Mekong River differ according to their interests. Water demands in the Lancang-Mekong Basin are mainly related to shipping, hydropower development, agricultural irrigation, fisheries, disaster prevention, domestic water, and ecological water needs. For instance, different riparian states possess various interests along the river (Table 1) [15].

**Table 1. Water Interests Involved in the Lancang-Mekong Countries**

Countries	Interests
China	Mainly uses the mainstream for hydropower and navigation development, the tributaries for irrigation and industrial water use, and for domestic water demands.
Myanmar	Has a certain demand for navigation and hydropower development.
Laos	Has a high demand for hydropower and navigation, as well as a relatively high demand for water for agriculture and fisheries.
Thailand	Requires a huge quantity of water for aquaculture and agricultural irrigation and has a significant gap in hydropower demand.
Cambodia	More water is needed for fisheries and to maintain storage in Tonlé Sap Lake, an ecological water need.
Vietnam	Needs more water for ecological maintenance, agricultural irrigation, and the Mekong Delta protection.

**Note:** The authors make the table based on the related reference.

Moreover, several studies have also had a development perspective, combining the two schools. The issue of water quantity allocation and revenue distribution in the Lancang-Mekong River is mainly caused by the exploitation and utilization of hydropower energy. MRC’s analysis shows that hydropower electricity generation is of great value to the lower Mekong countries as a source of revenue and

foreign investment. Simultaneously, however, the changed flow pattern could impact river ecology in the lower Mekong region [3] [16]. Accordingly, in a relatively constant average annual runoff, how to meet the water needs for domestic use, irrigation, fisheries, and hydropower plants, key development areas in the basin, and the water needs of per riparian countries' unit of GDP while ensuring minimum ecological water needs is an extremely crucial indicator for resolving conflicts of interest based on water quantity in the Lancang-Mekong River. For the sake of addressing these problems, scholars proposed a multi-objective allocation scheme of water resources in transboundary basins based on the reciprocal practice of water revenue sharing [17] [18].

The report *"Basin Water Allocation Planning, Principles, procedures and approaches for basin allocation planning"* joint-conduct by the Asian Development Bank, UNESCO, GIWP, and WWF, summarizes typified allocation approaches and the common objectives of water allocation; the details are as in Table 2.

**Table 2. Water Allocation Approaches and Objectives**

Typified Allocation Approaches	Objectives of Allocation
1. Balance between Rights to Take Water and Protection of the Environment	<ul style="list-style-type: none"> <li>● Equity</li> <li>● Development Priorities</li> </ul>
2. Risk-Based Environmental Flow Assessments	<ul style="list-style-type: none"> <li>● Environmental Protection</li> </ul>
3. Understanding of the Value of Water and The Demands of Water Users	<ul style="list-style-type: none"> <li>● Promoting The Efficient Use of Water</li> </ul>
4. Greater Flexibility in the Way Water is Allocated.	<ul style="list-style-type: none"> <li>● Balancing Supply and Demand</li> </ul>

**Note:** This table is made by the authors based on the research report [19].

According to this report, the common objectives of water allocation generally require following the principles of "equity, environmental protection, development priorities, balancing supply and demand, and promoting efficient water use [19]." These existing Mekong institutions, including LMC, are also pursuing these objectives as far as possible to promote cooperation in transboundary basins. In addition to MRC, GMS, and LMC, other countries with regional influence, including the United States, Japan, Bharat (India), and other countries, have also initiated other cooperation frameworks, such as the MUSP, JMC, and Mekong-Ganga Cooperation (MGC). The subregion has gradually become a hot spot for geo-cooperation and competition. All in all, it is not difficult to find that these subregional institutions have more or less met these goals, for instance, the balance between the rights of justice to take water and environment protection and risk-based environmental flow assessments.

