EAST ASIAN DEVELOPMENT NETWORK

EADN WORKING PAPER No. 115 (2017)

Regional Legal Framework for Good Cooperation on Trans-boundary Water Resources in the Mekong River Basin

Nguyen Thi Diu

Regional Legal Framework for Good Cooperation on Trans-boundary Water Resources in the Mekong River Basin

Researcher: Nguyen Thi Diu, MA on International Relations

Table of contents

Abstract

The Mekong River, the 12th longest river in the world and the largest water resource in Southeast Asia, flows through China, Myanmar, Laos, Thailand, Cambodia and Vietnam. Livelihoods and cultures of more than 60 million people living in the Basin are intimately connected with the river's natural cycles. However, today the Mekong's water resources are threatened by extensive and largely uncoordinated development. Especially, development of hydropower has accelerated markedly and controversially. Two of the highest controversial development projects causing environmental and social concerns in Southeast Asia most recently are Xayaburi and Don Sahong dams in Laos. The challenge in sustainable hydropower development in the Mekong River basin will therefore be to reconcile conflicts between sectorial water use strategies, between local livelihoods and national development objectives, and between the Mekong countries with regard to their national water use objectives. Prospects for conflict, environmental security, and human displacement loom large. International and regional laws and institutions have sought to address the risks associated with these developments. The key regional legal instrument is the 1995 Mekong Agreement, signed by the four governments of Cambodia, Laos, Thailand and Vietnam. Up to now, the four signatories to the Agreement have a history of cooperation spanning many decades. In theory, the Mekong Agreement is the strongest available framework for promoting cooperation around use of the critically important Mekong River Basin. In practice, however, the Mekong legal regime illustrates the myriad problems encountered in trans-boundary management of the basin. MRC's authority was weakened by Laos' unilateral action on the Xayaburi and Don Sahong. The Mekong Agreement has conventionally faced criticism for being too soft and lacking sufficient legal teeth for its provisions to be enforceable, and therefore does not have the tools to adequately promote the substantive achievement of its objectives, and its few hard provisions have not been utilized[1].

Development pressures are growing and the need for cooperative development amongst all riparian countries has never been greater. Therefore, a more comprehensive legal regime is needed to manage the Mekong River Basin and to shift the paradigm of the Mekong legal regime toward sustainable development. The Mekong country governments need to re-engage and review the legal frameworks and institutions. Cooperation in water resource exploitation and management can significantly increase benefits to all riparian states while reducing the potential for negative transboundary impacts. Also, sharing of costs and benefits of development projects in the basin can generate win-win situations for the shared-river states.

[1] See Bennett L Bearden, 'The Legal Regime of the Mekong River: A Look Back and Some Proposals for the Way Ahead' (2010); Water Policy <http://www.iwaponline.com/wp/toc.htm>.

Key words: Mekong legal framework, Chronology of Mekong cooperation, mainstream dams, gaps and weaknesses, soft law, harder law, trans-boundary cooperation

Acknowledgements

First of all, I would like to express my thanks to the East Asian Development Network (EADN), a network of research institutions in developing countries of East Asia for this small grant so that I could make this research possible.

Special thanks are extended to my advisor, Mr. Dang Dinh Bach, Director of LPSD, for his valuable direction and secondary documents during the past time

I am also grateful to my mentor, Professor Gonzalez, from the Asian Center of the University of the Philippines, for his sage advice and guidance during the implementation of this paper.

Special thanks are also extended to groups of international experts, Ms. Anna Felicio and Mr. Phillip Magiera from GIZ-Mekong Cooperation Program, Mr. Iain M.Watson from ADB, Mr. Daniel King from EarthRights International, etc., for their valuable time for my interview, their assistance with figures for this paper, and for their introducing me to their colleagues for the interview.

In addition, I am also deeply appreciative supports from the MRC team in Vientiane and national experts from Vietnam, Thailand, Laos, and Cambodia in enthusiastically providing me with the data.

Last but not least, the research findings and analysis presented here could not have been possible without the interest, insights, and support of numerous individuals and institutions. I am especially grateful to their valuable contributions to my research.

Abbreviations

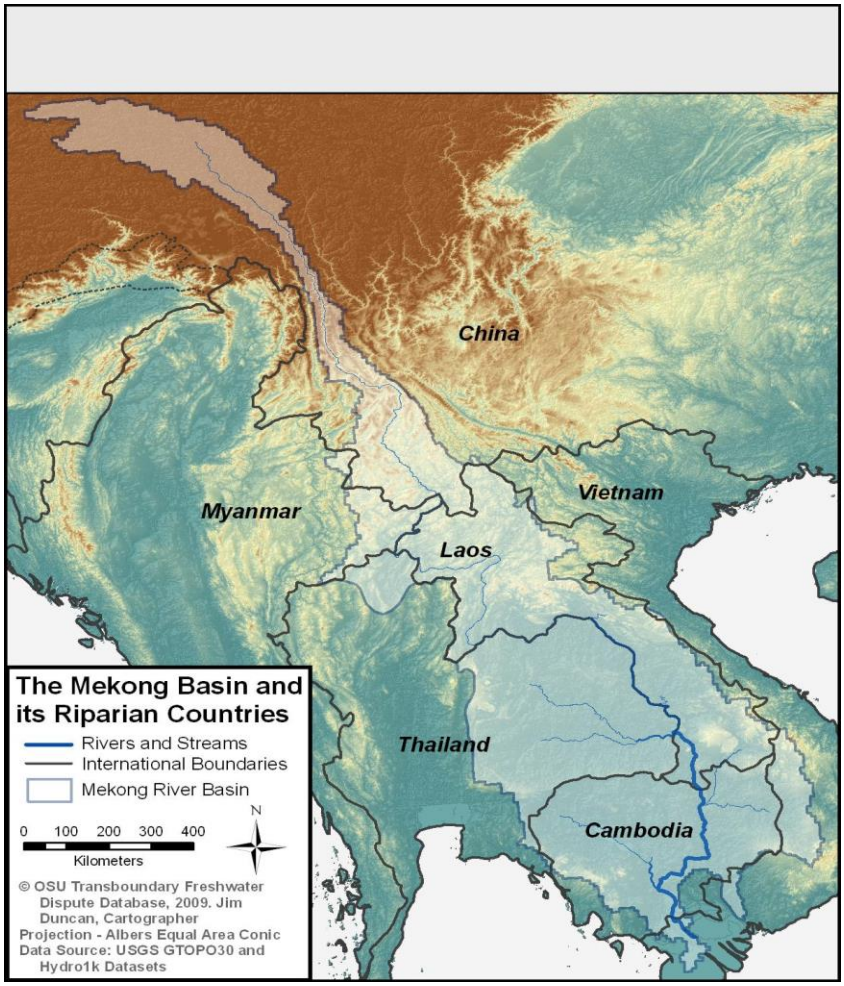
ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ASEM	The Asia-Europe Meeting
ASEAN	Association of Southeast Asian Nations
ARF	ASEAN Regional Forum
CNMC	Cambodia National Mekong Committee
CRN	A French consulting firm named Compagnie Nationale du Rhône
DSH	Don Shahong
EGAT	Ministry of Energy's Electricity Generating Authority of Thailand
EIA	Environmental Impact Assessment
ICEM	the International Center for Environmental Management
IWRM	Integrated Water Resource Management
JC	Joint Committee
LMB	Lower Mekong Basin
LMRB	Lower Mekong River Basin
LNMC	Lao National Mekong Committee
MA	1995 Mekong Agreement
MFCB	Mega First Corporation Berhad
MRB	Mekong River Basin
MRC	Mekong River Commission
MRCS	Mekong River Commission Secretariat
PNPCA	Procedures for Prior Notification, Consultation and Agreement
PPA	Power Purchase Agreement
RBOs	River Basin Organizations
RBS	River Basin
SEA	Strategic Environmental Assessment
SIA	Social Impact Assessment
TNMC	Thailand National Mekong Committee
TEAM	Team Consulting Engineering and Management Company Limited
UNDP	United Nations Development Program
1997 UNWC	The 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses
VNMC	Vietnam National Mekong Committee
WWF	World Wild Fund

I. INTRODUCTION

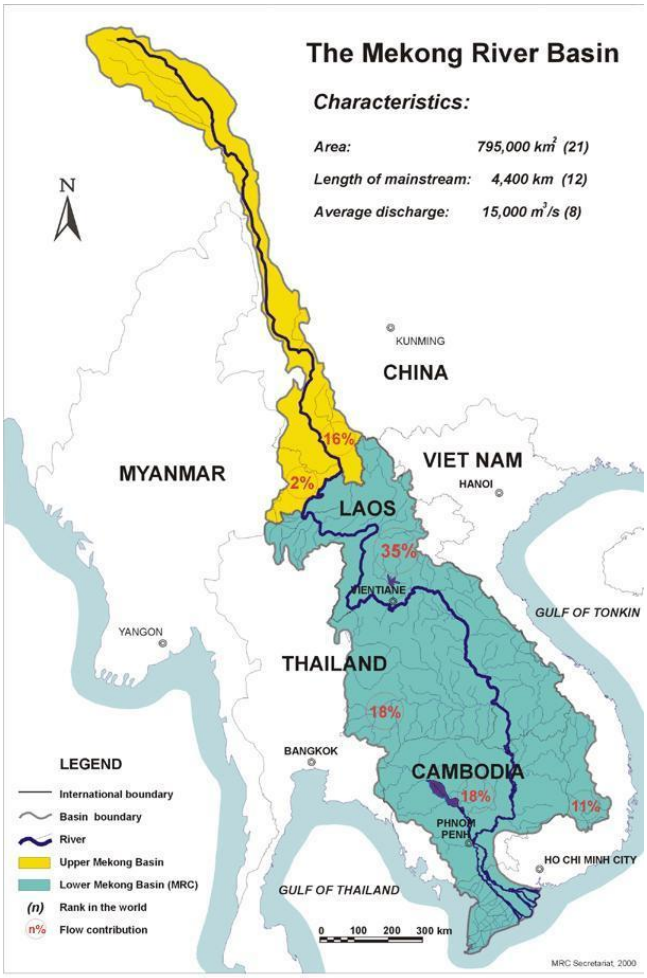
Transboundary River and Lake Basin Organizations (RBOs) in the world are seen as a cornerstone of the institutional framework for transboundary water management, and in many instances play an important role in regional-level natural resources management, even development at large. Given that water is a resource crucial to many uses yet often limited in availability, institutionalized cooperation is often the solution to water uses that could otherwise become conflictive.

The Mekong River, the 12th longest river in the world[2] and the largest water resource in Southeast Asia, flows through China, Myanmar, Laos, Thailand, Cambodia and Vietnam.

Map of the Mekong River



[2] MRCS 1992



Source: G. Radosevich

It is the largest inland fishery in the world and an essential part of the region's food supply. It is high in biodiversity levels, (second highest in the world, after the Amazon) and home to an estimated 1,500 different species of fish. Livelihoods and cultures of more than 60 million people living in the Mekong Basin are intimately connected with the river's natural cycles.

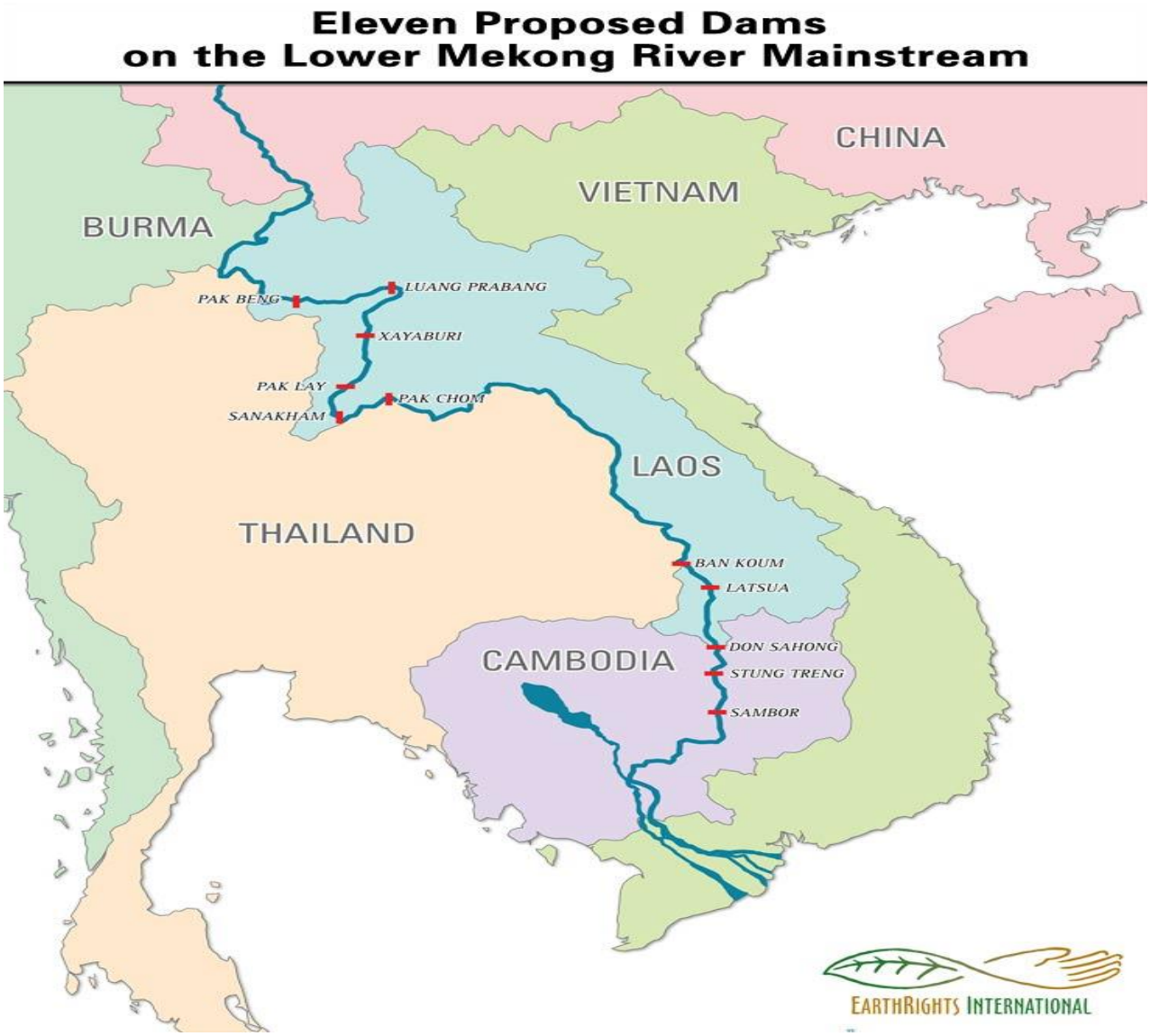
However, today the Mekong's water resources are threatened by extensive and largely uncoordinated development. The countries sharing the Mekong River Basin have different long-term major national uses for the river. China, the most upstream state, sees the upper Mekong primarily as a source of hydropower and as a trade route. One reservoir has already been constructed, a second one has just been finished, and six more are proposed in a cascade of eight dams. Also, a channel improvement project for navigation by removing obstructions is contemplated to allow transit of ships. If such a project is to proceed, it will have profound ecological, social, and economic consequences for the river and the people. Myanmar, the next downstream state, shares a relatively small part of the basin within its territorial boundaries and its use of water mainly for irrigation would have insignificant impact in the context of the basin-wide usage pattern. Laos also sees the Mekong primarily as a source of hydropower. Hydro-generated electricity is seen as an export product, which the government of the Lao PDR

believes to have a major growth potential, with markets, primarily in Thailand and Vietnam[3]. Thailand is primarily interested in Mekong River as a water source. There is likely to be increased pressure to use the Mekong and its tributaries for irrigation in northeast Thailand. For Cambodia, the main value of the Mekong is the fishery. Vietnam relies on the Mekong for water to support the rice crop in the Mekong Delta.

At the LMRB itself, significant development of the basin's water resources in Viet Nam and Thailand started in the 1960s, and is only recently accelerating in Cambodia and Laos[4]. Most recently, development of hydropower has accelerated markedly and controversially, under the dominant belief that a region with significant numbers living in poverty must develop its water resources to create wealth. Hydropower is seen to play an increasingly important role in the Mekong basin as the riparian countries seek to meet their rapidly growing demand for energy and to provide an alternative to dependency on fossil fuels. Besides, the Mekong countries aim to use this hydropower potential to promote socioeconomic development and welfare in the region. With dams from the Upper Mekong in China's Yunnan Province, major hydropower and development projects proposed or underway in Thailand, Laos, Cambodia and Vietnam, particularly a cascade of 11 dams in the LMB mainstream were submitted by different riparian countries (two were underway, others were proposed) and a high number of dams are planned to be constructed in the LMB tributaries by 2030[5], the Mekong ecosystem is under threat, as are the livelihoods of people who depend on fish and other riverine resources. Moreover, lowered water levels and declining fish catches have been reported in recent years, which can significantly impact on living standards and public health. China's pursuit of large-scale hydropower development on the river in the upper Mekong region has become a point of contention over recent years. A partially completed cascade of eight dams on the Lancang (upper Mekong) River has provoked strong opposition by a variety of individuals, NGOs, and governments. Such large-scale development works on the river could alter the river's flow regime with a Mekong River Basin and the livelihoods of millions who depend on it. Some reports have indicated that the scheme will drastically change the river's natural flood-drought cycle and block the transport of sediment. These environmental potential to threaten the complex ecosystem of changes will have the potential to affect the livelihoods of millions of people living downstream in Myanmar, Thailand, Laos, Cambodia, and Vietnam. Additionally, various other development projects carried out in the Mekong region have also raised the attention of downstream users, environmentalists, and the general public on the harms caused in the form of deforestation, depletion of wildlife habitats, and other adverse environmental impacts. Two of the highest controversial development projects causing environmental

[3] See Hydropolitical vulnerability and Resilience along International Waters – Asia, United Nations Environment Program, (2009)
[4] MRC source- Regional Benefit Sharing brochure v95 12 Nov 2014
[5] MRC Basin Development Plan (2011)

and social concerns in Southeast Asia most recently are Xayaburi and Don Sahong dams in Laos.



Source: Earthrights International

The challenge in sustainable hydropower development in the Mekong River basin will therefore be to reconcile conflicts between sectorial water use strategies, between local livelihoods and national development objectives, and between the Mekong countries with regard to their national water use objectives. Reflecting this, the Mekong is both a uniting and dividing force for Southeast Asia and the focus of various initiatives in the areas of good water governance and sustainable development. It is also the central character in a drama of international politics. Prospects for conflict, environmental security, and human displacement loom large. Poor water management can contribute to social and interstate conflict and human insecurity. Experts say that, the struggle for access to natural resources, market competition, territorial exploitation and unresolved

damages by upstream-downstream development to the environment and livelihood of downstream inhabitants could, if not properly addressed, increase the level of interstate conflict. Risks of conflict are exacerbated as surplus extraction for energy development creates wealth for some at the expense of others. There are transnational problems of equitable distribution of both water and beneficial uses of it. These are just some of the risks with which the many stakeholders active in the region have been attempting to grapple.