However, in reality, discussions around water resources remain unabated. For the Mekong region, due to 'water' interest conflicts among different riparian actors together with climate change and water allocation issues, some activists and local NGOs are raising their focus on the legal aspects and Trans-boundary Environmental Impact Assessment of the water issues [20]. From the perspective of LMC, the current LMC has not proposed regional-specific laws or regulations to coordinate water distribution clearly for releasing the interests conflicts among the six members yet within its cooperation framework, as those problems have prompted countries to strengthen the improvement of the legal framework of the LMC, and raising awareness of the importance of the coordination between the LMC with other regional mechanisms, and international laws/standards.

#### **4. LEGISLATIVE NEEDS AND PRINCIPLES OF THE WATER COOPERATION UNDER LMC FRAMEWORK**

In the future, the institutionalization of LMC needs to be supported by the appropriate logic within the legal framework of watershed governance. LMC member countries can negotiate and sign a legally binding international treaty or agreement as a basic reference to consolidate the legal basis of LMC and use this treaty or agreement as the main document to develop corresponding internal documents and complement it with establishing a more comprehensive legal framework.

##### **4.1 Empowerment of Independent Legal Personality**

The prerequisite for a basin organization to acquire international legal status and capacity is that it has a certain international legal personality. A basin organization should have a certain international legal status and capacity, as it needs to maintain a normal working mechanism within the organization and continuously engage in external relations and cooperation to achieve its aims and purposes. Theoretically, the subject of rights and duties is a requirement for an organization to be a legal person; at this point, to confer legal rights and duties is to confer legal personality [21]. Consequently, having a legal personality is a sign of the legitimacy of a basin organization and an indispensable basis for promoting its level of institutionalization. In light of the more developed operational experience of existing basin organizations, establishing an independent legal personality facilitates the external pursuit of various activities. For the Association of Southeast Asian Nations (ASEAN), as an intergovernmental organization in Southeast Asia, the Article 3 of the ASEAN Charter conferred its legal personality [22]. In the case of MRC, Articles 11-33 of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin have given its legal personality. It stipulates the Commission's composition, functions, budget, and

operating procedures in detail and enables it to conduct basin governance activities independently and efficiently to be a "subject of international law [23]". In Europe, another case is the Convention on the Protection of the Rhine. It gives legal personality to the International Commission for the Protection of the Rhine and promotes member countries to work together for riparian sustainable development. It has become one of the most effective river organizations globally [24].

The institutionalization of the LMC framework conforms to the ASEAN Centrality and the coordination of other subregional institutions to legitimize its political position in international society. Since the joint adoption of the Sanya Declaration at the first LMC Leaders' Meeting started conferring on the legal personality of this China-led Mekong mechanism. However, in terms of the water resource aspect, Li and Zhang have noted that the lack of laws and management systems for water resource development and utilization in the Lancang-Mekong River can impact the sustainability of the regional economy and environmental ecology. Although their research mainly focuses on domestic law issues for water management in China, the problem also exists in the legal framework in the Lancang-Mekong Basin [25]. The future LMC may need to clarify the legal status, the organization and institution, the scope of official power, the discussion procedure, and the rights and obligations of the members, allowing them to enjoy their rights and obligations under international law independently and to attain greater effectiveness in basin governance.

#### **4.2 Basic Principles for Incorporating International Water Laws**

At the international level, valuable efforts have been made by International Law Associations (ILA) on legislation for water resources management, such as the ILA Article on Flood Control (1972) Article 2 proposes that 'the basin countries should cooperate in a spirit of good neighborliness about flood control measures'. Taking into account their interests and well-being as common basin countries. Article 3 and 4 also proposes to enhance cooperation by 'collecting and exchanging relevant data' basin countries should communicate with each other as soon as possible in case of major natural disasters, such as floods and droughts [26]. Incorporating international water law principles into the basic documents of organizations is one of the determinants for the effective governance of water resources in basins. Most international water law scholars recognize that international water law principles exist primarily in the form of international treaties or customary law, and in particular, that the three fundamental principles of equitable and reasonable utilization and participation (Article 5) do not cause significant harm (Article 7), and general obligation to cooperate (Article 8), which are key principles of Convention on the Law of the Non-Navigational Uses of International Watercourses [27]. The Convention was

concluded in 1997, and it makes certain contributions to the governance of water-related issues of collective action in basins. For instance, from the agreement of MRC, according to Articles 3 and 4 of the Agreement On the Cooperation for The Sustainable Development of the Mekong River Basin, the Mekong countries cooperate based on sovereign equality and territorial integrity and have a responsibility to protect the environment and ecological balance, as well as to protect it from pollution or other harmful effects, while utilizing and protecting the water resources of the Mekong River Basin. Article 8 of the Agreement on Cooperation for Sustainable Development of the Mekong River Basin, if harmful effects from the use and/or discharge of Mekong waters by any riparian country cause significant damage to one or more riparian countries, the parties concerned shall determine all factors, causes, the extent of damage and responsibilities following the UN Charter, to address and resolve all issues [19].

Notably, some upstream countries, such as China, Turkey, and Burundi, did not join these conventions. China does not fully support some of the provisions in the Convention on the Law of the Non-Navigational Uses of International Watercourses. It prefers to engage with its riparian states by 'soft path' in which they signed binding transboundary water agreements [28]. From China's point of view, the Convention has certain defects. It does not meet China's national interests [29], especially since it considers the Convention fails to balance the powers and obligations of upstream and downstream states. These would be an infringement on its territorial sovereignty [30]. In practice, the Convention on the Law of the Non-Navigational Uses of International Watercourses is relevant to water governance in the Lancang-Mekong region and has some influence on LMC's agreements on transboundary waters. For instance, according to the UN Watercourses Convention Article 8, riparian states should enhance cooperation based on sovereign equality, territorial integrity, mutual benefit, and good faith and consider establishing joint mechanisms or commissions [21], which is in line with the operating principles of LMC. All in all, the basic documents of the UN Watercourses Convention alone do not directly enhance the effectiveness of basin governance. Still, it is necessary to discuss whether these principles are useful or partly implementable in the work of the LMC, especially in improving the legal framework of water governance.

#### **5. 'WATER' CONFLICTS AND DEBATES OF DAM CONSTRUCTION IN LANCANG-MEKONG BASIN**

Water resources management is the most crucial among the five priority areas of LMC. At the same time, China and the lower Mekong countries have been intensifying river development efforts, especially dam construction. However, the environmental problems, together with climate change in the region, including floods and droughts, have also led to a growing crisis of mutual trust and a series of conflicts.

According to Middleton and Devlaemick's research, there are at least 13 regional cooperation frameworks involving the Mekong region, including cooperation with China, Japan, India, South Korea, and the United States, and all frameworks emphasize economic cooperation while "often risking environmental degradation" [18]. At the same time, some citizens and activists in the Mekong River Basin have expressed their concerns through boycotts and petitions to draw attention and debate to the dams' potential environmental and social impacts.

### **5.1 'Water' Conflicts and Public Debate in the Media Matters**

According to the MRC's analysis, large storage dams in the upper Mekong Basin have the potential to manage the water issues during the dry season and rainy season. In addition to local resettlement issues in the lower Mekong basin, the most significant effects are likely to be major changes in aquatic habitats, and sediment flows leading to erosion. A study obtained by the MRC reported that flooding along the Mekong River has become more frequent. Flooding has caused damage and destruction in around 62% of settlements in the last three years. The largest percentage was in Thailand at 80%, while the lowest was in Vietnam at 42% [31]. Thailand endured two consecutive years of severe drought between 2019 and 2020. Meanwhile, fishermen in northeastern Thailand and Cambodia complained that the drought had caused catches in the Mekong tributaries to plummet. At the same time, many farmers in Cambodia and Vietnam have lost their source of income and migrants to the cities in search of job opportunities [31].