International and regional laws and institutions have sought to address the risks associated with these developments. The key regional legal instrument is Mekong Agreement 1995, signed by the four governments of Cambodia, Laos, Thailand and Vietnam, which established a transboundary institution, the Mekong River Commission (MRC), to promote cooperation in the sustainable development, utilization, management and conservation of the Mekong. Myanmar and China are not members of the Mekong River Commission, they just hold observation status. Myanmar accounts for only two percent of the Mekong's water, but like China, lacks transparency in its actions that affect riparian neighbors[6]. Although China is the most upstream country, it has often been considered to exhibit unilateral behavior toward the lower Mekong River Basin. Further, its vote against the 1997 UN Convention and its dam development in the upper Mekong without notification to the downstream countries all add to its being viewed as being unilateral in harnessing the water resources in the Mekong region[7].

With the signing of the 1995 Agreement, increased importance has been put on ensuring the delicate balance between socioeconomic development and the need for environmental protection and maintenance of the ecological balance of the river basin. The MRC also coordinates sustainable development, utilization, management, and conservation of water and related resources of the basin. In theory, the Mekong Agreement is the strongest available framework for promoting cooperation around use of the critically important Mekong River Basin. In practice, however, the Mekong legal regime illustrates the myriad problems encountered in trans-boundary management of the basin. Take the cases of the Xayaburi and Don Sahong dams that are under construction in the mainstream of the Mekong River by Laos's government. In November 2012, the Lao government held a groundbreaking ceremony for the controversial Xayaburi Dam, and began openly building on the Mekong River. This is the first dam proposed for the Mekong mainstream and is a significant test for the Agreement 1995. The Thai government agreed to buy 95% of the dam's electricity and announced its support for the project, although many of its own citizens are likely to be harmed. The Cambodian and Vietnamese governments remain concerned that the project will cause significant

[7] (Onishi, 2005); Hydropolitical vulnerability and Resilience along International Waters – Asia , United Nations Environment Program, (2009)

impacts on their own people living downstream. With millions of people depending on the Mekong River for their livelihoods, the controversial Xayaburi Dam has become one of the world's highest profile water disputes. Similarly to the Xayaburi, Laos is pressing forward on the Don Sahong dams in the Mekong River without approvals of its neighbors. The Mekong Agreement 1995 stipulates that the countries would consult each other before beginning any project with significant impacts on the river, and it entitled MRC to oversee the process. But MRC's authority was weakened by Laos' unilateral action on the Xayaburi and Don Sahong, which violated the ten-year moratorium on mainstream dam construction recommended by the MRC in 2010. Those things are regarded as violations of the Mekong Agreement. The Mekong Agreement has conventionally faced criticism for being too "soft": it is mostly drafted in "hortatory"[8] language to encourage member states to work together for the sustainable development of the river, but it lacks sufficient legal teeth for its provisions to be enforceable, and therefore does not have the tools to adequately promote the substantive achievement of its objectives, and its few hard provisions have not been utilized[9]. Instead, the Mekong Agreement largely relies upon informal procedures approved by member states, which are unlikely to be enforceable[10]. Nor has the Mekong Agreement been consistently implemented in national legislation of member states.

When considering the status of the Mekong Agreement, it should be remembered that other cooperation mechanisms on Mekong water resources are also existing, such as: Lancang-Mekong River Cooperation Mechanism among all six riverine countries; the Agreement on Commercial Navigation on the Mekong-Lancang River; the Agreement on the Provision of Hydrological Information of the Lancang/Mekong River in Flood Season by the People's Republic of China to the MRC and so on.. The Agreement on Commercial Navigation on the Mekong-Lancang River exists within the region, among China, Thailand, Burma and Laos, concerning dredging the river for the purposes of navigation, aimed eventually at ensuring that larger commercial ships can pass from Yunnan Province in China to Luang Prabang in Laos. This agreement, which was signed in 2000 and excludes Cambodia and Vietnam, could possibly pose a challenge to the MRC, and may create difficulties for downstream producers who may face increased competition from China. The dredging could also result in severe downstream ecological effects.

The relative 'softness' of regional law has not been supplemented by 'harder' international treaty law: the Watercourses Convention has not yet achieved sufficient ratifications by Mekong countries; only Vietnam ratified it. Nor has any Mekong country signed the Espoo Convention (or Convention on Environmental Impact Assessment in a

[8] Phillip Hirsch et al (2006)
[9] Bennett L Bearden (2010); Water Policy <http://www.iwaponline.com/wp/toc.htm>.
[10] Hirsch et al; Or Law on the Mekong River Basin – A social legal research agenda, page 5

Trans-boundary Context), which requires member states to take measures to prevent, reduce and control certain adverse transboundary impacts. Mekong governance is, however, set against the wider background of international environmental norms concerning sustainable development issues.

Experts say that dam projects will ignite a legal battle over the future of the Mekong River. Development pressures are growing and the need for cooperative development amongst all riparian countries has never been greater. It is argued that a more comprehensive legal regime is needed to manage the Mekong River Basin and to shift the paradigm of the Mekong legal regime toward sustainable development. Therefore, there is an urgent need to build up a good regional legal framework for a better cooperation among the shared-river states and for sustainable development in the region.

I.1. Literature Review

So far, there might have been somewhere researches on the Mekong legal framework, Mekong cooperation and the Mekong River Commission from international scholars and experts. However, the information gap between countries, regions and groups concerned about the Mekong legal regime is still quite big. While decisions in the basin regarding food, energy, biodiversity conservation and water are well documented, much about Mekong legal regime remains to be thoroughly investigated.

The report by Sabine Brels, David Coates and Flavia Loures (2008) on " transboundary water resources management: the role of international watercourse agreements in implementation of the CBD11" explains why biodiversity conservation and sustainable use present a powerful argument to manage transboundary waters better, how regulatory frameworks to achieve this can be improved and why doing so fulfils commitments made under the Convention on Biological Diversity. Susanne Schmeier's article on "Regional Cooperation Efforts in the Mekong River Basin: Mitigating river-related security threats and promoting regional development"[12] assesses the contribution of the Mekong River Commission and the Greater Mekong Subregion to the sustainable development of the Mekong Region as well as to the promotion of regional cooperation in mainland South-East Asia in general.

In looking at the history of Mekong cooperation, although not expressly referencing a "legal geography" perspective, George Radosevich's (1995) Draft Commentary and History on the Agreement on Cooperation for the Sustainable Development of the Mekong River Basin provides insight into the underlying diplomatic relationships and geopolitical concerns that shaped the formulation of the 1995 Mekong Agreement. Philip

[11] Convention on Biological Diversity

[12] Susanne Schmeier is a PhD Candidate at the Berlin Graduate School for Transnational Studies at the Hertie School of Governance (HSoG) in Berlin, Germany.

Hirsch and at all (2006) developed a summary of the history of Mekong cooperation and the MRC's establishment and role in practice.

The emerging literatures on "gaps and weaknesses of Mekong legal framework", Daniel King (2011); Browder, G. & Ortolano, L. (2000); Bennett L. Beardena, b (2010) combine the insights on how the 1995 Mekong Agreement is compliant and how the transboundary institutional framework – MRC work. Sneddon and Fox (2006) highlight how the 1995 Mekong Agreement can be used to construct and "reinvent" particular, state-centric understandings of the Mekong River. At a more practical level, they problematize the complex interactions and struggles between regional, national and local scales of governance. Correspondingly, in their institutional analysis of the Mekong River Commission, Hirsch and Morck Jensen (2006, pp. xvii-xviii) draw attention to the narrow scope and scalar bias of the 1995 Mekong Agreement. In line with previous observations (Mitchell 1998, pp. 77-79; Hirsch 1999, p. 400), Hirsch and Morck Jensen argue that the Mekong region's diverse array of government agencies, private companies, environmental groups and local communities are not adequately represented by the "single, reductive descriptor" of national interest. Developing this line of argument, Molle, Lebel and Foran (2009, p. 406) conclude that state-driven development proposals and basinwide planning strategies tend to focus on (narrowly conceived) economic benefits while causing negative local impacts to be downplayed and "scaled out".

Although most of the water war studies focus on the Middle East, the Mekong River Basin (MRB) has also often been referred to as a basin likely to experience major conflicts (Wolf, Yoffe, & Giordano, 2003). The Mekong Basin has even been suggested as "Asia's new battleground" (Chellaney, 2011). Especially in the early 1990s, water was perceived as one of the resources most prone to conflict, with various authors forecasting the emergence of water wars (Starr, 1991; Bulloch & Darwish, 1993; Frey, 1993; Gleick, 1996; Butts, 1997). Other scholars have explored the nature of issues in water conflicts and cooperation in international basins more directly. Water scarcity, in particular, has featured prominently as a key issue in efforts to explain conflict and cooperation while some studies have suggested that insufficient access to water can lead to conflict. Environmental security approaches (Homer-Dixon, 1991, Homer-Dixon, 1994; Bächler, Böge, Klötzli, Libiszweski, & Spillmann, 1996; Gleditsch, 1998; Carius & Lietzmann, 1999) have emphasized the strong link between environmental degradation and conflicts. They argue that increasing stress on natural resources and the environment is likely to lead to an intensification of collective action problems, possibly responded by vulnerable states through conflict or even war. Also, tensions between dam development and fisheries and local communities have been increasing in recent years (Sneddon and Fox, 2006; Foran and Manoram, 2009). Some researches underscore fears of increasing hydropolitical tensions that may lead to war between Mekong nations (Macan-Markar, 2009; Hoyle, 2010; Mony, 2011). However, Stahl (2006) has found that interstate

political interactions around water have been relatively cooperative over time. Kirby et al. (2010) argue that the tensions of hydropower development and climate change are unlikely to be principal drivers of international conflict in the Mekong. Other studies have also suggested that interstate tensions can be mitigated in the basin, citing some combination of "the complex interdependencies that exist among the Mekong countries" (Hirsch, 2004; Ravnborg, 2004; Macquarrie et al., 2008; Keskinen et al., 2008).

Philip and his colleagues (2006) also analyzed the issues beyond national interests in the Mekong. Richard Cronin and Timothy Hamlin (2012) briefly explained how incentives drive defection from agreements when pointing out Lao PDR's ambition to be the "Battery of Southeast Asia" and discussing Thailand's Electricity Market and EGAT's structural incentives to build capacity. The authors also mentioned that plans for the construction of up to 12 mainstream dams on the Lower Mekong are testing the strength and effectiveness of the 1995 Mekong Agreement.

These literatures provide an interesting framework for explaining how different types of knowledge can be used to rationalize the status, gaps and compliance of the existing Mekong legal framework. Taken together, these sources offer a useful starting point for a more detailed, empirical research on the regional legal framework for a better cooperation in the Mekong region.

To date it has been unclear what impact(s) international and regional laws and trans-boundary legal institutions have had, and are having, on decision-making and governance in the Mekong. The absence of any rigorous, critical mapping of the normative networks of the Mekong – particularly their transnational dimensions – has permitted widespread reliance upon untested assumptions, with little attention to the legal influences by which those networks and assumptions have, in part, been shaped. Importantly, the author has not seen any research that comprehensively assesses the chronology of Mekong cooperation process together with the gaps and weakness of the current Mekong legal regime and develops solutions for good Mekong cooperation, especially any research from citizens of the Mekong countries. To acquire a better understanding of the Mekong legal regime, this research will provide an opportunity to gather data and overviews, from a large existing knowledge base. Therefore, the researcher wishes to develop a good picture of Mekong legal regime and solutions for better Mekong cooperation. Additionally, regarding the novelty, the research will analyze how national interests conflict with the regional cooperation.

I.2. Research questions

(i) How does the chronology of Mekong cooperation process look like through the historical record of the negotiations that describes what the parties intended when they drafted the Agreement?

(ii) What are the gaps and weaknesses of the current Mekong legal regime?

(iii) What are solutions for good Mekong cooperation?

I.3. Objectives

This research aims to:
(i) Analyze the gaps and weaknesses of the existing Mekong legal framework; and
(ii) Find solutions for better cooperation among the riverine countries on exploitation and using of the shared river.

I.4. Scope of the research

This is a small grant funded by the East Asian Development Network (EADN) that aims to strengthen the capacity of young, independent researchers and institutions in East Asia to undertake high quality, development-focused and policy-relevant research in the social sciences.

Mekong legal framework is a broad topic to discuss and analyze. However, due to the constraints of the budget and the scope of the small grant, the research cannot fully cover in-depth technical knowledge. It is also not aimed to address the technical problems in the Mekong region like economics, environment, agriculture, and biodiversity but it aims to (i) analyze the weaknesses of the existing Mekong Legal framework in relation to the signatory countries' exploitation and using of the transboundary water resources from the shared river that results in regional water conflicts, and (ii) to develop solutions to address the problems.

As the research is made in a small grant scope, mistakes and lacking of exhaustive knowledge are unavoidable. The author welcomes and highly appreciates constructive feedback and comments from experts and readers so that a more comprehensive research could be made possible in the future.

I.5. Methodologies

I.5.1 Collation of available literatures and reports

During the preparation stage of the research, secondary data were collected and reviewed to enhance the researcher's insights on the context of the study and related stakeholders, and thereby facilitate identification of potential interviewees and framing of appropriate interview questions. Moreover, the data were also analyzed and quoted as evidences as necessary.

The document sources were meeting reports, workshop reports, official reports, unpublished documents, some previous researches and articles from published media and websites, the approved agreement, procedures and guidelines of the Mekong River Commission, profile of the proposed Xayaburi and Don Sahong projects and others.

I.5.2. Case studies

The existing Mekong legal framework, particularly Mekong Agreement 1995, is analyzed to find its weaknesses and the gaps between theory and practice through an analysis of two case studies of Xayaburi and Don Sahong dams.

I.5.3. Interviews

The informants identified and interviewed represents diversified angles, such as MRC experts, international experts, national experts, NGOs, non-signatories to the Mekong Agreement from the upper Mekong, and academics, in order to obtain more comprehensive points of view.

Face to face interviews were conducted during the field trips to the MRCS office, by attending international workshops on the topic, and by appointments with experts. Some interviewees were also contacted by phone and email in order to clarify their points when necessary.

Through the interviews with these key informants, the researcher was further recommended and connected to other interviewees knowledgeable on the issues. Moreover, during the interviews, more documents were also gathered from the interviewees. All secondary data were used to supplement, compare, cross-check and clarify the findings from the interview discussion.

I.6. Significance and policy relevance of the research

(i) The research will add to our understanding of the current legal framework and to an improvement of cooperation among the riverine countries on exploitation and using of the shared river.

(ii) The research examines how national interests conflict with regional cooperation in the Mekong River Basin.

II. CHRONOLOGY OF MEKONG COOPERATION

This section first briefly canvasses the international law of watercourses and sets out a short history of the Mekong cooperation process. Although the Mekong regime has had its share of trials and setbacks over the decades, its structure and turbulent history provide insights on how to build water management regimes. This article examines the Mekong regime and shows how changes in water management practices, regional geopolitics, and international development assistance have affected the regime.

II.1. Lower Mekong River Basin's cooperation mechanism

From a historical perspective of socioeconomic development, the processes of cooperation, negotiation, and mediation in the development of the lower Mekong region reflected the differences in the actual development needs of the riparian countries, their

perception of development opportunities, and their political rapports and international political environments.

The present Agreement 1995 has a drawn-out negotiation and drafting history. It is a framework agreement that embodies many of the principles of the United Nations' 1997 Convention on the Law of Non-Navigational Uses of International Water Courses. In 1945, at the end of World War II, the Mekong River was little understood. With support from the UN, a regional committee was established in 1947[13]. After the Second World War, the United Nations established a number of regional bodies, including the Economic Commission for Asia and the Far East (ECAFE) that included the Mekong River Basin (MRB)[14]. As early as the 1950s, joint river basin management efforts developed in the MRB, particularly through initiatives of the US and UN Economic Commission for Asia and the Far East (UN-ECAFE). Then, the thrust derives from the studies of the early 1950s focusing on flood control and development of the basin's water resources[15]. The first report on flood control and river development was produced in 1952[16]. ECAFE's Bureau of Flood Control investigated the potential for integrated development in the LMRB and outlined in a 1952 report the Basin's water resource development potential[17]. In 1954, Cambodia, Laos and Viet Nam achieved independence from France pursuant to the Geneva Accords. The United States Bureau of Reclamation issued a follow-up report in 1955, confirming ECAFE's findings, and urged the formation of an international river basin organization[18]. In 1955, the US Bureau of Reclamation embarked on studies of the river and completed a report that made a number of recommendations on the necessity of collecting data on hydrology, meteorology, hydrography, topography, sedimentation, and geology. It also suggested studies on agriculture, fisheries, navigation, and education[19]. In 1956, the UNESCAP Secretariat prepared plans for a team of seven experts to carry out a field reconnaissance on the basin's potentialities with respect to hydropower, irrigation, and flood control. The survey was carried out in close cooperation with the four riparian countries, and resulted in a report entitled "Development of Water Resources in the Lower Mekong Basin"[20]. The report provided a conceptual framework for planning the development of the river basin as "an integrated system." The report advocated an international approach to Mekong River development by calling for the four riparian countries to cooperate closely

[13] MRC resource - Regional Benefit Sharing brochure v95 12 Nov 2014
[14] The case study: *In-Depth Analysis for the Mekong River Basin: Observations on the 1995 Agreement on the Cooperation for Sustainable Development of the Mekong River Basin System*.
[15] United Nations Economic Commission for Asia and the Far East (ECAFE) 1957; Mikiyau Nakayama, "Aspects Behind Differences in Two Agreements Adopted by Riparian Countries of the Lower Mekong River Basin" (1999) 1 Journal of Comparative Policy Analysis (Kluwer) 293-308 at 294-295.
[16] MRC resource - Regional Benefit Sharing brochure v95 12 Nov 2014
[17] ECAFE, Preliminary Report on Technical Problems Relating to Flood Control and Water Resources Development of the Mekong: An International River (New York: United Nations, 1952).
[18] Mekong River Basin, Agreement & Commission Case Study. Available at NEGOTIATE Toolkit Case Studies http://www.iucn.org/about/work/programmes/water/resources/toolkits/negotiate
[19] Tri Le-Huu and Lien Nguyen-Duc. Mekong Case study. Water Resources Section, Division of Environment and Sustainable Development, UN-ESCAP
[20] Tri Le-Huu and Lien Nguyen-Duc

in data collection, planning, and development. This was essential for success as several major projects were located on the boundaries of two member countries and some projects, though located within a single country, could nevertheless benefit neighboring countries by supplying water for irrigation, regulating flow, allowing increased power production downstream, reducing flood losses, and improving navigation. In 1957, one of these studies called for "(1) establishment of an international channel or clearinghouse for the exchange of information and coordination of projects, and (2) the signing of a convention and establishment of a permanent body for the development of the basin."[21] Up to now, the four states of the LMRB have a history of cooperation spanning many decades.