The water conflict is also reflected in several media reports, including the Mekong Dam Monitor project of the Stimson Center, an agency funded by the U.S. State Department that has been critical of dam construction on the Mekong River in recent years. Meanwhile, the New York Times reported that the growing El Niño phenomenon is one of the main reasons for the Mekong's reduced agricultural production and is caused by the construction of hydroelectric power stations in the upper Mekong [32]. The Diplomat reported that while Cambodia has put a hold on the construction of new dams, China has not yet stopped building dams on the upper Mekong River basin, which some environmentalists believe is the cause of the drought that has hit the lower Mekong within the past few years [33]. As such, the Chinese Foreign Ministry has given some responses to those accusations, in which any US accusations that China is trying to take over the Mekong and 'water' hegemony is unfounded [34].

For the LMC, the mechanism principle emphasizes shared prosperity, sustainable development, and bridging the development gap between China and the Mekong countries. China has committed over \$12 billion in government-backed concessional loans to enhance cooperation in infrastructure projects [35]. Countries like the

United States have also proposed a Mekong-U.S. Partnership Initiative but have yet to show strong interest under the Donald Trump administration. For China, its participation in the Mekong power project through open bidding has been questioned by some Western media and extraterritorial NGOs, so the transboundary impact of hydropower dams has become a hot political topic in the public discourse of all Lancang-Mekong countries. As a result, environmentally oriented protests have continued, particularly against the construction of hydropower dams. For example, in 2011, the Myanmar government halted further construction of the Chinese-funded Myitsone hydroelectric dam on the Irrawaddy River. A report by The New York Times reported that the Myitsone hydroelectric plant was halted because the Chinese company was accused by residents of deforestation and tried to plunder Myanmar's natural resources and damage the local environment [36]. At the same time, the Myitsone Dam project has fueled anti-Chinese sentiment in some of Myanmar's communities. Critics of the dam argue that the trade-off between the power the project will generate and the potential environmental impact is not worth it. In response to the skepticism, China thinks constructing a large dam on the upper Mekong will benefit the lower country regarding hydropower generation, flood control, and drought relief, and construction is based on an integrated approach to economic development and ecological protection [37]. According to a Global Times article responding to these concerns, China has a lot of experience with relocating migrants in dam construction areas, and China has invited people from Mekong countries to see how migrant villages have developed around dams [38]. Furthermore, the average flow rate at the Jinghong hydropower plant in January 2021 was 1,243 cubic meters per second (m<sup>3</sup>/s), a 78.6% increase over the annual average natural flow of 696 m<sup>3</sup>/s and a 16.2% increase over the same period last year, indicating that China's dam construction on the upstream has alleviated drought conditions of the downstream [39].

### **5.2 Regional Development and Dams Construction in Lancang-Mekong Basin**

In general, the critical point of the 'water' debate is about dam construction. Hydropower is a valuable technology to the lower Mekong countries as an important source of revenue and foreign investment. For example, the Xayaburi Dam in Laos, one of only two completed dams on the Lower Mekong mainstream, produces more than 95 % of the electricity sold to neighboring Thailand [40]. As a result, the Mekong countries are pursuing a range of development goals to promote development and improve the lives of their people, including cooperation in irrigated agriculture and large-scale hydropower development. China has matured its water construction technology and is actively sharing its water construction experience with Mekong countries under the LMC to assist in local dam construction. According to

the MRC, the lower Mekong basin is residence to more than 65 million people, 85% of whom live in farming communities. Therefore, the ecological changes brought about by dam construction may impact the Mekong environment, which could affect the population's livelihoods [41]. A report by the Lancang-Mekong Environmental Cooperation Center shows as the countries in the Mekong basin are using more hydropower resources annually, with Laos set to accelerate hydropower development, Cambodia and Vietnam both have hydropower plans in the Mekong tributaries, and Cambodia, whose main purpose of water use is to ensure soil fertility in its floodplains, has a greater demand for Mekong flood flows during the rainy season [42]. Moreover, climate change will further intensify competition for water resources, and observable shifts in rainfall patterns and prolonged droughts in the region may lead to shortages in agricultural production [43]. Thus, the contradiction between the water supply and demand of the Mekong River is becoming increasingly acute, and the future course of water resources in the basin will significantly impact regional economic and social development. During the drought, tensions between governments in the Lancang-Mekong region have increased.

Since 2019, the Covid-19 Pandemic has intensified the livelihood challenge. The governments, relevant organizations, and other interested bodies were actively working together to solve the water problems. The Lao government is working with Chinese state-owned power companies to rapidly advance the construction of hydropower dams on the Lancang-Mekong River. Sanakham Dam is the most recent project. The MRC announced to the public in May 2020 that Laos will begin a "prior consultation" procedure for the Sanakham Hydropower Project. According to documents filed with the MRC for the Sanakham project, the dam is a \$2.073 billion run-of-river dam that will produce around 684 MW. of power, and the energy will be exported primarily to Thailand. However, local environmentalists are concerned that the construction of the dam will damage the fragile freshwater ecology of the Mekong River, for example, the ecology of the endangered giant Mekong catfish and dozens of other important species, and have an impact on the long-term livelihoods of local communities that rely on the river [44]. Building dams in Laos, including the Xayaburi Dam, has been met with concern by the Cambodian and Vietnamese governments, with Vietnamese President Truong Tan Sang arguing that water stress not only threatens the economic growth of many Mekong countries but is also an ignition of conflict [45], followed by Thailand's decision to postpone a planned power purchase agreement for the Pak Beng Dam [46]. To reduce water conflict in the region, the Phnompenh Post has pointed out the opinion of Lim Kien Hor, the Cambodian Minister of Water Resources and Meteorology. He believes that Mekong water data should be

shared in order to accurately measure the impact of river flows on the region's social and economic well-being [47].

An opinion piece of *The Third Pole* argues that China's investments in Southeast Asia, such as hydropower and shipping, are an important tool for exercising its soft power [48]. However, the author of the piece thinks that these investment projects are often done with an insufficient understanding of potential socio-political risks, and the stoppage of the Myitsone Dam in Myanmar is just one example of a failure to conduct an adequate social risk assessment. Furthermore, the author also thinks the LMC is founded on a state-centric approach, with few opportunities for people in general to participate in decision-making processes. Later on, China invited official representatives from downstream countries to visit dam construction and learn about the operation and technology of hydropower projects, as well as the learn the potential contribution of projects to flood control and drought management, with Mekong officials mentioning that China is a responsible upstream neighbor in its efforts to secure downstream water needs and control floods during the dry and rainy seasons [49].

In general, media with different political aspects report differently on Lancang-Mekong water governance and dam construction, both positively and negatively. However, the water conflicts of the Lancang-Mekong region have been long-term hotspot issues in the region. From the perspective of Lancang-Mekong water resources cooperation, it is necessary to rethink the existing cooperation and conflict management mechanisms to promote regional peace. All in all, according to the media's report analysis, the main issues of water conflicts include the concerns of dam construction and climate change, which affect sub-regional ecosystems and may impact the sustainable livelihoods of local communities. Second, civil society in the lower Mekong countries thinks of LMC as primarily a state-centered water cooperation decision-making mechanism that lacks consensus and knowledge sharing with local communities.

## 6. LEGISLATIVE RECOMMENDATIONS

Following the analytic context, this paper argues that regional mechanisms such as LMC can be good examples of water governance academic research. The Food and Agriculture Organization (FAO) Chief Economist Maximo Torero points out there are three main influences on water management, which are the technical and management, institutions and legal frameworks, and the overall policy environment [50]. Given the inadequacy of the existing mechanisms and the unsystematic legal framework, this paper proposes several recommendations for future cooperation in the Lancang-Mekong Basin. The proposed recommendations are based on the relevant international law, declarations, and conventions, such as the Convention on the Law of the Non-Navigational Uses of International Watercourses, the Agreement on the Cooperation for the

Sustainable Development of the Mekong River Basin, the Sanya Declaration, the Five-Year Plan of Action on Lancang-Mekong Cooperation (2018-2022) [51], and the Charter of the United Nations. They are all significant jurisprudential bases for this paper's legislative recommendations. In the end, the legislative recommendations may be able to deepen the performance of the cardinal principles of international water law in a flexible way, which is helpful to construct the legal personality of LMC.