The first decades of Mekong cooperation from the 1950s till the early 1990s were constrained by conflict and political turmoil. The lauded 'Mekong Spirit' has endured the death throes of colonialism, wars of 'national liberation'[22] and even the clashing commitments of ideology evident in the LMRB today[23]. This research divides the history of Mekong cooperation into four temporal periods, each reflecting a framework tailored to changes in geopolitical and socioeconomic settings. These periods are: (1) 1957–1975: Mekong Committee, Mekong Statute and Water Charter; (2) 1975–1978: the Joint Declaration; (3) 1978–1995: Interim Mekong Committee; and (4) 1995–present: 1995 Mekong Agreement. From scientific and engineering perspectives, water resources management has been the primary focus in the Mekong cooperation regime. Financially, the Mekong regime has been held together by external donors and international assistance[24].

1957–1975: Mekong Committee, Mekong Statute and Water Charter

The first period in the evolution of Mekong cooperation is referred to here as the Mekong Committee era. This era commenced in 1957 amid Cold War politics, under the auspices of the UN Economic Commission for Asia and the Far East[25] program, and ended in 1975 as a result of the second Indochina War[26]. Most of this period was focused on formation of the Committee for the Coordination of Investigations of the Lower Mekong Basin[27] (Mekong Committee - MC). In 1957, representatives from the governments of Cambodia, Laos, South Vietnam, and Thailand met in Bangkok to discuss the UN report[28]. On September 17, 1957 these parties, under the auspices of ECAFE, endorsed the Statute of the Committee for the Coordination of Investigations of the Lower

[21] United Nations Economic Commission for Asia and the Far East (ECAFE) 1957; Mikiyau Nakayama, "Aspects Behind Differences in Two Agreements Adopted by Riparian Countries of the Lower Mekong River Basin" (1999) 1 Journal of Comparative Policy Analysis (Kluwer) 293-308 at 294-295.
[22] Khruschev Report, 1961
[23] McCaffrey, 2007
[24] McCaffrey, 2007
[25] ECAFE, renamed the Economic and Social Commission for Asia and the Pacific (ESCAP) in 1974
[26] Browder & Ortolano, 2000
[27] Bennett L. Beardena (2010)
[28] ECAFE, Cambodia, Laos, Thailand and Vietnam Joint Meeting on the Lower Mekong Basin, 20-23 May 1957: Conclusions and Recommendations (Bangkok: United Nations, 1957).

Mekong Basin (the "1957 Statute"), creating the Mekong Committee. The term "Lower Mekong Basin" was used because China and Burma were not members of the Committee[29]. The 1957 Mekong Statute represented the first constitutional document for the Mekong regime, and the first UN attempt to directly and continuously support planning and development of an international river basin[30], focused primarily on economic development in the LMRB and gave scant regard to environmental and social issues. The Committee was developed as its centerpiece a plan for a Mekong cascade of large dams and reservoirs on the river's mainstream, the impetus of which was strong US influence[31]. The mandate of the Mekong Committee was limited to planning water resource development although it was generally hoped that someday the Mekong regime would also assume responsibility for the construction and operation of water projects[32]. The functions of the Mekong Committee were to "promote, coordinate, supervise and control the planning and investigation of water resources development projects" in the LMRB[33]. Also, it was empowered to perform four other following functions[34]:

(i) Prepare and submit to participating governments plans for carrying out coordinated research, study and investigation;

(ii) Make requests on behalf of the participating governments for special financial and technical assistance, receive and administer separately such financial and technical assistance, and take title to such property, as may be offered under the technical assistance program of the United Nations, the specialized agencies and friendly governments, or other organizations;

(iii) Draw up and recommend to participating governments criteria for the use of the water of the main river for the purpose of water resources development; and

(iv) Employ on behalf of the participating governments, personnel to assist the Committee in the performance of its functions[35].

In its early years, the MC was very active in fulfilling those high expectations, undertaking several studies on the opportunities to exploit the Mekong in order to foster growth[36]. Throughout the 1960s, the Mekong Committee was engaged in a massive program of water resource investigation and planning. The international community, spearheaded by the United States, appeared ready to invest in the Mekong reservoir cascade. The fashionable Tennessee Valley Authority (TVA) project was emblematic of

[29] MEKONG SECRETARIATTHE MEKONG COMMITTEE: A HISTORICAL ACCOUNT (1957-1989) 10-11 (1989).
[30] Browder and Ortolano, The Evolution of an International Water Resources Management Regime, at 505, in White & Case LLP, International Waters: Review of Legal and Institutional Frameworks (UNDP-GEF International Waters Good Practices Project) Draft – 25 February 2010(White and Case 2010) 243.
[31] Bennett L. Beardena (2010)
[32] Browder, supra note 6, at 39-40.
[33] According to Article 4 of the 1957 Mekong Statute
[34] Bennett L. Beardena (2010)
[35] Article 4
[36] Susanne Schmeier. She is a PhD Candidate at the Berlin Graduate School for Transnational Studies at the Hertie School of Governance (HSoG) in Berlin, Germany. Her research focuses on international environmental politics, transboundary natural resources and international rivers, particularly in South-East Asia. Contact: schmeier@transnationalstudies.eu

the ideal program in integrated basin development and was envisioned for the Mekong to 'lift the region out of poverty'[37]. Accordingly, President Lyndon Baines Johnson[38] decided to overlay the Mekong with a TVA-type development template[39]. In 1965, President Johnson, in a speech delivered at Johns Hopkins University, promised $1 billion in development aid for mainland Indochina focusing mainly on the Mekong program[40]. In 1966, U Thant, the United Nations Secretary General, described the Mekong project as one of the most important actions ever undertaken by the United Nations[41].

In 1970, the Mekong Committee unfurled the Indicative Basin Plan, which spelled out the construction for the mainstream reservoir cascade"[42]. Following the publication of a report about an Indicative Basin Plan, a framework for development in the LMRB, the Mekong Committee commenced work on a draft Water Charter in 1971. By 1972, almost USD 70 million had been spent on planning and investigation work, and USD 150 million had been invested in infrastructure projects, primarily small reservoirs on tributaries to the Mekong River in Laos and Thailand[43].

The United States was the largest contributor, granting almost $40 million to the Mekong regime[44]. Thailand, the focus of much of the planning and construction work, spent $62 million on activities related to the Mekong regime[45]. In 1973, the Mekong Committee began formulating a plan for water use and flow when the US offered assistance in drafting rules for water utilization[46]. The jewel in the crown of the cascade, and the first mainstream project slated for construction, was the Pa Mong multipurpose reservoir project. In 1975, the Water Charter was drafted and completed[47]. Later that year, in preparation for Pa Mong, and other mainstream projects, the LMRB states adopted a revised version of the Water Charter as the 1975 Joint Declaration of Principles for Utilization of the Waters of the Lower Mekong Basin (1975 Joint Declaration) to replace the 1957 Mekong Statute[48]. After intensive negotiations[49], the Mekong Committee members agreed that all mainstream, major tributary and inter-basin diversions would require the unanimous approval of the Mekong Committee prior to implementation[50]. In retrospect, the 1975 Joint Declaration has proved to be the most progressive agreement

[37] Browder and Ortolano, 2000.
[38] The 36th President of the United States from 1963 to 1969.
[39] Browder and Ortolano, 2000.
[40] Browder, supra note 6, at 47; Hudde, supra note 33, at 5.
[41] Mekong Secretariat, supra note 43, at 3.
[42] Mekong Secretariat, supra note 43, at 4247; U.S. Dept. of Interior, Bureau of Reclamation, Pa Mong Project: An Executive Summary of the Bureau of Reclamation's Stage One Feasibility and Phase II Studies into the Viability of Establishing a Dam, Reservoir and Power-generating Facilities on the Mekong River in Southeast Asia 1 (1973).MEKONG RIVER
[43] Greg Browder and Leonard Ortolano*
[44] Greg Browder and Leonard Ortolano*
[45] Greg Browder and Leonard Ortolano*
[46] Pichyakorn, 2005
[47] Mekong Committee, 1973; Pichyakorn, 2005
[48] Pichyakorn, 2005; Greg Browder and Leonard Ortolano*
[49] See generally Letter from Northcutt Ely, attomey appointed for drafting 1975 Joint Declaration, United Nations, to Greg Browder, author (1997)
[50] See 1975 Joint Declaration, supra note 69, at art. 1(12).

ever concluded by the LMRB states. Although the Mekong Committee's 1975 Joint Declaration may seem to undermine the principles of national sovereignty, it was drafted in the context of the mainstream reservoir cascade, which promised to bring substantial benefits to each of the four countries[51]. Unfortunately, the 1975 Joint Declaration was simply signed by the LMRB states as a "declaration of intent" and never ratified, and accordingly was not an enforceable treaty.[52]. Nevertheless, the 1975 Joint Declaration represented a milestone in the evolution of the Mekong regime, and its principles would become the focus of controversy in the 1990s.

Noteworthy during the Mekong Committee era was the establishment of the four National Mekong Committees (NMCs) which has remained an important part of the Mekong legal regime up to the present time. The Mekong Committee era came to an abrupt end in 1975 when the Khmer Rouge wars took place.

1975–1978: The Joint Declaration

As is well-known, the political situation in Cambodia, Laos and Vietnam from 1975 became such that it was not possible to give adequate effect to the 1975 Declaration, although an Interim Committee was established, with limited effect, by Thailand, Laos and Vietnam in 1977-1978.

In Browder's in-depth analysis of the LMRB states' negotiations, he concluded that the 1975 Joint Declaration was "a milestone in the evolution of the constitutional framework of the Mekong regime for three reasons": first, it expanded the regime's authority from merely planning in the 1957 Mekong Statute to regulation of water resources projects; second, it became a great source of controversy in the 1990s; third, the principles embodied in the 1975 Joint Declaration became the focus of negotiations for the 1995 Mekong Agreement[53].

Certainly, the 1975 Joint Declaration became one of the most important instruments concluded by the LMRB states because it incorporated many of the most progressive principles of the law of international watercourses which were eventually included in the 1997 UN Convention. Equitable and reasonable utilization[54] and pollution prevention[55] were key concepts in the 1975 Joint Declaration[56]. The framework of the 1975 Joint Declaration was subdivided into three sections governing water utilization: Section B: Mainstream[57], Section C: Tributaries[58], and Section D: Other water resources[59] which

[51] See Browder, supra note 6, at 52-54; Greg Browder and Leonard Ortolano*
[52] Greg Browder and Leonard Ortolano*
[53] Bennett L. Beardena (2010); Browder, 1998
[54] Article V
[55] Article IV (2)
[56] Bennett L. Beardena (2010)
[57] Articles X–XX
[58] Articles XXI–XXII
[59] Articles XXIII–XXVI

insightfully included interconnected groundwater[60]. Salient provisions concerning water flow maintenance and quality[61] and misuse, waste and pollution prevention[62] were included to prevent flow regime alterations and to ensure water resources protection. The concept of equality of right was introduced as a method of water use for the Mekong mainstream[63]. In stark contrast to the 1995 Mekong Agreement in which EIAs are a non-legal binding policy, the 1975 Joint Declaration required assessments of short- and long-term ecological impacts to other basin states before undertaking mainstream projects[64]. Perhaps most importantly, the Mekong's major tributaries, the arteries which provide significant volumetric contributions to the river[65], were treated as mainstream waters[66]. Accordingly, all projects on major tributaries were subject to prior approval by all basin states[67]. In the 1995 Mekong Agreement, planned measures on tributaries may be undertaken with mere notification to the Joint Committee of the MRC[68]. As predicted by Stephen McCaffrey[69], one of the world's foremost authorities on international water resources law and Special Rapporteur for the International Law Commission's (ILC) draft articles for the 1997 UN Convention, the Article 5(A) of the 1995 Mekong Agreement was destined to cause future problems[70].

As progressive as it was, the 1975 Joint Declaration was never put into practice and unfortunately met an untimely end in that same year, largely due to the geopolitical disruptions[71] in Southeast Asia[72]. Thailand was the only state in the LMRB to stay outside communism. Not until 1978 would a new agreement emerge between Laos, Thailand and Vietnam when they concluded the 1978 Declaration Concerning the Interim Committee for Coordination of Investigations of the Lower Mekong Basin (1978 IMC Declaration)[73].

1978–1995: The Interim Mekong Committee

A new framework for the Mekong regime based on post-war politics and socioeconomic settings was established in 1978 with the formation of the Interim Mekong Committee (IMC) by the representatives from Laos, Thailand, and Vietnam with assistance from the United Nations' Economic and Social Commission for Asia and the Pacific (ESCAP, ECAFE's successor)[74]. Cambodia, under the rule of the Khmer Rouge, pursued a policy

[60] Articles I(2) and XXIII
[61] Article IV (1)
[62] Article IV (2)
[63] Article XI
[64] Article XVII
[65] Toda et al., 2004; Hirsch & Jensen, 2006
[66] Article XXI
[67] Article XX
[68] Article 5 (A)
[69] Stephen McCaffrey[69] (2007)
[70] Bennett L. Beardena (2010)
[71] Khmer Rouge war
[72] Bennett L. Beardena (2010)
[73] Bennett L. Beardena (2010)
[74] See Declaration Concerning the Interim Mekong Committee for Coordination of Investigations of the Lower Mekong Basin, Jan. 5,1978, Laos-Thailand-Vietnam [1978 IMC Declaration].

of self-reliance and was not inclined to join international organizations such as the Mekong Committee[75]. The term "interim" was used because it was hoped that Cambodia would someday rejoin the Mekong regime[76]. The new role of the IMC enabled it to concentrate on food and power production, flood control, and navigation. The establishment of the IMC necessitated the reorganization and restructuring of the national Mekong committees and the Mekong secretariat. It also maintained the cooperation among riparian countries and financial support from the international community.

The newly formed IMC got off to a rough start due to the Khmer Rouge war in Cambodia in late 1978, less than one year after the IMC had been created[77]. Besides, the larger ideological and military struggle in the region was transferred to the IMC, and meetings between delegations from Thailand, Vietnam, and Laos were often acrimonious and non-productive[78]. Inspire of these difficulties, the Mekong regime survived, thanks to the neutral sponsorship of the United Nations Development Program (UNDP) and donor assistance[79]. European donors, especially the Nordic countries, became the main benefactors of the Mekong regime. The United States ceased all assistance to the Mekong regime following the end of the Vietnam War in 1975, a policy that remained in effect until 1999[80]. The IMC postponed work on mainstream projects, and instead concentrated on data collection, training and projects within a single country[81]. The IMC limped along on a much reduced budget, averaging only around USD 5 to USD 8 million per year, as opposed to averages of around USD 20 million during the Mekong Committee era[82].

Although the concept of a mainstream cascade endured as a long-term objective, the IMC era emphatically shifted the focus of development in the LMRB to national projects. Renewed nationalism coupled with China's plan for its own Mekong cascade, a series of eight hydroelectric dams on the Lancang Jiang in Yunnan Province, signaled the end of the IMC era in 1992[83]. The IMC era is regarded as a period of interruption of the development of international watercourse law in the LMRB[84]. However, several important environmental programs were initiated by the IMC, including review of EIA policy and establishment of a water quality monitoring network[85].

---

[75] See Chandler, supra note 36, at 236-73.
[76] See Browder, supra note 6, at 59.
[77] Greg Browder and Leonard Ortolano*
[78] Greg Browder and Leonard Ortolano*
[79] See Mekong Secretariat, supra note 43, at 51, 72.
[80] See Pachoom Chomchai, The United States, The Mekong Committee and Thailand: A Study of American Multilateral and Bilateral Assistance to Northeast Thailand since the 1950s (Asian Studies Monograph No. 051,1994).
[81] See Mekong Secretariat, supra note 43, at 52.
[82] See Browder, supra note 6, at 62.
[83] Bennett L. Beardena (2010)
[84] Bennett L. Beardena (2010)
[85] Pichyakorn, 2005

In the post-Cold War era of the 1990s, there was a strong need for redirection in water resources management in the LMRB[86]. Cambodia was seeking re-admission into the Mekong regime[87] and the Chinese Mekong cascade was imminent. Seemingly, these events opened up possibilities for renewed cooperation in the LMRB. The three IMC states anticipated the reentry of Cambodia into the Mekong regime, and the Chinese expressed an interest in data sharing with the IMC[88]. By 1990, the Mekong regime's original reasons for joint project promotion became blurred, and the LMRB states began pursuing national water resources development plans[89]. Consequently, the Mekong regime needed to be restructured. Water allocation became the emerging issue for each country.

The pro-western government of Thailand, beginning to realize financial independence and eager to begin national dam projects, was determined to thwart the 1957 Mekong Statute and 1975 Joint Declaration unanimity rule[90] whereby one country could effectively veto another country's water projects[91]. Thai officials also wanted China incorporated into the regime because of the Chinese Mekong cascade project's potential impacts on Thailand[92]. Vietnam, alarmed that Thai water diversions might potentially affect mainstream flow and harm agriculture via saltwater intrusion into the Mekong delta, advocated a return to the 1957 Mekong Statute and 1975 Joint Declaration rules whereby all proposed projects were subject to unanimous approval[93]. This conflict between Thailand and Vietnam over the structure of a new Mekong regime almost collapsed the Mekong regime in 1992[94].

In the early 1990s, when the scale of the Chinese hydropower development plans became evident, Thai authorities wanted China to participate in the Mekong regime[95]. The Vietnamese negotiators preferred to first negotiate the Mekong Agreement, and then invite the Chinese and Burmese governments to join the Mekong regime[96]. The Thais reluctantly agreed to the Vietnamese proposal, and after the establishment of the MRC, one of its highest priorities was to solicit the involvement of China and Myanmar[97].

A compromise plan was agreed upon in late 1992, whereby the four lower basin countries, Cambodia, Laos, Thailand, and Vietnam, would first agree to negotiate a new framework of cooperation for the Mekong regime[98]. With support from the UNDP, the

[86] Bennett L. Beardena (2010)
[87] Interim Mekong Committee, 1991
[88] Bennett L. Beardena (2010)
[89] Browder, 1998
[90] Makim, 2002
[91] Handley & Hiebert, 1992
[92] Browder, 1998
[93] Browder & Ortolano, 2000
[94] Chaipipat, 1992
[95] See Supapohn Kanwerayotin, The Mekong: More of a Liability than an Asset? BANGKOK POST, Mar. 2,1992. ; GREG BROWDER & LEONARD ORTOLANO*
[96] Greg Browder and Leonard Ortolano*
[97] Greg Browder and Leonard Ortolano
[98] (Browder, 1998)

four LMRB states set up a working group to draft a new agreement in 1993 and 1994. The Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin or 1995 Mekong Agreement, signed on April 5 1995, took 21 months to negotiate, superseding the 1975 Joint Declaration and ushered in the MRC era. The negotiators for the Mekong Agreement faced a dilemma: in an era of growing water scarcity they needed to fashion a new framework for the Mekong regime that protected the interests of all parties. Among other concerns, the Vietnamese wanted to at least maintain the existing dry season flows into the Mekong Delta so that they would be able to sustain rice harvests and combat salinity intrusion[99]. The Lao were intent on preserving the dry season navigability of the Mekong River, which serves as Laos' main transportation artery[100]. The Cambodians wanted to protect the hydrological and ecological integrity of the Tonle Sap Lake by ensuring sufficient reverse wet season flows from the Mekong River into the Tonle Sap[101]. Negotiations on the agreement had been very difficult also due to disagreements between Thailand and Vietnam on potential veto rights and on binding principles of water use. Only the active promotion of negotiations by the United Nations Development Program (UNDP) finally made an agreement possible[102]. The 1995 Mekong Agreement signaled the start of a new era of Mekong Cooperation. The Agreement is a comprehensive and country-owned treaty between the four independent nations sharing the Lower Mekong Basin.