### **6.1 Hybrid Information and Data Sharing Mechanism**

Hybrid information sharing could succeed in coalescing riparian countries to work together on basin governance, reflecting a higher level of institutionalization of the basin organization and making it operate more effectively. The sharing of hydrological information is a prerequisite for equitable and reasonable use of shared river resources, a guarantee not to cause significant harm to other countries, and a cornerstone of international cooperation in developing international rivers. Riparian states may share information about the condition of the watercourse by regularly exchanging available data and information, as permitted by UN Watercourses Convention Article 9 [27]. For example, China cooperates with the MRC on hydrological data exchange. The MRC and China inked a deal in 2020 to exchange data on river levels and rainfall from two monitoring stations in Manwan and Jinghong twice a day all year long. The CEO of the MRC Secretariat, Jeremy Bird, said:

“It was very positive news that China was providing hydrological data to the MRC secretariat, as it showed China's willingness to work with downstream countries in the basin, and it is a good example of regional cooperation [52].”

This action can deepen cooperation within the Lancang-Mekong water to build hydrological information and data cooperation. However, as hydrological information is a matter of national security, there should be relevant regulations on the contents of sharing and retention, the scopes of information utilization after sharing, and the other countries' fulfillment of confidentiality obligations. As regards whether these cooperation mechanisms should be mandatory or flexible, this paper considers that flexible cooperation mechanisms are currently more in line with the basin reality.

### **6.2 Notification and Consultation Mechanism for the Proposed Project**

Issues relating to water quantity allocation and utilization are among the most critical ones, which can lead to conflicts and anti-regional cooperation and involve intricate issues that are simultaneously political and value-conflicting. International water laws have a range of fundamental procedural norms, the core of which is “notification.” In

international judicial decisions, the extent to which a riparian country has complied with its notification obligation often becomes a crucial factor in determining the legitimacy of its actions in international water-related disputes.

In the case of MRC, the definition of Prior Consultation in Chapter II of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin requires that information on water utilization data be provided to the Joint Committee for the evaluation of the impact of proposed water use by the riparian members, including prior notification, consultation, transboundary environmental impact evaluation, allocation of benefits, liability, and compensation for transboundary damage of the proposed project, need to be elaborated to achieve a balance between the interests of socio-economic development and environmental sustainability of riparian countries. According to Article 17 of the UN Watercourses Convention, each riparian state should, in good faith, give reasonable consideration to the rights and legitimate interests of the other state during consultations and negotiations [27]. On these points, the agreement highly matches the principles of LMC, which is mutual consultation and coordination, and also meets the principle of equitable and reasonable utilization and avoiding significant harm to other states under international water law. However, it also needs to consider the potential impacts and relationship of notification obligation to territorial sovereignty.

Briefly, the early fulfillment of the notification obligation contributes to establishing the legal status of “existing utilization” for development projects in an upstream or a downstream country. Without formal notification to the country concerned, it will not be able to enjoy any preferential rights and interest in a project that has been made public by other countries. In other words, a country may only take into account those planning and construction projects that already exist and is not obliged to consider the potential significant adverse effects of projects that are carried out without notification and consultation in advance [53].

### **6.3 Environmental Monitoring and Supervising Mechanism the Actions of Riparian Members**

According to the Five-Year Plan of Action on Lancang-Mekong Cooperation (2018-2022), Lancang-Mekong countries will develop and improve water quality monitoring systems and strengthen data and information sharing. The mechanism for quality monitoring and supervising is the “insurance” for achievements of legal framework building. Lancang-Mekong countries might be tempted to ignore the interests of other countries in pursuing their interests, so unilateral development of water resources needs to consider the impact of their developing actions on other basin countries to improve the inclusiveness and



reciprocity of development practices. The experience in Europe, such as the case of the Rhine River, although the Convention for the Protection of the Rhine (CPR) mechanism is not applicable to the current circumstances of the Lancang-Mekong basin countries, highlights the technical and supervisory natures is vital to the success of the Rhine cooperation mechanism. The International Commission for the Protection of the Rhine (ICPR) has a multitude of technical and professional coordination working groups, including working groups on water quality, ecology, discharge standards, flood protection, and sustainable development planning. Apart from these, the ICPR maintains independent observer groups of governmental and non-governmental organizations, which supervise whether the development and utilization practices of each participant align with the corresponding plans. It is also very effective to integrate influential forces that would otherwise be independent of the mechanism into it [54]. However, it is important to note that the influence of other countries or external forces on the impartiality of the monitoring mechanism in the region needs to be taken into account. The consideration of others by member states often depends on the capacities of the regional organization to supervise the actions of member states and to carry out environmental monitoring of the basin. Particularly, the behavior monitoring of member countries is part of the legalized process of governance mechanisms regarding the subregional reality, the practice the practice of supervising and monitoring mechanisms should be flexible.

#### **6.4 Hybrid Dispute Resolution Mechanism**

The hybrid dispute resolution mechanism established based on international norms is an imperative auxiliary mechanism when encountering political resistance to pursuing the law's necessities. The past practice of international dispute settlement by basin countries shows that some countries are reluctant to submit their disputes to a third-party settlement and strongly prefer to rely on political methods to resolve international disputes. Creating dispute settlement mechanisms that hybrid political and legal methods would be more acceptable to the subregional countries in this situation. The hybrid method of dispute settlement, which integrates political and legal methods, requires disputes between disputing countries to first resort to political methods to find a solution, namely to try to resolve disputes through negotiation, consultation, good offices, and mediation. For example, under the current LMC framework, member countries cooperate through the principles of consensus, equal treatment, voluntary participation, consultation and coordination, and joint construction and sharing, in particular honoring the international law, the UN Charter, the ASEAN Charter, and respecting each member nation's laws, rules, and procedures [9].

In cases where political methods of settlement fail to resolve a dispute, a legal method of settlement based on

international law should be engineered to ensure the efficiency and effectiveness of the dispute resolution mechanism, conciliation procedures, or arbitration proceedings under the auspices of a conciliation commission could both be considered. Some disputes in the Lancang-Mekong countries are obviously characterized by factual disputes. For instance, China and the downstream countries have different interpretations and facts regarding evaluating the impact of the Chinese hydroelectric projects on the downstream countries. Creating an evidence-based conciliation committee would be highly conducive to resolving disputes between the disputing countries on issues of fact.

#### **6.5 Multi-participatory and Consultative Decision-making Mechanism**

Sebastian Biba thinks that China can focus on “王道 - Wangdao” (benevolent rule) to address the Mekong River issue with positive leadership, especially by creating equitably distributed public goods and encouraging key stakeholders to participate in the decision-making process [55]. Encourage the participation of multiple actors in the governance of the basin; for example, in addition to the Lancang-Mekong states, encourage more riparian stakeholders, such as local communities and NGOs [20], to participate in the LMC's water resources cooperation and public decision-making process can promote scientific, democratic and transparent decision-making in the basin, and enhance the level of compliance or support of the member countries to the relevant resolutions and rules of the basin governance, as such good water governance in the basin could be improved. The Five-Year Plan of Action on The Lancang-Mekong Cooperation (2018-2022) also explicitly mentions leveraging resources of trustable non-governmental institutions/organizations, which can play the role of third-party supervision. As UN Secretary-General Kofi Annan said:

“The world's water issues should not just be a source of tension; they can also be a catalyst for cooperation. If we work together, we can have a secure and sustainable water future [56].”