The Agreement established the Mekong River Commission (MRC), the basin's joint institution, which attempts to balance the maintenance of water quantity with preservation of water quality.

China, the regional hegemon and uppermost riparian, and Myanmar chose not to participate. After a number of exploratory meetings, China and Myanmar became official dialogue partners with the MRC in late 1996[103]. As dialogue partners, representatives from China and Myanmar have the right to attend Joint Committee and Council meetings and voice their governments' opinions. In addition, the establishment of two working groups with members from the MRC, China, and Myanmar were authorized in mid-1996; one group concerned hydrology and the other focused on navigation[104]. The Chinese government is particularly interested in using the Mekong River as a navigation route into Southeast Asia and exporting hydropower to the region[105]. Neither the Chinese nor Myanmar governments, however, appear enthusiastic about moving beyond the

[99] See Browder, supra note 6, at 130.
[100] Greg Browder and Leonard Ortolano *
[101] Greg Browder and Leonard Ortolano
[102] Browder, 2000; Menniken, 2006; Susanne Schmeier
[103] See Don Pathan, Burma Wins MRC Entry with China, Nation Newspaper Bangkok), Nov. 1, 1996; Greg Browder and Leonard Ortolano*
[104] See Browder, supra note 6, at 232.; Greg Browder and Leonard Ortolano*
[105] See Kulachada Chaipipat, Mekong River Pact to be Signed Today, Nation Newspaper (Bangkok), Apr. 20, 2000.

dialogue process and signing the Mekong Agreement, thereby becoming full-fledged MRC members[106].

There might be a number of reasons why China refused to sign the 1995 Mekong Agreement. First, the Chinese government regarded the Agreement belong to the LMRB part among the four lower countries (China calls Mekong River); while China belongs to the upper part (China calls Lancang River). Second, the Chinese government would probably be reluctant to jeopardize its ambitious hydropower development program on the upper Mekong River by subjecting itself to the MRC rules on water utilization[107]. Third, China was only one of three governments to vote against the 1997 United Nations Convention on the Non-Navigational Uses of International Water Courses[108] that originated the Agreement. Fourth, the Chinese government can probably achieve many of its objectives, such as improving navigation on the Mekong River, through the dialogue process without having to legally bind China to the Mekong Agreement requirements[109]. Fifth, the Agreement was developed with support from UNDP, and about 90 percent of funding for MRC comes from international donors, so it would be difficult for a giant state like China to make its own way.

1995–Present: 1995 Mekong Agreement

The 1995 Mekong Agreement sets forth a general framework for water resources use and development. The Agreement reinforces the commitment to cooperation by the signatory states and directs the MRC to formulate subsidiary agreements related to in-stream flows and procedures for the review of proposed water uses. The major principles of the 1995 Mekong Agreement are: peaceful resolution of disputes; freedom of navigation; reasonable and equitable utilization of Mekong waters; state responsibility for injurious activities; and environmental integrity of the Mekong River including maintenance of its natural flows.

Areas of cooperation identified in the agreement include irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation and tourism. The parties agree to cooperate with regard to these activities 'in a manner to optimize the multiple-use and mutual benefits of all riparian and to minimize the harmful effects that might result from natural occurrences and manmade activities'. They further agree to protect the environment and ecological balance of the Mekong River Basin, and to 'utilize the waters of the Mekong River system in a reasonable and equitable manner.' Other substantive provisions relate to such issues as maintenance of flows on the mainstream, state responsibility for damage, freedom of navigation and emergency situations. These

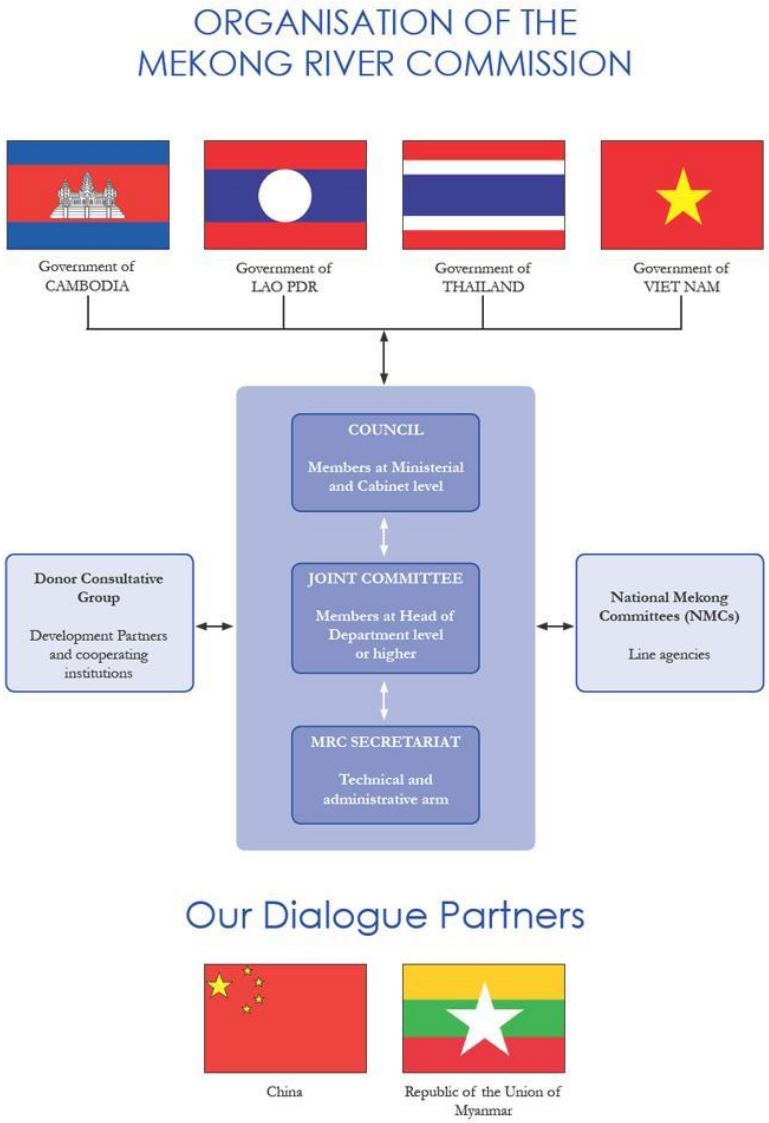
[106] See Academic: China Will Not Join Mekong Body, Bangkok Post, Apr. 24, 1996.
[107] Greg Browder and Leonard Ortolano*
[108] See United Nations: Convention on the Law of the Non-Navigational Uses of International Watercourses, 36 I.L.M. 700, 700 (1997).
[109] See Don Pathan, China Balks at Taking the Plunge, Bangkok Post, Apr. 11 1996.

areas of cooperation, then, are the very essence of the 1995 Mekong Agreement, but they also reflect the range of issues facing the LMRB states as these developing countries enter the 21st century with its attendant environmental challenges at the intersection of international water law and policy.

The Mekong River Commission (MRC)

In 1995, under the 1995 Mekong Agreement, the Mekong Committee was replaced by a new institutional framework for cooperation in the Mekong River Basin, which was called the Mekong River Commission. For the purpose of the exercise of its functions, it will enjoy the status of an international body, including entering into agreements and obligations with donors and the international community.

The MRC consists of three permanent bodies: the Council, the Joint Committee (JC), and the Secretariat.



Source: MRC

The Council, which meets at least once a year, is the policy-making body of the MRC and is composed of one representative at the cabinet or ministerial level from each MRC member government. It is responsible for policy decisions on the highest level. It develops policies, frames issues and provides overall guidance of the MRC[110]. The Joint Committee, which meets at least three times per year, is the operational decision-making body of the MRC and consists of one official at the department head level from each MRC member government. The JC, which meets biannually, is responsible for operationalizing the Council's general strategy into specific projects and implementing the Council's decisions. It also has some limited arbitral and judicial functions[111]. The primary functions of the Secretariat are to procure international assistance, administer projects, provide technical and administrative services to the JC and Council, formulate an annual plan and report, maintain and update a technical information database and implementing projects[112]. The Secretariat is supervised by the JC[113] and headed by a Chief Executive Officer (CEO)[114] who is a foreigner from one of the external donor countries, a feature of the MRC which augers well for neutrality[115]. The Secretariat works with the NMCs in each LMRB state. In general, MRC's task is "to promote, support, cooperate and coordinate in the development of the full potential of sustainable benefits to all riparian states and the prevention of wasteful use of MRB waters, with emphasis and preference on joint and/or basin-wide development projects and basin programs through the formulation of a basin development plan"[116].

The MRC has a mandate under the Agreement to develop a Basin Development Plan (BDP) to promote the coordinated development and management of water and related resources at the basin level using the principles of Integrated Water Resources Management (IWRM).

Immediately after its establishment in 1995, the MRC identified its two highest priorities as (i) drafting the basin development plan (BDP), and (ii) formulating subsidiary agreements on the Rules for Water Utilization[117]. As of early 1999, the MRC has made some progress on both endeavors[118]. Because the MRC relies on international donors to fund its projects, it must find donors willing to undertake a long-term and major commitment to support its operation and the basin development plan.

In all, the multilateral 1995 Mekong Agreement and the robust, well-funded joint institution that it erected, the MRC, have been lauded as a 'model for the world'[119]. The

[110] Article 18
[111] Article 24(F)
[112] Articles 28 & 30
[113] Article 28
[114] Article 31
[115] McCaffrey, 2007
[116] Mekong River Commission, 1995, chap. 3, art. 2
[117] Incorporating both Articles 5 and 6; See Browder, supra note 6, at 225.
[118] GREG BROWDER & LEONARD ORTOLANO*
[119] MRC, 2008a

Agreement, the MRC and its attendant 'Mekong Spirit' have seemingly triumphed to the present day as emblems of what a transboundary watercourse agreement and river basin commission should be. It is noteworthy that "in the Third World, the Mekong basin stands out as a glowing example of the most extensive involvement by the international community in efforts to develop an international river basin"[120]. The Agreement has at its core the concept of sustainable development, and it was the first transboundary watercourse agreement to adopt this paradigm[121]. On its conclusion in 1995, the Agreement was lauded as the most progressive of institutional frameworks for the governance of an international watercourse[122]. It also was viewed by the donor community as a constructive state-of-the-art development framework with a primary concern for the environment and the peoples whose livelihoods depend on the river[123]. The MRC has been regarded as relatively successful in mitigating conflicts and maintaining cooperation in the basin[124]; and it has been seen as a hub for information and knowledge generation, and the institution to link regional and national development in the basin[125]. However, the mere adoption of a paradigm does not guarantee that it will be implemented. The practice in the Mekong regime illustrates this well[126].

II.2. Other Cooperation Mechanisms Relating to Water Resources in the Mekong River Basin

II.2.1. Agreement on Commercial Navigation on the Mekong-Lancang River

Because the MRC becomes no longer the only institutional mechanism in the region to promote economic development, new partnerships have emerged such as the one with the Greater Mekong Sub-region (GMS). The GMS not only deals with water sector issues but also with broader issues like navigation in which the Chinese have a vital interest. Consequently, these partnerships open new vistas for communication between China and the LMRB states in which the downstream countries can leverage navigation issues to promote transboundary governance of the Mekong[127].

Growing trade by river transport since the 1970s between China, Myanmar, Thailand and Lao PDR led to negotiations during the 1990s, under the rubric of the GMS program, for the Agreement on Commercial Navigation on the Mekong–Lancang River, which concluded in April 2000 to develop the shared river for international passenger and cargo transport, with a view to promoting and facilitating trade and tourism and to strengthening cooperation on commercial navigation. The volume of trade in various

[120] Elhance, 1999
[121] Pichyakorn, 2002
[122] Jacobs, 1994; MRC, 1995
[123] Phillip-GIZ. Assessment of RBO-Level Mechanisms for Sustainable Hydropower Development and Management
[124] Jacobs, 2002; Ha, 2011; Macquarrie et al., 2008
[125] Lauridsen, 2004
[126] Bennett L. Beardena (2010), Sections 4 and 5
[127] Bennett L. Beardena,b (2010)

goods between the four uppermost Mekong countries has since increased significantly; but that agreement has also let to the dynamiting and dredging of certain sections of the river to improve navigation safety, thereby altering the river's hydrological and ecological system to a certain degree[128].

The agreement essentially paved the way for a three phase program to dredge and blast the rocks and rapids in the Mekong River over a stretch of 886 kilometers of the Mekong River between Simao Port in Yunnan province and Luang Prabang, Lao PDR to allow for the passage of larger cargo boats over the majority of the year[129]. This Agreement relates to Chinese developments on the Lancang-Jiang (upper Mekong) in the form of navigation and hydropower projects: the Upper Mekong Navigation Improvement Project (UMNP) and the planned cascade of eight dams in Yunnan.

The navigation project aimed to improve the ability of commercial vessels to navigate the Mekong and Lancang Rivers from Yunnan Province into downstream countries. Chinese interests in the navigation project are in part driven by its desire to develop Yunnan and other western provinces that have lagged behind the boom of Eastern coastal provinces, a neglect that has been seen as a cause of unrest inland. For the other three signatory states, a key motivating factor was the improvement of trade relations with the large neighboring economic power[130]. Plans for the navigation project detailed three stages of project implementation involving the blasting of rapids, reefs and shoals, dredging of the river channel and the establishment of canals. The first stage aimed to enable passage of vessels up to 150 tons while the second and third phases aimed to allow navigation by boats of 300 and 500 tons respectively. However, the project was declared finished after implementation of only the first two stages, following protests in Thailand by communities opposed to further rapids blasting – particularly of Kaeng Phii Long[131].

Although development in China is legally outside the jurisdiction of the MRC, controversy over the quality of the EIA for the navigation project resulted in a request from member nations for MRC assistance. The MRC commissioned an independent assessment of the report in 2001 which found that the EIA was "substantively inadequate and in many places fundamentally flawed".

Apart from that, Chinese hydropower projects involve the construction of up to 8 large dams. This "Mekong Cascade" aims to take advantage of the steep topography of the riverine environment in Yunnan and is to be constructed on a 750 km stretch of river

[128] Apichai Sunchindah (2013).
[129] Carl Middleton (2011)
[130] Philip Hirsch, May 2006
[131] Philip Hirsch, May 2006

with an 800 km drop in altitude[132]. The dams are being constructed for electricity generation to service growing populations in Yunnan Province and to support industrial and urban growth in Guangdong Province. There is also a plan to sell power from Jinghong Dam to Thailand. Proponents of the dam cascade assert that the dams will enable control of the river and an increase in dry season flows for downstream areas. Opponents, including Chinese, Thai and international civil society groups point to the negative social and environmental impacts associated with dam construction. These include problems associated with an altered flow regime including threats to biodiversity and fisheries.

Surprisingly, while China began clearing rapids, reefs and islets to facilitate river navigation more than 15 years ago, countries downstream rarely used the Mekong for transportation. Chinese fleets regularly provided their service for passengers and goods between its southern ports and Thailand's Chiang Saen. Thailand, Laos and Myanmar used only small rowboats or long-tail boats for local transportation. It is doubtful that China can unilaterally exploit the Mekong on its own terms, largely because of the LMRB states' bargaining power over much broader issues such as navigation[133].

In sum, the Agreement on Commercial Navigation on the Mekong-Lancang River illustrates the dynamics of China-lower Mekong relations and the asymmetrical power of the basin whereby the upstream nations are much stronger economically than the downstream nations of Lao PDR and Cambodia.

III.2.2. Mekong – Lancang Cooperation

The Lancang-Mekong River Cooperation[134] is a new subregional cooperation mechanism initiated by Beijing as a forum and tailored by the six countries according to their common needs. Lancang is the Chinese name for the Mekong. Although it is the same river, Beijing insisted on its version of the name being used for the forum to impose the Chinese identity in engaging with countries in the basin. Although the six countries have different national conditions, they have common cooperation needs in industrialization, infrastructure construction, upgrading industrial structure, accelerating agricultural modernization, and developing tourism, and have strong complementary advantages.

In November, 2014, Premier Li Keqiang proposed in the 17th China-ASEAN Leaders' Meeting to establish the Lancang-Mekong River cooperation mechanism which got positive response from countries along the Mekong River, and planted a plump seed for the Lancang-Mekong River cooperation.

[132] Dore, J and Yu Xiaogang (2004)
[133] Bennett L. Beardena,b (2010)
[134] Lancang-Mekong cooperation is short for the Lancang-Mekong River Cooperation Mechanism (LMCM)

In November 2015, the first foreign ministers' meeting on Lancang-Mekong River cooperation was held in Jinghong, Yunnan Province, which is a river away from Laos and Myanmar. China's Foreign Minister Wang Yi and remained five Foreign Ministers from Mekong countries attended the meeting. The concept paper on the Lancang-Mekong River cooperation mechanism and a joint press communiqué were issued at the meeting, and the Lancang-Mekong River cooperation mechanism was officially established. All sides reached wide consensus regarding the future direction, framework and other issues of the mechanism, and agreed to enhance cooperation in three key areas of political security, economy and sustainable development, social and people-to-people and cultural exchanges[135]. In this meeting, all parties put forward a number of cooperation projects on water resources, environmental protection, information communication, sanitation, poverty relief and others. The projects have been seriously discussed by related departments of all countries and are believed to be practical and people-oriented. Some projects are implemented or under implementation and some are stepping up its consultation and planning.

From March 22 to 23, 2016, the first leaders' meeting of the Lancang-Mekong River cooperation was held in Sanya, Hainan Province. Premier Li Keqiang gathered with the five leaders from countries along the Mekong River for the first time. Marking the official launch of the Lancang-Mekong River cooperation mechanism at the leaders' level, this meeting drew up the future of the cooperation, and reached a series of major cooperation proposals and results to provide political guidance and strong impetus to the Lancang-Mekong River cooperation.

In general, Lancang-Mekong River cooperation focuses on the promotion of infrastructure connectivity. The opening of Kunming-Bangkok Road, foundation laying of China-Laos Railway, and initiation of China-Thailand Railway all mark the rudiment of the middle route of Trans-Asian Railway that connects the six countries. The second-phase renovation of Lancang-Mekong channel has been launched, to further enhance its carrying capacity. Notably, water resource cooperation will be proactively carried out. Hydroelectric resources of Lancang-Mekong River will be developed, and Lancang-Mekong water resource cooperation center will be established to share information and data of the river and to jointly protect the ecological resources along the river.

II.2.3. Agreement on the Provision of Hydrological Information of the Lancang/Mekong River in Flood Season by the People's Republic of China to the MRC

[135] At the website of the Ministry of Foreign Affairs of the People's Republic of China (on 17 March, 2016). 'Five Features of Lancang-Mekong River Cooperation'

China has participated as a 'regular dialogue partner with the Mekong River Commission at yearly meetings since 1996'[136]. On 1 April 2002, China signed the agreement on the Provision of Hydrological Information of the Lancang/Mekong River in Flood Season with the MRC in Phnom Penh to provide hydrological data to the LMRB states[137]. Not until 2004 did it become operational[138]. It mainly deals with data sharing from two hydrological stations on the Upper Mekong, aiming at improving flood forecasting and flood protection for downstream states. According to this agreement, China agreed to share data on water level and precipitation over eight time periods in each day, during the summer monsoon season[139] from 2002 to 2006 for two hydrologic stations[140] on the Lancang River[141]. Data are sent daily to the MRC Secretary via e-mail from the Yunnan Hydrology and Water Resource Bureau[142]. The Agreement was renewed on August 29, 2008[143].

So far, cooperation is taking place, albeit not satisfyingly. Data is only delivered in the dry season and China retains the right to restrict the data for strategic reasons, which, occasionally happens[144]. Moreover, information from only two stations is not sufficient for comprehensive flow monitoring.

III. GAPS AND WEAKNESSES OF THE MEKONG LEGAL FRAMEWORK UNDER THE 1995 MEKONG AGREEMENT

III.1. The 1995 Mekong Agreement

The core of the 1995 Mekong Agreement is the concept of sustainable development. Guided by this sustainable development paradigm, the Lower Mekong River Basin states have attempted to balance the maintenance of water quantity with protection of water quality, and agreed to cooperate and use the Mekong's water resources in a manner in which the river system's environmental conditions and ecological balance are conserved and maintained. However, depending on their geographical, national development perspectives and geopolitical conditions, countries have different perception on the relevance of the Mekong cooperation mechanism and internationally binding environmental regimes. Besides, development of the Mekong and its tributaries for the nations' economic growth has rendered the efficacy of the Mekong legal regime to support holistic water resources management questionable. More than 20 years of experience has shown that there are aspects of the 1995 Mekong Agreement that should

[136] MRC, (2002)
[137] MRC, (2002)
[138] Susanne Schmeier
[139] June 15 to October 15
[140] Jinghong and Man'an
[141] Addison, 2006
[142] Hydropolitical_AS: Hydropolitical vulnerability and Resilience along International Waters – Asia , , United Nations Environment Program, 2009,
[143] MR, 2008c
[144] Susanne Schmeier

be strengthened in order to secure the environmental, economic and social benefits that it promises[145].

(i) A "framework" Agreement

A group of experts working on Mekong legal framework from NGOs said that the 1995 Agreement is a "framework" or "umbrella" agreement. It is thus not very comprehensive or detailed; it leaves the finer details to rules, protocols, or annexes. It is characterized by the following features: broad principles[146]; flexible framework agreement; and a continuous process of dialogue and negotiation[147]. The "framework" nature of the Agreement is made clear, inter alia, by Article 38, which says that: "Parties may enter into bi- or multi-lateral special agreements or arrangements for implementation and management of any programs and projects to be undertaken within the framework of the 1995 MA, which these agreements shall not be in conflict with the 1995 MA and shall not confer any rights or obligations upon the parties not signatories thereto, except as otherwise conferred under the 1995 MA "[148].

The informal procedures attached to the Mekong Agreement appear not to be able to be characterized as the rules referred to in Articles 5 and 6 and specified under Article 26. This is made clear in the first objective of the Procedures for Notification, Prior Consultation and Agreement which is "to provide steps for the MRC member states to support the establishment of the rules for water utilization and inter-basin diversions."

These procedures elicit a number of important questions. What is their precise legal status? To what extent can they be relied upon by the parties when a dispute arises? Are the procedures in any sense enforceable under the agreement? If these current Procedures for water utilization and inter-basin diversion were to be converted into the rules contemplated in Article 26, it would be desirable to make them more precise. As Browder and Ortolano pointed out, "Article 5 was the most contentious issue during the negotiations, and its complexity and ambiguity foreshadow the difficulties the Mekong regime may confront in dealing with water allocation issues"[149]. They argue that Article 5 represents a compromise solution. It avoids specifying the timeframes for the wet and dry season and does not mention requirements for notification, prior consultation and agreement[150]. That task is left to the preparation of the rules that are to be formulated at basin level under Article 26, as well as specific agreements for inter-basin diversions. Article 26 is in mandatory language[151].

(ii) Too vague

[145] Bennett L. Beardena.
[146] Articles 5, 7 and 10
[147] Articles 11-33 and 34-35
[148] Article 38 of the 1995 Mekong Agreement
[149] Browder, G. & Ortolano, L. (2000)
[150] Browder and Ortolano, note 6, above, at 521.
[151] As the use of 'shall'

The 1995 MA and its related procedures are seen to be vague and open to different interpretations and selective implementation as it fits into the best interest by the states concerned. In addition to the conceptual vagueness, and limitations on water use, the agreement concurs that certain level of harmful effects and damage are to be avoided in the light of equitable and reasonable use[152]. The lack of clarity potentially triggers a long and uncertain process of conflict resolution and prevention.

(iii) Loose binding

Despite its emphasis on key principles of water use, such as equitable and reasonable use, the maintenance of flow in the dry season, and the exchange of information and data, the 1995 Agreement is less binding than previous rules[153]; namely the 1957 Agreement and the 1975 Joint Declaration of the MC contained explicit veto rights and the respective prior notification principles for riparian states against unilateral projects. In the absence of detailed legally-binding rules developed under Article 26, the implementation of the provisions of the Mekong Agreement is presently left to informal procedures. Even the adoption of an Agreement on Data and Information Sharing in 2001 and the Regulations on Prior Notification and Consultation - as well as the Agreement and the Regulations on Supervision of the Use of the Mekong River Water' in 2003 that provides guidelines on how to manage the river according to international river basin management principles - has not been able to establish truly binding rules for the development of the river[154].

(iv) Lack of procedural elements of sustainable water development, namely EIAs, as legal framework for stakeholder participation and access to information

An important deficiency in the 1995 agreement is that there is no provision for transboundary Strategic Environmental Assessments (SEA) or Environmental Impact Assessments (EIA).[155] The obligations contained in the first four articles of the agreement form the basis for enabling cooperation, planning and implementation of projects and protecting the environment. However, with no detailed regional regulatory mechanisms or any indication of what legally-backed environmental standards are to be aimed for, the provisions are dependent on the making of rules and the preparation of procedures. More specifically, according to the Article 7, the member states are "to make every effort to avoid, minimize and mitigate harmful effects that might occur to the environment". However, the 1995 Mekong Agreement, with its highly touted sustainable development paradigm, does not legally require an EIA, if performed, to be provided to other watercourse states for any proposed development on the river. In addition, the agreement itself lacks sufficient detail to indicate to planners and project officers what

[152] Sokhem Pech (2011)
[153] Susanne Schmeier
[154] Susanne Schmeier
[155] AMRC 2006, p.31

the basin development plan should precisely address in order to achieve a coherent planning and development approach for the basin[156].

In terms of stakeholder participation and access to information, a key gap under the agreement is the lack of a legal mandate for the MRC to engage with and be accountable to the public. The provisions of the 1995 Mekong Agreement make no reference to public participation or access to information, two interrelated key procedural elements of sustainable development[157]. The need for public participation flows into all the various MRC mechanisms relevant to the proposed mainstream dams; including PNPCA, transboundary SEA and EIA assessments, the MRC provision of advice on individual mainstream development projects and basin-wide planning[158]. In 1999, the MRC JC completed a report that provides certain responsibilities for member states regarding stakeholder participation. This report asserts that 'directly affected people' are to have access to information and be involved in some level of decision-making[159]. Although this report is a step in the right direction, it is generally non-binding on the MRC member states. Consequently, there is no legal framework for stakeholder participation as a legitimate process within the Mekong legal regime.

(v) Lack of detailed dispute resolution provisions

The agreement has no enforcement mechanism, so disputes are resolved through diplomatic channels[160]. This is dealt with in Chapter V of the 1995 agreement[161]. Those articles provide that the commission will attempt to resolve any difference or dispute and, if the commission is unsuccessful, the issue is to be referred to the governments for resolution by negotiation. With the lack of effective and timely dispute resolution mechanism, the protracted process will cause a further strain on their relationship and affect other bilateral and multilateral ties among the Mekong nations[162].

The agreement is not enforceable in the traditional sense[163]. The agreement created the Mekong River Commission (MRC) to promote cooperation, but the MRC does not have the authority to police the governments or issue penalties when one government fails to comply. If the governments cannot resolve a dispute under the MRC, they must resort to diplomatic channels or mediation by a third party[164]. The mechanisms for dispute resolution are vague and incomplete on what steps should be taken to provide remedies.

---

[156] Boer, BW, (1999)
[157] Bennett L. Beardena,b (2010)
[158] Daniel King 2012
[159] MRC, (1999)
[160] Kirk Herbertson
[161] Articles 34 and 35
[162] Sokhem Pech (2011)
[163] Hirsch, Jensen, et al. (2006), *ibid*. at p. xvi (describing how the Agreement "lacks the legal 'teeth' to enforce any of its provisions.").
[164] See Chapter V of the Mekong Agreement ("Addressing Differences and Disputes"). See also, History of Mekong Agreement, *supra* note ## at p. 34 ("All four countries agree this is a function of the institution in the first instance, then through diplomatic channels, and possibly ultimately through mediation or arbitration.")

The Article 34 specifies the MRC as the primary institutional mechanism for dispute resolution and requires the MRC to 'make every effort to resolve the issue'. If the MRC is unable to remedy the dispute, the next step is for "the governments to take cognizance of the matter for resolution by negotiation through diplomatic channels within a timely manner"[165]. Finally, Article 35 of the 1995 Mekong Agreement provides that "should the governments find it necessary or beneficial...they may...request the assistance of mediation through an entity or party mutually agreed upon, and thereafter...proceed according to the principles of international law". Meanwhile, the agreement does not provide any other means of peaceful conflict resolution such as international court of justice and binding arbitration, or compliance and verification mechanism. Pech (2011) also stated that the agreement does not stipulate a detailed step-by-step process for each means of dispute settlement, or recognition of the person (natural or juridical) who has suffered from or is likely to suffer significant transboundary issues, to have a right of access to domestic judicial or other procedures in a state where the alleged source of damage has originated.

(vi) Lack of a basin-wide scope

The 1995 MA state parties adopted the term "Mekong River basin waters" with reference to the entire basin hoping that China and Myanmar would eventually participate in the negotiations and agreement. However, this broad basin approach is constrained by the absence of the two upper riparian states China and Myanmar, and an inconsistent approach in handling the tributaries. While China and Myanmar do participate in MRC meetings as observers, the legal regime for management of the basin cannot be regarded as complete because riverine countries' development activities as well as exploitation and using of the transboundary water resources from the shared river are inter-impacted. This tends to undermine the authority of the MRC in relation to the Mekong Basin as a whole, despite the best efforts of the MRC and its international donor partners.

(vii) Unclear institutional role

The Mekong Agreement gives the MRC an outline of its responsibilities, but its precise functions and authority can be characterized as too vague. The lack of a clear legal basis has flow-on effects in terms of the authority of the Basin Development Plan, the Water Utilization Plan and the Environment Program[166]. Additionally, some key stakeholders such as Energy Ministries and EGAT are not formally incorporated into the framework. The framework itself is inadequate to resolve mainstream dam issue, as evidenced by problems implementing SEA and PNPCA.

[165] (Article 35)
[166] See Basin Development Plan Phase 1 and the proposal for Basin Development Plan Phase 2, the Water Utilization Plan and the Environment Program.

In sum, many commentators argued that the 1995 Mekong Agreement and its Procedures and Technical Guidelines in their current forms cannot be labeled as a set of explicit principles, norms, rules, and certain decision making procedures due to the lack of details and absence of enforceability and certainty in them.

III.2. Mekong River Commission

On the surface, the MRC's structure and processes are stated clearly enough. The MRC enjoys the status of an international body, and is able to enter into agreements and obligations with the donor and international community. However, though the MRC appears to have made progress with respect to many of its objectives, from the point of view of integrated water resources management which is able to promote the coordinated development and management of water, land and related resources of the river basin, the reach of the MRC can be seen as inadequate. Moreover, it has been criticized by both member countries and the international community for not being sufficiently effective.

Member countries find the work of the MRC to be lacking in tangible results, particularly with respect to economic development and the Basin Development Plan (BDP)[167]. Since the formation of the MRC, the BDP has become the centerpiece of the MRC's work and is seen by both the Mekong governments and international donors as a "primary rationale for the institutional existence of the MRC[168]. However, progress on the BDP has been slow in the minds of many critics, and member countries of the MRC have expressed some frustration with the time that the MRC took to determine the nature of the BDP, and the subsequent delays in transitioning to its second phase[169]. Furthermore, some critics believe that much of the subject matter of the BDP to date has been largely conceptual, and is not aligned well enough with member countries' real needs and aspirations[170]

Also, since its establishment, MRC has been an almost continuous target of criticism from advocacy NGOs and academic observers for its supposed failure to take an active role in addressing the range of environmental challenges facing the Mekong River. Such criticism is misguided since it fails to recognize the MRC is a creation of the governments that are members of the Commission. While its critics might want it to be otherwise, the MRC has no mandate to act on its own in any fashion that has not been approved by the member countries.

In terms of power, the MRC currently lacks the regulatory power to achieve its goal of sustainable development because its legal mandate is limited and its linkages with national planning institutions in LMB countries are weak[171]. Under the 1995 Agreement,

---

[167] Radosevich G.
[168] Chris Sneddon and Coleen Fox, (2007); Hensengerth, Oliver (2009)
[169] http://www.mrcmekong.org/download/Reports/2_MTR_FinalReport_Main_report_Jan09.pdf, 9
[170] Mid-term Review of the Mekong River Commission Strategic Plan 2006-2010, at 9.
[171] Daniel King, 2012

the MRC has no supranational authority, so it does not have a legal mandate to regulate the LMB countries. It is therefore a governed rather than a governing institution[172].

There have been differing perspectives on the role of the MRC. The 1995 Agreement gives the MRC an outline of its institutional responsibilities, but there is no detailed description of its functions and authority[173]. Therefore, the role of the MRC has been debated since its inception. LMB member states, the MRC Secretariat, MRC donors and civil society have differing perspectives on what role the MRC should play[174]. While great efforts represent marked progress from its former emphasis on purely technical issues, the arbitration role of the MRC is still relatively weak[175]. This was evident from the recent deliberations on the controversial Xayaburi hydroelectric power project, the first dam to be constructed on the lower Mekong mainstream. Differences of opinion among the sub-region's riparian states, between some of those states and the MRC's various donors have been ongoing since 2010, and are yet to be resolved to mutual satisfaction. The potential roles include regulatory body, investment facilitator, planning agency, producer and repository of scientific knowledge and multi-stakeholder platform[176]. These roles are not necessarily mutually exclusive, but emphasis has been different as between stakeholders[177]. Also, a key controversy has been the role of the MRC in disclosing information and engaging civil society.

There is currently a lack of ownership of the MRC by member countries because 90 percent of the funding for MRC comes from international donors.

"The MRC has no mechanism for basin-wide regulation of hydropower or other forms of sector development on the Mekong mainstream"[178]. If integrated water resources management of the river basin was to be ensured, China and Myanmar would need to be members of the MRC. In addition, the MRC is not in a strong legal position in relation to the implementation and enforcement of the Article 26 Rules to be prepared by the MRC, and in particular through the Joint Committee, relating to water utilization and inter-basin diversion.

III.3. Case studies

III.3.1. Xayabury dam

Project background

Over the past years, the Xayaburi dam, located approximately 150 km downstream of the town of Luang Prabang in Xayaburi District in Northern Lao, has been one of the biggest

[172] Daniel King 2012
[173] See Basin Development Plan Phase 1 and the proposal for Basin Development Plan Phase 2, the Water Utilization Plan and the Environment Program.
[174] See for example summary of perspectives on MRC's role in Ibid, p.19
[175] Apichai Sunchindah, 'The Lancang-Mekong River Basin: Reflections on cooperation mechanisms pertaining to a shared watercourse', NTS Policy Brief, no.PO13-01 (Singapore: RSIS Center for Non-Traditional Security (NTS) Studies, 2013).
[176] Hirsch (2006), p.123
[177] Hirsch (2006), p.123
[178] Strategic Environmental Assessment of Hydropower on the Mainstream Mekong Dam Final Report, pg. 139, MRC (2010).

and most controversial development projects ever planned in the Mekong River basin. Debates over the dam have raged region-wide. Serious concerns have been raised about the dam's transboundary impacts by environmentalists, neighboring governments, civil society organizations and local people in public debates, in the media and in a regional - process being facilitated by the MRC. It is the first of eleven large hydropower dams and one diversion project planned for the Lower Mekong River's mainstream.

Xayaburi map (Source: International Rivers 2013)

By November 2011, the Xayaburi Dam had not yet been officially approved by the Government of Laos PDR, but a number of agreements were signed by the government to signal a deepening commitment with Thailand's Ch. Karnchang company[179] since its first signing of a Memorandum of Understanding (MoU) in May 2007[180]. A Project Development Agreement was signed between the Government of Laos PDR and Ch. Karnchang in November 2008, and in June 2010 a subsidiary company - Xayaburi Power Company Limited was established by Ch. Karnchang in Laos PDR - with an initial registered capital of THB 800 million[181]. Then, a Memorandum of Understanding (MoU)

[179] Ch Karnchang Public Company Limited is one of Thailand's general contractors and basic infrastructure developers. They have over 30 years successful experiences in construction businesses of large-scale infrastructures, building complexes and general civil works. The company is the Xayaburi project's main developer.
[180] Carl Middleton (2011)
[181] Ch Karnchang holds a 50% share ownership in Xayaburi Power Company Limited

for a Power Purchase Agreement (PPA) was signed between the Ministry of Energy's Electricity Generating Authority of Thailand (EGAT) and the Government of Lao PDR in July 2010, indicating EGAT's interest to purchase 1,220 MW of electricity[182]. In September 2010, CH.Karnchang signed the engineering, procurement and construction contract[183]. In October 2010, the Government of Laos PDR signed a Concession Agreement with the company. The project is expected to generate over 1,285 MW of electricity, around 95 percent of which will be exported to Thailand as a result of the signed Power Purchase Agreement (PPA). The Xayaburi dam will be managed by Ch. Karnchang under a build-operate-transfer scheme[184]. A summary of key events related to the Xayaburi Dam project is attached as annex 2.