#### **6.6 Improve the Scientific and Reasonable Watershed Eco-Compensation Mechanism**

From a strategic policy-making perspective, water allocation and exploitation are readily made inefficient by water pricing that must accurately reflect the resource's worth [57]. The economic model refers to the use of economic trade-offs of benefits by the economic value of water, combined with marketized trading of water rights and benefit-sharing of hydropower, to enable basin countries to improve water resource utilization. This includes using market-driven tools for water allocation, as well as means of economic compensation or benefit offsetting, and project-

led voluntary cooperation between the actors so that risks and benefits are shared. A scientific and reasonable watershed eco-compensation mechanism can be used as a fundamental one that considers upstream and downstream socio-economy interests and promotes equitable and sustainable utilization of resources [58]. In general, there are different types of watershed eco-compensation mechanisms, including compensation for the benefit of downstream countries and the use of facilities. However, some key points need to consider when establishing the watershed eco-compensation. For instance, the watershed eco-compensation requires straightening the relationship among the responsible actors. Wang also summarized five key points of establishing the watershed eco-compensation: selecting the suitable eco-compensation methods determining the watershed scales, identifying the key stakeholders and the responsible actors, negotiating and producing a compensation standard, and designing watershed eco-compensation policies [59].

In the riparian reality, it is difficult to demand compensation in monetary terms, considering the social and economic development differences between the riparian countries. Therefore, this paper argues that the LMC can establish a scientific and reasonable watershed eco-compensation mechanism to coordinate environmental/economical impact between upstream and downstream countries. In addition to being consistent with the equality principles of international law, it might also be helpful to enhance the sense of riparian community likewise.

### **6.7 Media Supervision Mechanism Based on Scientific Research and Evidence**

According to the Five-Year Action Plan on Lancang-Mekong Cooperation (2018-2022), which mentions cooperation matters on media, countries in the basin will strengthen cooperation among mainstream media and publish official information on social media platforms. In practice, based on comparative media analysis, it can be seen that today's Lancang-Mekong water resources cooperation still has the potential to be a more science-based information exchange platform, and current public opinion is often published through the official website of the LMC or third-party media. Researchers from Tsinghua University and the University of Queensland, who conducted a quantitative study of the news media about the Lancang-Mekong River, suggested that the future of the Lancang-Mekong River will depend on the cooperation of the countries along the river to manage these resources [60]. Compared to other subregional cooperation mechanisms, the public information platform building on the Lancang-Mekong water resources cooperation does not fully match the actual development achievements. As Professor Lv Xing of Yunnan University believes, a professional and scientific research mindset can guarantee transparency in cross-border collaboration and

assist in clearing up misconceptions. Dr. Carl Middleton, a scholar at Chulalongkorn University, suggested that:

“...scientific research and knowledge can bridge our understanding of natural phenomena and socially constructed narratives, thereby reducing conflict [61].”

Meanwhile, establishing a scientific and pragmatic media platform for the Lancang-Mekong water resources cooperation will support the implementation of the good subregional governance mechanisms and recommendations mentioned above and improve the legal framework and communication channels for regional water resources management.

## **7. CONCLUSION**

The Lancang-Mekong Basin has complicated hydropolitics and environmental challenges. In addition to regional economic and social cooperation, strengthening transboundary water governance is crucial to ensure peaceful relations between upstream and downstream countries. This paper discusses the importance and potential of improving legal mechanisms for water governance under the LMC framework. In the context of increasingly intense geopolitical pressures and climate change, promoting the cooperation and coordination between LMC with other regional mechanisms and building the legal framework for sustainable water management among the Lancang-Mekong countries through respecting domestic law, international law, and Charter of ASEAN are the keys to promoting equitable regional development. As such, it is necessary to establish a transparent, accountable, and scientific-based Lancang-Mekong water resources governance mechanism by improving the legal framework for dealing with disputes, thereby promoting the implementation of the UN Sustainable Development Agenda. In terms of future regional development, LMC legal framework docking with multiple relevant stakeholders and institutions could demonstrate the open regionalism highlighted by initiatives and a legislative channel to reach the “institutional coordination” to overcome the “institutional congestion” and “institutional competition”.

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