Project impacts

The Mekong River is home to one of the largest inland fisheries in the world and rank second in biodiversity, so if built, the Xayaburi Dam project is likely to cause serious and irreversible damage to the river ecosystem and to millions of people in the region who depend on the river's resources for their daily food and livelihood. MRC's prior consultation review report figured out potential impacts on fisheries, sedimentation, hydrology and aquatic ecosystem; it also stated that the gaps of knowledge and considerable uncertainty about the scale of impact of the dam requires further studies before the project could go ahead[185].

A Strategic Environment Assessment (SEA) report commissioned by the MRC found that the Xayaburi dam would require the resettlement of approximately 2,130 people from 10 villages in Lao PDR[186]. Moreover, the report estimated that the livelihood of more than 200,000 people located near the dam would experience impacts due to loss of fisheries, sediments, agricultural land and riverbank gardens. The dam would irreversibly change the aquatic habitat and ecosystem of the Mekong River because it blocks fish migration between Luang Prabang in Lao PDR and Chiang Saen in Thailand, with potential wider impacts throughout the river basin[187]. More details on the dam's impacts are presented in Annex 3 and Annex 4.

How are the 1995 MA and its procedures used by parties?

In accordance with the 1995 Mekong Agreement, this first dam proposed for the lower Mekong River's mainstream requires regional government consultations and assessments from Thailand, Lao PDR, Cambodia and Vietnam.

---

[182] Carl Middleton (2011)
183 WWF, 2011
184 See www.banktrack.org
[185] See MRC's Prior Consultation Review Report on Xayaburi
[186] SEA Report
187 Carl Middleton (2011)

This was the first time to initiate the MRC's Procedure for Notification, Prior Consultation and Agreement (PNPCA Articles). The PNPCA Articles, formally approved by the MRC Council members on November 30, 2003, are an additional agreement. Under the Article 38 of the 1995 Mekong Agreement, additional agreements "entered into by the parties under this agreement" are afforded the same status as the original agreement. In the spirit of regional cooperation, the PNPCA Articles oblige the four signatories to the Mekong Agreement to jointly review any dam or diversion project that is proposed for the Lower Mekong mainstream. The PNPCA Articles require a state with a proposed project a six-month period of prior consultation to allow other riparian states to discuss and evaluate the impacts of the proposed use[188]. Notably, the prior consultation is "neither a right to veto nor unilateral right to use water resources by any riparian without taking into account other riparians' rights"[189]. The PNPCA Articles' founding definitions[190], objectives[191] and principles[192] position the signatories as the most important unit of analysis.

As the first dam to undergo the MRC's PNPCA process, Xayaburi set a precedent for how other dams are decided upon. If the project proceeds without conducting a transboundary EIA, and without addressing the concerns of other MRC countries, the succeeding mainstream dam projects would potentially be doing the same.

On September 20, 2010, Lao PDR submitted to the MRC through the PNPCA documents including an EIA, a feasibility study and an SIA. However, missing from the set of documents was an assessment of the potential transboundary impacts of the dam, information regarding the potential impacts of decommissioning, and an assessment of the cumulative effects of the dam series[193]. The MRC Secretariat began implementing the PNPCA on October 1, 2010. On March 24, 2011, the final draft of the MRC prior consultation review report was released. When the prior consultation review report of the MRC Secretariat was discussed in the JC meeting of the MRC held in Vientiane on April 19, 2011, Lao PDR insisted that the PNPCA process was complete, while the remaining signatories still raised concerns on impacts and gaps in technical knowledge and mitigation measures that require both further studies and public consultation. Failing to come to a common conclusion on how to proceed with the Xayaburi project, the JC members agreed to elevate the issue to the ministerial level. In this JC meeting, Lao PDR proposed to end the prior consultation process, citing the six-month timeframe under the PNPCA. It also noted that an extension to conduct further studies would require much

188 As set out in Article 1 of the PNPCA.
189 As defined in Article 1 of the PNPCA and Chapter II of the Mekong Agreement
190 Article 1
191 Article 2
192 Article 3
193 Memorandum on Legal Aspects of Challenge in Administrative Court of Thailand to Approval by Thai Agencies of Power Purchase Agreement and Loan By Krung Thai Bank for Xayaburi Dam in Lao PDR (August 2012)

more than six months and that it would not be possible to satisfy all parties' concerns[194]. The remaining signatories, however, expressed a range of concerns and provided recommendations. These concerns were formally submitted by Cambodia, Vietnam and Thailand in their PNPCA Reply Forms as the following:

Cambodia said that more time might be required for the Lao PDR and the developer to fulfill gaps in technical requirements and for effective consultations with the public. In their PNPCA Reply Forms, Cambodia raised the following points[195]:

(1) The need to extend the six-month period for prior consultations to cover efforts such as comprehensive study on relevant project documents, comprehensive consultation for both national and regional levels, technical study on relevant documents and technical preparation by the MRC Secretariat PNPCA Task Group;
(2) The need for further information particularly related to the transboundary environmental impacts and cumulative impact, and mitigation measures;
(3) The need for comprehensive study and assessment of transboundary environmental impacts including cumulative impact assessment;
(4) Key concerns requiring due considerations and strategic measures in practical terms, such as:
    a. Lack of sufficient information being timely disclosed to the public for use as the basis for stakeholders' consultation;
    b. The limited prior consultation timeframe and wider participation, the design and operations of the proposed dam including dam safety;
    c. The potential social and environmental impacts downstream;
    d. Monitoring program and mitigation measures.
(5) The need for countermeasures and solutions for strategic actions to mitigate or minimize transboundary impacts – clearly developed and with participation from affected countries.

Thailand shared the view that the stipulated timeframe for the prior consultation process was insufficient and likewise suggested an extension. It cited concerns raised in its national consultations on environmental degradation such as losses of fisheries and wetlands, and the lack of clearly identified mitigation measures. The Thai Reply Form stated the following stakeholders' concerns and recommendations were summarized from participant's statements[196]:

(1) Construction may cause the loss of local fishes and wetlands which will lead to adverse impacts on the livelihood of people who almost solely depend on Mekong

[194] Memorandum on Legal Aspects of Challenge in Administrative Court of Thailand to Approval by Thai Agencies of Power Purchase Agreement and Loan By Krung Thai Bank for Xayaburi Dam in Lao PDR (August 2012)
[195] MRC PNPCA, Reply form of the Kingdom of Cambodia, 13 April 2011.
[196] MRC PNPCA, Reply Form of the Kingdom of Thailand, April 2011

River resources. To mitigate this issue, the project should be re-designed to accommodate the nature of fishes in the Mekong River;
(2) The EIA did not significantly delineate the impacts on ecosystem and the flow regime as well as the impacts to Thailand;
(3) Due to insufficient information for consideration, the timeframe of the PNPCA should be extended and not restricted to six months;
(4) The details of mitigation measures both in terms of methodology and responsible organization are not clearly defined;
(5) The sustainability of the project is still questionable;
(6) All reports should be translated to the Thai language and distributed to local people in advance.

Vietnam, on the other hand, expressed its deep and serious concerns for the inadequate, inappropriate and incomprehensive assessments of transboundary and cumulative impacts that the project may cause to the downstream, especially to the Mekong Delta. It recommended the postponement of the Xayaburi project and other planned hydropower projects in the Mekong mainstream for at least ten years.[197] Vietnam raised the following concerns and recommendations in its Reply Form[198]:

(1) The Xayaburi Hydropower Project must be postponed for at least ten years to allow for more comprehensive and detailed studies;
(2) The EIA carried out by the project developer was inadequate, inappropriate and incomprehensive assessments on the transboundary and cumulative impacts that the project may cause to the downstream, especially to the Mekong Delta of Vietnam;
(3) The development of hydropower projects on the Mekong mainstream must be taken with due diligence and full precaution; consideration was needed to be given to all planned mainstream projects as a whole.

During the council meeting on December 6 2011, the ministers of the four member countries were again unable to reach a compromise, and a decision was made to commission a further study on the sustainable development and management of the Mekong River, including impacts from mainstream hydropower development projects[199]. At the same time, however, Laos's Deputy Minister for Energy and Mines Viraphonh Viravong argued that the PNPCA process itself was completed with the Joint Committee meeting in April 2011, and that the PNPCA only requires consultation but not agreement[200]. With respect to the envisaged council study, International Rivers argued that Laos refused to comment on the study's draft concept note[201].

[197] MRC, Lower Mekong countries take prior consultation on Xayaburi project to ministerial level, 19 April 2011, *at* http://www.mrcmekong.org/news-and-events/news/lower-mekong-countries-take-prior-consultation-on-xayaburi-project-to-ministerial-level
[198] MRC PNPCA, Reply Form of Vietnam, 15 April 2011
[199] International Rivers, 2011b; Phnom Penh Post, 2012a
200 Bangkok Post, 2012
201 Trandem, 2012

During a side meeting at the 18th ASEAN Summit on 7 May 2011 between the Prime Ministers of Lao PDR and Vietnam, Lao PDR agreed to temporarily suspend the dam while a new study on the dam's social and environmental impacts was carried out[202]. This resulted in a three-month compliance review by the Swiss Company Pöyry Energy AG, which was criticised by independent analysis from the World Wildlife Fund, International Rivers and the International Center for Environmental Management (ICEM)[203]. The Pöyry report did not assess transboundary impacts; it just re-designed parts of the Xayaburi Dam, especially in relation to sediment management, and provided an opinion on Lao PDR's compliance with its obligations under the MRC[204]. The Pöyry report had not been publicly endorsed by the MRC. The report also acknowledged it was not a transboundary impact assessment and explicitly recommended at least 40 additional studies to be completed[205]. In response, Lao PDR initiated another unilateral review outside the Mekong Agreement framework in January 2012, by a French consulting firm named Compagnie Nationale du Rhône (CNR). The Lao government published the CNR's report and made publicly available in April 2012[206]. The report, however, is only a desk study and does not gather the additional baseline data requested by MRC member governments. The CNR report only covers three topics—hydrology, sediment flows, and navigation. The report itself states that it "does not tackle fish migration issues and other environmental impacts"[207]. Many of the concerns raised by Cambodia, Thailand, and Vietnam around the transboundary impacts of the Xayaburi Dam were not addressed.

The government of Cambodia has reiterated its call for further study before the project proceeds. In April 2012, the Cambodia National Mekong Committee (CNMC) lodged its official protest over the reported start of construction of the project through a letter sent to the Lao PDR National Mekong Committee (LNMC) seeking cooperation through the halting of activities related to the construction of the Xayaburi Dam project, and urging the implementation of actions and measures for the study on sustainable management and development of the Mekong River under the Tokyo Strategy for Mekong-Japan Cooperation[208].

In a statement to media, Vietnam's representative to the MRC said that Ch. Karnchang Company's contract with the Lao Xayaburi Power Company violates the 1995 Mekong

[202] Memorandum on Legal Aspects of Challenge in Administrative Court of Thailand to Approval by Thai Agencies of Power Purchase Agreement and Loan By Krung Thai Bank for Xayaburi Dam in Lao PDR (August 2012)
[203] The latter is the author of the SEA
[204] Memorandum on Legal Aspects of Challenge in Administrative Court of Thailand to Approval by Thai Agencies of Power Purchase Agreement and Loan By Krung Thai Bank for Xayaburi Dam in Lao PDR (August 2012)
[205] Pöyry, Xayaburi Hydroelectric Power Project Run-of-River Plant, 9 August 2011.
[206] CNR, Peer Review of the Compliance Report made by Pöyry, 25 April 2012, http://www.poweringprogress.com/download/Reports/2012/April/Final-report-V1.pdf.
[207] CNR report, at p. 13.
[208] Letter from Cambodia National Mekong Committee (CNMC) dated April 2012, signed by Lim Kean Hor, Chairman of the CNMC and Minister of Water Resources and Meteorology.

Agreement, and that the action contradicted the Lao PDR government's pledge to suspend dam construction until the PNPCA were complete.[209]

How are the 1995 MA and its procedures violated?

A review of the Mekong Agreement and the factual premises stated herein, leads to the following conclusions:

(i) One party to the Mekong Agreement cannot unilaterally declare for any other government body that the PNPCA process is complete, particularly in this instance where the PNPCA process was not complete.

(ii) Signatories to the Mekong Agreement intended that any individual decision to develop the river would be based on shared priorities, not unilateral actions that impose unmitigated transboundary impacts on other riparian countries.

(iii) The Mekong Agreement precludes any unilateral decisions that will severely disrupt the ecological balance of the river or compromise the vital needs of people who rely on it.

In this case study, the author will analyze how the Mekong Agreement was violated.

PNPCA Implementation Process

There are no terms in the Mekong Agreement or in the PNPCA whose ordinary meaning empowers a member to unilaterally declare the PNPCA process complete. The object and purpose of the Agreement is explicit in the text and includes cooperating with member countries. The PNPCA Procedures require that "the notifying State(s) shall not implement the proposed use without providing the opportunity of the other member states to discuss and evaluate the proposed use". With the governments of Vietnam and Cambodia opposing the project, and with the MRC Council agreeing in December 2011 that there is a need for further study on the sustainable development and management of the Mekong River, including impacts from mainstream hydropower development projects, no consensus had been met yet. In a formal reply dated May 14, 2012 sent by the MRC to respond to a request for clarity on the status of the PNPCA raised by the civil society network, the Save the Mekong coalition, MRC Secretariat CEO Hans Guttman said that, "At the end of the six-month timeframe of the process in April 2011, due to differing views of the four countries, no consensus could be reached on whether or not the consultation should be considered complete". Unilaterally declaring the PNPCA process complete is a refutation of this decision and contravenes the object and purpose of the Agreement. It is obligated to return to the table and negotiate in good faith to resolve any disagreements regarding the status of the PNPCA before proceeding with the Xayaburi hydropower project[210]. Unless the procedures of the Mekong Agreement and its protocols are followed, Lao PDR's unilateral decision to move forward with the

[209] Talk Vietnam, MRC Vietnam condemns Thai company's contract to build Xayaburi dam, 26 April 2012.

210 See e.g., Gabcikovo-Nagymaros Project, Hungary/Slovakia, 1997 I.C.J. 7, 78-79 P142, 25 Sept.

project is violated of this Agreement. With the serious disagreement among MRC countries as to the status of the MRC PNPCA described above, with Cambodia and Vietnam firmly insisting that the PNPCA process has not been completed, Lao PDR did not provide adequate answers to the remaining signatories' requests, the condition on compliance with the Mekong Agreement has not been met.

Although on February 14, 2011, Lao PDR informed the Joint Committee Working Group that "no construction of the project which may impact the Mekong River will be carried out unless and until the PNPCA process has been completed and the official approval of the Lao PDR Government has been granted", there had been reports by international observers that preparatory construction of the Xayaburi dam had been underway including construction of roads and transmission lines near the dam site[211]. Based on the reports of preparatory construction, Lao PDR has violated the Mekong Agreement by commencing construction before the PNPCA process has concluded.

Prior consultation

In order for a community to make an informed decision, information must be disclosed regarding the potential impacts, risks and benefits of the project. Disclosure of information concerning the nature, purpose, expected impacts, risks, and benefits of the proposed development must be made fully and accurately, in a form that is both accessible and understandable. Furthermore, communities that will potentially be affected must be fully informed of their own rights. In the Xayaburi case, the PNPCA process involving stakeholder consultations, multiple concerns were raised by stakeholders that the consultations were neither conducted in good faith nor were they transparent and did not involve members of the affected public[212]. The condition for disclosure of information to the public was violated, with communities learning of the PPA signing only after the fact. Information required for affected communities to make an informed opinion on the major power purchase that will drive the construction of the first dam to be built on the lower Mekong mainstream was not made available. Information about future cumulative and transboundary impacts, as well as mitigation options and full information for the dam's life cycle was also not available. Only a little information available so far has been translated, and even so, they are neither accessible nor properly disseminated. While all three governments Cambodia, Thailand and Vietnam have highlighted concerns that not enough information is available to reasonably evaluate the transboundary impacts of the dam on the river, prior consultation remains incomplete until they receive the information required.

[211] International Rivers

212 International Rivers

In the MRC's prior consultation project review report[213], the MRC summarized some of the core feedback as follows: "the six-month timeframe for the public consultation is considered too short and need to be reconsidered. More time is needed to allow further in-depth studies, and give more time to the developer to incorporate recommendations accordingly"; "stakeholder participation needs to be widened to involve community people who could possibly be affected by proposed projects"; "there is a need for deeper study on the transboundary impacts, in particular the impact on specific locations and on each downstream country"; and the stakeholder consultation process needs to be transparent, open and accountable. All documents related to the projects, especially the EIA need to be released to the public in a timely manner before the stakeholder consultations take place in order to allow effective involvement. In fact, the only available EIA prepared for Ch. Karnchang, which included the Social Impact Assessment (SIA), was not provided in time for PNPCA meetings, and has been widely criticized by international experts for being substandard. The Final EIA report, along with the SIA, was finalized in August 2010. The Government of Lao PDR then submitted key documents to the MRC and initiated the Xayaburi Dam's PNPCA in September 2010. The key documents for the project were not made public until mid-March 2011, weeks after regional meetings for potentially affected communities took place as part of the PNPCA. In sum, the environmental and social impact assessment prepared by project proponents in Lao PDR, which was not provided prior to national and regional meetings under the PNPCA, did not meet standards for proper consultation. Affected communities were neither properly provided with all information necessary for their informed participation, nor timely opportunities to review existing documents in their language. For a project with such potentially serious impacts, the public participation process for the Xayaburi project did not meet the requirements of PNPCA under the Mekong Agreement. With these preconditions not having been met, the PPA should not have been signed.

In this context, the Thai Agencies also have a responsibility to respect the framework of the Mekong Agreement and withhold approval of the PPA and Krung Thai bank loans for the Xayaburi Dam until the requested information has been provided in accordance with the Mekong Agreement and associated PNPCA.

Notification

The Xayaburi Dam was formally proposed on September 20, 2010[214], which was shortly before the release of the Strategic Environmental Assessment of Hydropower on the Mekong Mainstream (SEA) in October 2010, prepared for the MRC by the ICEM. The SEA[215] emphatically recommended a 10-year moratorium on mainstream dam

[213] MRC, Prior Consultation Project Review Report, Vol.2 Stakeholder Consultations related to the proposed Xayaburi dam project, p.17-18 (24 March 2011)
[214] International Rivers
[215] SEA at p.4

construction to resolve major uncertainties and concerns about such development[216]. The key finding of the SEA is that there is not enough information about the impacts of the cascade of proposed dams in the LMB to make an informed decision, and up to 50 further studies are required. In addition, further study on impacts of the proposed projects in the LMB, including the Xayaburi Dam, has been formally requested by other signatories to the 1995 Agreement under the PNPCA[217]. The two Lao PDR reviews of the project done by Pöyry dated August 9, 2011, and Compagnie Nationale du Rhone (CNR) in 2012 are mere desk studies that do not gather additional baseline data, especially transboundary information, and therefore cannot address the concerns raised by the remaining signatories. The SEA states it "directly enhances the baseline information and assessment framework for the subsequent government review of project-specific EIAs prepared by developers"; and it "informs how the MRC can best enhance its support to member countries when the formal process under the 1995 Mekong Agreement for prior consultation on any individual mainstream proposal is triggered". Unfortunately, this did not occur to the Xayaburi case because the SEA was released after the development of the core decision documents for the Xayaburi Dam – the feasibility study, the EIA and SIA. Under the Mekong Agreement, site-specific decisions were to be informed and guided by basin planning analyses and strategies such as the SEA, but this pivotal tool was not used to provide the baseline information or an assessment framework for the Xayaburi dam or to evaluate the direct, indirect, and cumulative impacts of the dam. As such, there was no time to integrate any of the SEA's findings to support an analysis of the transboundary effects of the dam, which is fundamental to the validity of the PNPCA process. Since this did not occur, there is a palpable disconnection between the findings of the SEA on calling for a 10-year moratorium on construction of any mainstream dams and Lao PDR's stating that "any necessary step in relation to the 1995 Mekong Agreement has been duly taken". Three MA member nations all emphasized that not enough is known about the effects of the proposed dam on their respective territories. Since these governments have determined that they require additional information to evaluate the upstream and downstream effects of the project, the notification remains incomplete.

Moreover, the signing of the PPA was done without the required notification to all concerned parties which render the process as incomplete.

Transboundary assessment

There was no transboundary assessment of the potential impacts of the Xayaburi Dam in Thailand, and the impacts have not yet been assessed in Cambodia or Vietnam. There have been a number of MRC-sponsored studies indicating that there is likely to be transboundary impacts. The EIA for the dam completed by Team Consulting

[216] SEA report at p.24
[217] SEA report

Engineering and Management Company Limited (TEAM) for Ch. Karnchang only assessed the impacts of the dam on the watershed area of the proposed site, the impoundment area, and 10 km downstream.[218]

MRC

This is the first big test for the MRC as a mediator in transboundary conflict among its member nations. Stakeholders, especially donors, tried to pressure Laos to follow the MRC's rules, address the concerns of the remaining signatories to the MA, and to halt construction while more studies were needed. However, Lao PDR still proceeded with the dam, causing many to question the MRC's role and its effectiveness as a mechanism for resolving disputes.

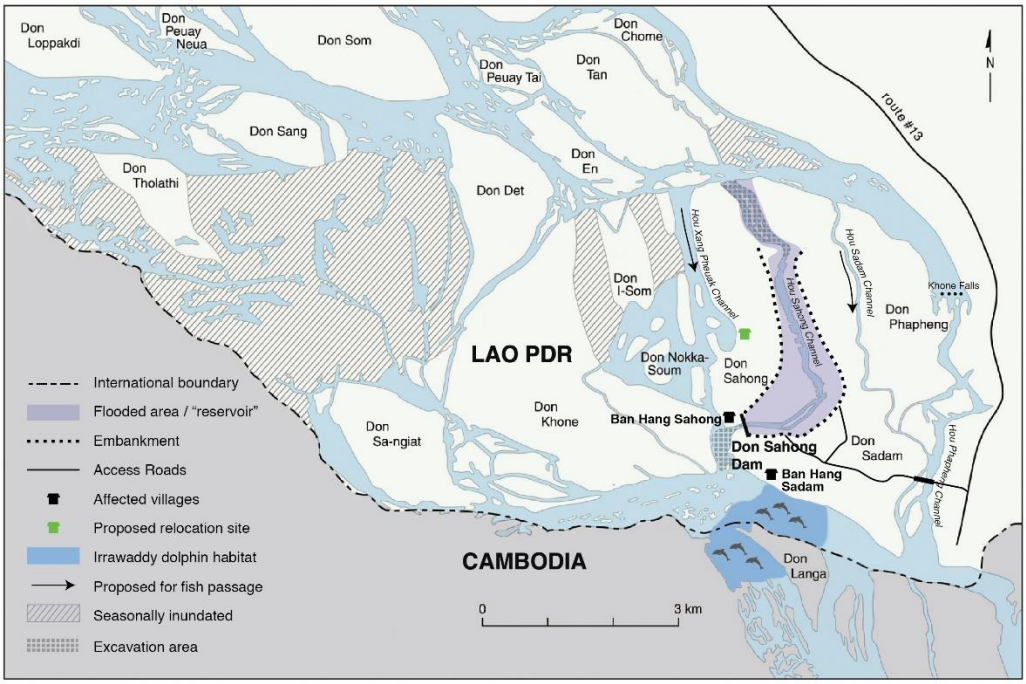
III.3.2. Don Sahong dam

Project background

Following in the footsteps of the Xayaburi Dam, the first lower Mekong mainstream dam, Laos Government began preparatory work towards the Don Sahong, the second proposed Mekong mainstream dam, in 2012. The proposed Don Sahong Dam is located at the downstream end of the Hou Sahong Channel between Don Sahong and Don Sadam Islands[219], in the Siphandone (also known as the Khone Falls) area, in the Khong District of Champasak Province, southern portion of Lao PDR. The project was situated on the five-km long Hou Sahong, one of the braided channels of the Mekong River approximately two km upstream of the Lao-Cambodian border[220], and in the main course of the Mekong River[221]. The nature of this project is a type of intra-basin use on the mainstream during the dry season[222]. At Siphandone, the Mekong River drops some 20 to 30 meters through a maze of narrow braided channels and rapids that weave amongst the area's many islands. The dam would be between 30 and 32 meters high and generate 260 MW, with the main objective of generating revenue by exporting electricity to Thailand or Cambodia. The dam project is being developed by Mega First Corporation Berhad (MFCB), a Malaysian engineering and construction company, with consulting services provided by Australia's SMEC New Zealand and the USA's AECOM.

[218] Team Consulting Engineering and Management Co., Ltd., Environmental Impact Assessment: Xayaburi Hydroelectric Power Project, Lao PDR, August 2010.
[219] The dam runs about five kilometers between the two islands (see map)
[220] MRC – Media Release dated 16 January 2014
[221] WWF Brief (2014). DON SAHONG DAM DISAPPEARANCE OF THE DOLPHIN
[222] Comments of Cambodia Delegation on the proposed Don Sahong Hydropower Project at Special Session of the MRCS Joint Committee, dated 16 January,2014 in Vientiane Lao PDR

Map of Don Sahong dam



Source: International Rivers at https://www.internationalrivers.org/resources/8382

In March 2006, MFCB signed a MoU with the Government of Laos to prepare feasibility studies for the project. Subsequently, in February 2008, a project development agreement was signed that authorizes MFCB to enter into advanced negotiations and finalize the project details with the government of Laos and potential electricity buyers, to be concluded by September 2009[223]. MFCB funded a feasibility study and an EIA for the project, which the government of Laos approved.

The proposal to develop the Don Sahong project has generated considerable concern amongst NGOs, academics, development professionals, and the general public within the Mekong Region and internationally. The dam project is controversial not because of its size, but because of its location in the middle of the Mekong River's legendary Khone Falls, a principal migration route for fish in the Mekong Basin. The project has become a hot potato for the MRC. One of the key issues in the 2013 EIA which influences engagement and consultation with neighboring countries is the classification of the Don Sahong Dam as a mainstream or non-mainstream dam. In the EIA, project developers based their definition solely on hydrological consideration, claiming that the Hou Sahong Channel was not part of the mainstream as only 15 percent of the Mekong flow passes through the channel. However this definition ignores important ecological characteristics of the area[224]. There are contradictions throughout the project documents as to how the

[223] International Rivers

[224] International Rivers (2014). Trial and Error Too Risky for the Don Sahong Dam: A Technical Review of the Don Sahong's 2013 Environmental Impact Assessment

project is defined. Earlier documents including MRC-funded studies and maps on the MRC website show the Don Sahong Dam as one of 11 proposed mainstream projects. The dam's 2013 Cumulative Impact Assessment (CIA) carried out by the project developer also indicated that the Don Sahong Dam was a mainstream project and that "there are no dams on the mainstream of the Lower Mekong at this time, but there are at least 11 being planned, including the Don Sahong Hydropower Project"[225].

Project Impacts

The most significant environmental and socioeconomic impacts of the Don Sahong Dam would be felt by local and regional inland fisheries. Environmentalists warn that the dam will irreversibly alter the area and the destruction of fisheries created by the dam will impact on the food security of millions of people[226]. The dam would block the Hou Sahong Channel, which has been recognized, by scientists and the MRC, to be of critical importance to migratory fish. It is one of the key pathways in the Mekong used year-round by fish migrating between Cambodia, Laos, Thailand and Vietnam[227]. International Rivers stated that the dam just does not add up. For no more than 260 MW of electricity, the dam would threaten vital commercial and subsistence fisheries, putting the livelihoods and food security of millions in jeopardy, as well as the area's biological wealth and its tourism industry. An evaluation of potential impacts of mainstream hydropower dams on Mekong fisheries published by the Mekong Secretariat in 1994 described Siphandone as "an ecologically unique area that is essentially a microcosm of the entire lower Mekong River", and pointed out that "such a site is so rare in nature that every effort should be made to preserve all of Khone Falls from any development"[228].

In a letter sent to the four governments, a coalition of groups under the banner "Save the Mekong" stated that Don Sahong would block an area recognized by fishery experts as "one of the worst possible sites to build a dam, as it is the passage of maximum fish migration on the Mekong, which supports the world's largest inland fisheries"[229].

According to WWF, impacts of Don Sahong Dam on the Irrawaddy Dolphin are magnified because the dam site is planned to be 1.5 km upstream of the Cambodian border, and only one km from where a small group of dolphins permanently inhabits a transboundary deep pool[230]. The dam would affect dolphins directly through its construction and operation and indirectly through cumulative impacts on the species, and the broader environment. Major risks to the local dolphin population will occur through

[225] Don Sahong Dam Cumulative Impact Assessment, 2013
[226] DEVELOPMENT TODAY News. No 14-15. 2013. Sweden to Mekong River Commission: 'Be a more active broker'
[227] International Rivers. Trial and Error Too Risky for the Don Sahong Dam: A Technical Review of the Don Sahong's 2013 Environmental Impact Assessment
[228] Mark. T Hill and Susan A. Hill, 1994, Fisheries Ecology and Hydropower in the Mekong River: An Evaluation of Run-of-the-River Projects. Mekong Secretariat, Bangkok, p.90
[229] Save the Mekong Coalition
[230] WWF Brief (2014). DON SAHONG DAM DISAPPEARANCE OF THE DOLPHIN

blasting and excavation and boat traffic at the site, which are expected to contribute to the loss of dolphins from Lao PDR. The scale of threat to the whole population is magnified through ecosystem degradation, expected decline in fisheries, as well as the cumulative effects of disturbance and stressors on the dolphins. Furthermore, the loss of habitat in the trans-boundary pool below Khone Falls would cause a decline of around 34 percent in the extent of dolphin occurrence in the Mekong River and therefore place the entire Mekong population at significantly greater risk of extinction in the near future[231].

For more information on impacts of the Don Sahong dam, refer to Annex 5.

While the 2013 EIA[232] acknowledges the importance of the Hou Sahong Channel for fish migration, the EIA claims that the impacts of the project on fish will not be significant as the negative effects can be mitigated[233]. However these claims are unsubstantiated and according to one fisheries expert, highly optimistic. The proposed mitigation measures have never been tested in the Mekong and it is not known whether they can be successful in mitigating the loss of the Hou Sahong Channel for fish migration, or make up for the livelihoods lost due to the impact of the dam on local fisheries[234].

How are the 1995 MA and its procedures used by parties?

On September 30, 2013, in a letter of prior notification sent to the MRC and the remaining signatories to the MA, the government of Lao PDR officially announced its decision to proceed with the development of the Don Sahong Dam project, simultaneously releasing an updated Environmental Impact Assessment for the project, and submitting it for the purpose of Notification under the MRC's PNPCA[235]. By simply notifying the MRC and member countries, Laos is choosing to bypass regional consultation and move forward without submitting the project for prior consultation – a process which allows the four MA signatories to discuss and evaluate the impacts of the Dam, in order to seek agreement about the project's future[236]. Following this announcement, Thailand, Vietnam and Cambodia stated that the project should undergo prior consultation. The notification requires the submission of relevant information of the project to the notified countries, while the prior consultation requires a formal consultation and technical assessment.

At a Joint Committee Special Session in Lao PRD on January 16, 2014 discussions on the Don Sahong Dam project were held, whilst Thailand, Cambodia, and Vietnam were expressing concerns over immediate impacts posed by the Don Sahong Dam on fishery

[231] WWF Brief (2014). Don Sahong Dam disappearance of the dolphin
[232] An Environmental Impact Assessment prepared for Mega First Corporation Berhand on January 2013 by Lao PDR's National Consulting Company for Don Sahong Hydropower Project.
[233] Don Sahong Dam EIA – Annex D, 2013 (Executive summary)
[234] International Rivers
[235] MRC – Media Release dated 16 January 2014
[236] International Rivers

and livelihoods of local communities and the people of Mekong, and demanded that Laos seek prior consultation and conduct further feasibility study and more thorough environmental and social impact assessment of the project. Laos stated that prior notification was sufficient. The three countries raised particular concerns on the project's potential impacts on fish migration routes as the Hou Sahong has been the major migration channel for fish to migrate in the dry season. The head of the Cambodia delegation voiced concerns on adversely severe environmental and socioeconomic impacts to immediate downstream areas in Cambodia. He said, "We view that the project documents are incomplete and the studies do not cover transboundary issues in countries such as Cambodia"; if the alternative routes for fish migration do not function well, the dam will have impacts on food security and nutrition on Cambodia"[237]. Thailand shared such view, questioning the viability of the alternative routes, and sought more consultation among member countries before the project would be done to clarify this and other issues. The head of the Thai delegation said, "Thailand suggests that the project undergo consultation to allow discussion among concerned parties and stakeholders"[238]. Viet Nam made similar views on socioeconomic and environmental impacts including changes to the river flows and sedimentation. The head of Viet Nam delegation said, "We view that impacts on fisheries will be significant. It is not possible to replace the modified channels for upstream fish migration with the existing Hou Sahong. Further study on social impacts from loss of fisheries should be conducted"[239]. In response, the delegation from Laos insisted otherwise and clarified that two channels adjacent to the Hou Sahong, Hou Sadam and Hou Xangphuaek, can be used as alternative fish migration routes. Laos added that "the notification is the appropriate procedure to inform the other countries about the project" which they said are neither a tributary or mainstream dam. Further, it was asserted that the project would temporarily use only 15 percent of the Mekong flows and thus would have no significant impacts to the Mekong flow; the Hou Sahong has been a key migratory route in the dry season, but in fact there are several channels that support fish migration in the wet season and other channels can be modified to improve migration in both directions all year round; Lao PDR has been transparent and has done what is required under the procedures under the 1995 Mekong Agreement.[240]. Finally, after discussing the processes under the PNPCA, the meeting could not reach a consensus on whether the notification or prior Consultation process should be applied to the project. Thereafter, the parties agreed to take the Don Sahong Project discussions to the MRC Council, the higher ministerial level of the MRC.

Then, following sustained pressure from its neighbors, the Lao government agreed to re-submit the Don Sahong Dam project to undergo prior consultation. However, the official start date for this process, July 25, 2014, was not announced until early October, nearly

[237] MRC – Media Release dated 16 January 2014
[238] MRC – Media Release dated 16 January 2014
[239] MRC – Media Release dated 16 January 2014
[240] MRC – Media Release dated 16 January 2014

three months into the six-month process[241]. On January 27, 2015, the Joint Committee of the MRC held a special meeting to discuss the prior consultation process for the Don Sahong Dam. In their formal reply forms, Cambodia, Thailand and Vietnam all called for an extension to the Prior Consultation process, highlighting the need for further baselines studies, greater assessment of the project's transboundary impacts and additional consultation. Laos, however, insisted that the prior consultation process was complete[242]. Because all four countries could not reach an agreement as to how to proceed with the Don Sahong Dam, the decision was deferred to the Ministerial level. On June 19, 2015, the MRC announced in a statement that, following further deliberations by the MRC Council, there are still differing views among the four countries and the matter will now be taken to a government level, to be resolved through diplomatic channels, as there is not a common conclusion on how to proceed with the project. However, an article in The Phnom Penh Post published on September 1, 2015 reports that the Lao National Assembly has approved the concession agreement for the Don Sahong Dam[243].

How are the 1995 MA and its procedures violated?

Prior Consultation

Don Sahong Dam was registered as one of the 12 mainstream dams proposed earlier and all MRC country members were informed of this. As a mainstream project, the Don Sahong Dam should be required to undergo the MRC's full procedures for PNPCA process, allowing for regional consultation and decision-making. According to the 1995 Mekong Agreement and the PNPCA[244], it shall be subject to prior consultation, the process which allows the riparian states to discuss and evaluate the impacts of the proposed project and any other affects which is the basis for arriving at an agreement. However, Lao PRD claimed that Don Sahong Dam Project was not located on the mainstream, so it is only required under the 1995 Mekong Agreement to notify neighboring governments, rather than to undergo a prior consultation[245]. According to Kirk Herbertson from the International Rivers, Laos' interpretation of the Mekong Agreement is incorrect, because the primary purpose of the Mekong Agreement is clearly not limited to water flows. Rather, the Agreement focuses on overall cooperation round development of the Mekong in a sustainable way that avoids harm to the environment and natural resources. This is clear from Article 1 of the Mekong Agreement, as well as its preamble and opening paragraph[246].

Later, the Laos Government agreed to undergo prior consultation. However, whilst there was still not a common conclusion on how to proceed with the project at the ministry

[241] International Rivers at http://www.internationalrivers.org/node/8103
[242] International Rivers at http://www.internationalrivers.org/node/8103
[243] The Phnom Penh Post. September 1, 2015
[244] See 'Section 5.1.b. Scope of Prior Consultation'
[245] Initially
[246] Kirk Herbertson. Legal Briefing: How International Law Applies to the Don Sahong Dam , March 2014

level in 2015, Lao PRD insisted that the prior consultation process was complete, then the Lao National Assembly approved the concession agreement for the Don Sahong Dam in September 2015. The Laos government said that its actions to date already are equivalent to a prior consultation. In the Vientiane Times dated March 24, 2014, the Lao Deputy Minister of Energy and Mines said, "we are already doing everything required under prior consultation". However, local people have received misleading and incomplete information about the likely impacts of the dam; and people downstream in Cambodia have received even less information about the project and how it would affect them. Kirk analyzed that this interpretation is incorrect for several reasons: (1) the consultations are not prior, *i.e.* there has been no formal period of time set aside for the four governments to negotiate in good faith, based on assessments of the project's impacts, before the project begins; and (2) discussions between Laos and other Lower Mekong governments that have taken place have not been in an equitable setting. In sum, prior consultation in the Don Sahong dam project is, therefore, seen as incomplete.

Transboundary impact assessment

Despite the above-mentioned serious threats, and with the dam situated on a shared river that is less than two km from the Lao-Cambodian border, no transboundary EIA has been carried out.

MRC

This is the second test for MRC's moderator role in transboundary issues after the big test of Xayaburi dam. Laos is again moving forward quickly with the project while no consensus among the four signatories to the MA has been reached.

IV. CLASH BETWEEN NATIONAL INTEREST AND REGIONAL COOPERATION THROUGH LENS OF CASE-STUDIES

Lao PDR's national interests

Laos PDR is one of the least developed, landlocked and lightly populated countries in the region, with 95 percent of its territory in the Mekong basin, largely depending on the Mekong. The country is rich in minerals, forest products, and water. The welfare of Laos is bound up with water, and most major national development plans are expected to depend heavily on water resource development scenarios. Fishery and agriculture account for more than 52 percent of the country's GDP, contribute more than 40 percent to its foreign currency income and provide employment opportunities for more than 85 percent of the population[247]. The government therefore aims to develop so far non-existent irrigation schemes and using the river's water for potentially increasing industrial and household demands. In addition, due to its land-locked nature, Laos relies

[247] Öjendal, 2000, p. 134; Molle, 2007, p. 13

on the Mekong as an axis of transport. Most importantly, with the country's great advantages on rivers and mountainous geography, it makes these waterways ideal for hydropower dams. Hydropower is by far the most important Mekong resource Laos is interested in. Laos becomes perhaps the strongest driver of mainstream hydropower development in the region with the stated aim of tapping its natural assets to become the "battery of Southeast Asia". Electricity generated by hydropower projects mostly will be exported to neighboring countries, especially Thailand and it will become one of the main export goods of Laos PDR.

Laos already imports two percent of its total electricity and has signed new treaties guaranteeing electricity supply at least until 2017[248]. According to this strategy, the Lao government is engaged in further developing large-scale projects. To become the "battery of Southeast Asia", existing hydropower facilities (the Nam Ngum, Xeset, Theun Hinboun, Hoay Ho and Nam Leuk Dams) will be complemented by more dams, with at least 28 projects being planned up to 2010, seven of them directly on the mainstream[249]. The Lao government repeatedly has asserted that these projects will play a pivotal role in alleviating poverty in the country. Along with increasing activity in the hydropower sector, new investors push into Laos. For example, Chinese companies are currently involved in two hydropower projects under construction, and a Malaysian company signed an agreement for project development on the Don Sahong Dam. Since Laos fears dependency on Thailand, it welcomes new investors as yet another means to counter dependency besides the diversification of exports to China and Vietnam.

Since Laos is characterized by an abundance of unexploited water resources and a large contribution to the river's flow, it has a crucial position in the Mekong's future development. Its position towards regional structures is ambiguous. While it is likely to be negatively affected by Chinese developments on the Mekong, it depends on its own hydropower projects for socioeconomic development and is therefore unlikely to join any efforts to regulate the river's use in a more binding way[250]. Laos acknowledges the importance of regional cooperation mechanisms, particularly for their financial contribution to development projects and their role in increasing regional trade and development but is neither completely willing nor capable of complying with their requirements[251].

Thailand's national interests

As one-third of the country is situated in the MRB, the Mekong's great potential for developing the country's dry and underdeveloped northeast and for guaranteeing water

[248] Graecen & Palettu, 2007, p. 86
[249] Gajaseni, Heal, & Edwards-Jones, 2006, pp. 53-55; Middleton, Garcia, & Foran, 2009, pp. 31-36
[250] Susanne Schmeier. She is a PhD Candidate at the Berlin Graduate School for Transnational Studies at the Hertie School of Governance (HSoG) in Berlin, Germany. Her research focuses on international environmental politics, natural resources and international rivers, particularly in Southeast Asia. Contact: schmeier@transnationalstudies.eu
[251] Susanne Schmeier

supply to Bangkok has been realized recently. Large irrigation projects in the Isaan region and initiatives to transfer water to Bangkok have been designed in the last years[252]. Yet, political and economic turmoil have prevented implementation so far. Once political stability and economic growth will return to the country, there could be a renaissance of those plans, increasing conflict potential in the region. Furthermore, Thailand needs to ensure its growing demand for electricity, which is expected to double until 2021[253]. Since domestic hydropower opportunities have either been already exploited or massive protests from the civil society impede further developments, Thailand is interested in supporting the development of hydropower facilities in neighboring countries, especially in Laos and China. With both countries Memorandums of Understanding have been signed on electricity trade[254].

Moreover, Thailand is interested in increasing its trade and investment ties with neighboring countries by using the Mekong as its "gate to Indochina". In the search for new markets for Thai export products, new sources for natural resources, new opportunities for Thai border towns in the country's Northern part and new investment opportunities for Thai companies, Thailand actively promotes further economic integration among riparians[255]. This is mainly done through infrastructure development such as funding of Mekong bridges and the improvement of roads and ports in neighboring countries. However, recent economic and political instabilities have slowed down Thai engagement.

Economic integration, together with security cooperation, is, thus, the main interest of Thailand. Issues beyond the river will most likely push the country towards a more cooperative behavior. However, it has little interest to further institutionalize regional cooperation, especially if they establish more binding water use principles or even veto rights for downstream countries. In this context, Thailand favors the integration of China into regional institutions, hoping to build coalitions against potential efforts of downstream countries to prevent large-scale development upstream[256].

Clash between national interest and regional cooperation

With the upstream-downstream nature of the Mekong, riparian states have different interests but they are not independent. For example, states need to cooperate over managing the impacts of water use, such as water extraction and dam building, on fisheries, including for species migrating between states and to sustain interstate food dependency. Collaboration is required regarding sustaining water quality as poor water quality is a major driver of biodiversity loss. Also, agriculture needs to become more sustainable by, for example, maintaining the ability of wetlands to recycle excessive

[252] Susanne Schmeier
[253] Middleton et.al., 2009, p. 24
[254] Susanne Schmeier
[255] Masviriyakul, 2004, pp. 308-310
[256] Susanne Schmeier

nutrient inputs, particularly nitrogen. While the interest of each country is different and there are diverse upstream and downstream issues, the lower Mekong countries have found common ground on which to cooperate in addressing issues from a basin point of view.

Based on the case studies, the two lower Mekong basin countries, *i.e.* Laos and Thailand have agreed "to cooperate and promote the sustainable development, utilization, conservation and management of the Mekong basin's water and related resources."[257] In the framework of the 1995 Mekong agreement, national interest has so far taken precedence over transboundary interests in the way mainstream hydropower developments have been proposed. Therefore, the Mekong agreement cannot be regarded as being the most effective mechanism for transboundary water governance in the Mekong in its present form.

Despite the concerns raised over the Xayaburi Dam's potentially significant transboundary impacts and the opposition expressed to the project by the region's governments and people, the Lao PDR and Thai governments have moved forward without sufficient information about its impacts that would be necessary to make an informed decision. While the four governments have yet to reach a consensus on whether or not to proceed with the project, the governments of Lao PDR and Thailand appear to be attempting to move forward with the project on a unilateral basis despite their commitments to regional cooperation.

Without Thailand purchasing 95 percent of the electricity generated by the Xayaburi Dam, the project could not move forward. According to the commitment in the Mekong Agreement 1995, Thailand has the duty to consider these impacts and the river basin as a whole in planning its projects, including power purchases.

In conclusion, with the transboundary nature of the problem where upstream and downstream countries have different needs and interests, there is a need to balance competing priorities between the water, food and energy sectors. This complex polycentric problem requires a regional solution.

V. RECOMMENDATIONS FOR SOLUTIONS

Because of the importance of the Mekong River and the transboundary nature of the issues involved, legal and institutional frameworks have been chosen by riparian countries to establish cooperation in hydropower projects. It is recommended that Mekong country governments need to re-engage and review the legal frameworks and institutions to manage the basin and to move the paradigm of the Mekong legal regime toward sustainable development. Changes are needed to provide a more precise legal mandate for the MRC and to foster holistic water resources management in the whole

[257] Article 1, 1995 Agreement

basin[258]. This will involve trade-offs between economic infrastructure and environmental protection, and between multilateral cooperation and national sovereignty, and between food security and energy security. Transboundary cooperation in water resource exploitation and management can significantly increase benefits to all riparian states while reducing the potential for negative transboundary impacts. Also, sharing of costs and benefits of development projects in the basin can generate win-win solutions for the shared-river states.

V.1. Regional Legal framework

Supplement and Amendment of the 1995 Mekong Agreement – from a soft to harder law

At present, the question is whether it is now time to consider substantially amending the Agreement, or preparing a protocol which sets out detailed mechanisms for the Agreement's future implementation. Given the Agreement's history, it may be difficult to change the substance of the Agreement itself, and a protocol to the Agreement may be more politically achievable. However, the author recommends that both the MRC and the MRB governments initiate a process of moving from soft to harder law to support water governance in the whole basin. This requires giving the MRC or a new mainstream regulatory body regulatory power to enforce the substantive obligations of the 1995 MA.

For the MRC, amending the 1995 MA would rely on some pre-conditions, most importantly that countries should be willing to accept limitations on sovereignty over water flowing through their territories to ensure that the river is managed as a common good. In pursuit of this, the MRC must work towards political and legal change in a manner attuned to and consistent with the ASEAN's political culture and must promote inclusion of the views of all stakeholders or potential stakeholders[259]. For the national governments, a journey from soft to harder law to support domestic and transboundary governance requires a much stronger national political commitment to the MRC as a more independent water governance authority than it is currently showing. Besides, it requires a concerted capacity building program in all the agencies that manage water in participating jurisdictions and in the National Mekong Committees (NMCs). Following this, NMCs should develop policies on the alignment of national legislation with the 1995 Agreement and its related policies, and then introduce such documents into national legislatures[260].

The following sets out some suggestions for amendment and supplement of the Mekong legal regime:

- Revise the vague and general language of Articles 3 and 7 in the 1995 MA to strengthen water quality protection in the Mekong legal regime.

[258] Bennett L. and Beardena, B. 2010
[259] Hirsch, P., at all 2006
45 Hirsch, P., at all 2006

- Give more detailed description of MRC's functions and its authority
- Amend dispute resolution provisions. Disputes under the MA are referred first to the MRC, and then though the diplomatic channels of the governments themselves, with recourse to mediation as needed. Further mechanisms for resolution of disputes could be considered including arbitration and referral to the International Court of Justice[261]. The Mekong Agreement may incorporate a well-defined and reformed legal mandate for the forward-thinking MRC to empower it with a clear dispute settlement procedure. This will enable it to handle constructive resolution of emerging environmental challenges at the intersection of law and policy, as well as allow creative dispute resolution, crisis management; emphasize fact-finding, strategic counseling, and enhanced relations with stakeholders and community groups.
- Legally require EIA, SIA, SEA processes to be carried out for any proposed inter-basin and intra-basin diversions. It is helpful to consult the 1989 Convention on Environmental Impact Assessment in a transboundary context and its Protocol on Strategic Environmental Assessment.
- Provide opportunities for inputs from interested communities, groups and individuals through a program of public participation, in order to promote inclusion of the views of all stakeholders[262]. Water stakeholders must actively participate in all the steps of the proposed reforms, from planning and implementation to monitoring and evaluation. Cooperation between riparian countries, as well as with national stakeholders and local communities, is also necessary to effectively mitigate social and environmental impacts that regularly come along with large infrastructure projects. The involvement of affected communities can play an important role in identifying negative social and environmental effects as well as appropriate counter measures[263].

Basin-wide signatories

It is highly recommended that a comprehensive basin-wide legal framework for using and management of the Mekong River's water resources should be established. This includes all the six Mekong riparian countries and its regulations and rules in compliance to international law standards, the 1997 UNWC, or even a more comprehensive international law standard in the future.

At present, the question is whether it is now time to consider substantially amending the Mekong Agreement, or preparing a protocol which sets out detailed mechanisms for its future implementation. Given its history, it may be difficult to change the substance itself, and a protocol may be more politically achievable. However, the author recommends that both the MRC and the national governments in the Mekong River basin

[261] King, D. 2011
[262] Hirsch, P., at all 2006
[263] GIZ 2013

initiate a process of moving from soft to harder law to support water governance in the whole basin. This requires giving the MRC or a new mainstream regulatory body the power to enforce the substantive obligations of the 1995 Mekong Agreement. This shift would require amendments, or the enactment of a Protocol to the Agreement.

V.2. Organizational reform

- Institutional structure of the MRC should be reformed so that the MRC could enhance its ownership and reduce its dependence on international donors.
- Building professional capacity for MRC's staff should be more focused and strengthened. The Secretariat should transfer knowledge and develop capacity in the NMCs so they can engage more proactively with the public
- Develop a strategy for strengthening the MRC's role and its operational efficiency.
- For both policy and functional reasons, the MRC should position itself more distinctively in relation to other Southeast Asian regional institutions, specifically existing water development and governance institutions including Association of Southeast Asian Nations (ASEAN), Greater Mekong Sub-region Cooperation (GMS), and Global Water Partnership. The MRC should also engage with universities and research centers in the region[264]. There are significant opportunities for the MRC to use its comparative advantage in transboundary water governance and accumulated resource data and technical information as an asset for the region. It should establish a closer relationship with ASEAN, particularly through the ASEAN+3 Environment Ministers' meetings, the ASEAN Working Group on Water Resource Management and the ASEAN-Mekong Basin Development Cooperation. Through these relationships, the MRC could add value to ASEAN water policy and governance[265].
- In order to become more service-oriented and demand-driven, the MRC should develop and implement a public engagement strategy that follows basic IWRM principles of stakeholder involvement in water resources management. The MRC Secretariat should give higher priority to stakeholder and community issues in its knowledge generation[266].

V.3. Enforcement of international water convention

The 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses (1997 UNWC), adopted by the General Assembly of the United Nations on May 21, 1997, and entered into force on August 17, 2014, provides a set of guiding principles for cooperation between watercourse states on the use, management and protection of international watercourses, and therefore also for the development of joint hydropower projects. It has been recognized by the International Court of Justice and by a significant number of states as an authoritative statement of fundamental principles of international water law. Up to

[264] Hirsch, P. at all 2006
[265] Hirsch, P. at all 2006
[266] Hirsch, P. at all 2006

now, it is the only treaty governing shared freshwater resources that is of universal applicability[267].

The 1995 MA adjusted, detailed, and applied the fundamental principles and rules of the customary international law reflected in the 1997 UNWC to the special needs of its parties and the characteristics of the Mekong basin. Although during the negotiation of the 1995 MA, the former legal advisor to the riparian countries argued that "the 1995 MA is more comprehensive and appropriate than the UN Convention in addressing transboundary water and related issues arising among the Mekong states"[268], it still lacks the specificity of the 1997 UNWC. International experts comment that 1997 UNWC complements the 1995 MA.

Ratification of the 1997 UNWC would not put any additional burden on the MRC members, given the advanced stage of water-related cooperation they have already achieved through the 1995 MA, and the countries' familiarity with the convention's main provisions. Up to now, only Vietnam ratified the 1997 UNWC. The remained countries should consider adopting the 1997 UNWC as it may facilitate the work of the MRC as it can help the countries in agreeing on key substantive and procedural rules without spending too much time and efforts for negotiation[269]. In addition to providing substantive norms of environmental protection, it can potentially contribute to the improvement of the water governance and more effective conflict management and resolution. It provides a detailed procedure for each means of dispute settlement, and legal means of resolution - international court of justice and binding arbitration[270]. It offers an accepted set of principles upon which to resolve issues and disputes in the event the 1995 MA does not fully address a certain issue.

V.4. Strengthening Integration of upstream states into the regional legal frameworks

China is the most upstream country and a political and economic superpower in the region. There are many opinions that it will be critical to involve China, within the general framework of the Mekong legal regime because of that country's control over Mekong headwaters. Seemingly, only when there is some political cost to China will its forward policy be constrained. On the other hand, IWRM requires that upstream Mekong countries China and Burma be integrated into decision-making structures with downstream LMB countries within the river basin[271]. Importantly, China is currently a major collaborative partner in many regional development programs, such as, GMS, ASEAN—Mekong Basin Development Cooperation, China-ASEAN Free Trade Area, and others. Through these cooperation mechanisms, China is collaborating and

[267] Stephen C. McCaffrey**,** a distinguished Professor at the McGeorge School of Law University of the Pacific
[268] Radosevich 2008
[269] Pech S. 2011
[270] UNWC art. 32; Pech and Sunada 2006
[271] See also ICEM (2010), p.12

negotiating with downstream countries on various transboundary projects. Even though China is not a member of the MRC, other regional programs like these can provide opportunities for the MRC to initiate in a formal way cooperative actions on water-related issues[272]. Beside these mechanisms, LMRB countries should enlist other regional cooperation mechanisms, such as, Asia-Pacific Economic Cooperation, Asia-Europe Meeting, ASEAN Regional Forum, etc. to strengthen upstream countries' integration into regional legal frameworks and their bonds to sustainable development of Mekong water resources. As for Burma, despite sharing very small part of the Mekong River[273], this country should be engaged by the MRC on the issue of Mekong mainstream dams.

V.5. Adoption of best practices from other transboundary river systems in the world

It is recommended that Mekong River countries should learn best practices from other transboundary river systems in the world which may serve as good models for cooperation between countries, facilitate reforms, and open up balanced and sustainable development opportunities. The following models are examples:

Mechanisms for cost and benefit sharing

Cost-benefit sharing mechanisms are a useful tool that aims to provide maximum project benefits while compensating each party involved or affected according to the costs they have to bear. Through the sharing of costs and benefits, win-win situations can be created and additional advantages can be generated that otherwise could not be achieved if each riparian country acted unilaterally. Concepts for cost and benefit sharing can thus help to provide incentives for transboundary cooperation in hydropower development and management[274].

Take the case of the Columbia River as an example. The focus of compensation payments is on downstream benefits that are created upstream in Canada. Thus, the downstream USA compensated upstream Canada for the benefits in regard to flood protection and increased energy production that resulted from dams built in Canada. Canada in turn was responsible for the construction and operation of three dams[275].

Mechanisms for monitoring and mitigation of social and environmental impacts

In most cases hydropower projects not only create benefits but also negative social and environmental impacts, which can occur on the national or transboundary level. In order to prevent and mitigate adverse effects, it is recommended to set up joint mechanisms for monitoring and mitigating impacts. An effective mitigation way can be thorough

[272] United Nations Environment Programme, 2009
[273] Only 2%
[274] GIZ (2013)
[275] GIZ (2013)

assessment of impacts, such as done in transboundary EIA, SIA, or SEA. Based on such knowledge, specific mitigation measures can be designed[276].

Social and environmental measures cannot be limited to short-term compensation or impact mitigation. Sustainable mitigation of negative effects requires long-term efforts in joint monitoring, social and environmental management and mitigation, and benefit-sharing with affected groups.

Common methods to mitigate environmental impacts include developing environmental flow regimes, designing fish passes, forestation measures for sedimentation control and others. For example, in the Columbia and Parana basins, measures to mitigate impacts on downstream fisheries are implemented as follows: the Columbia riparians frequently coordinate reservoir levels and river flows to create favorable conditions for fish spawning and migration, and Itaipu Binacional's environmental program included construction of a fish spawning channel to compensate for the loss of spawning habitat through dam building[277].

Negative social effects can be reduced through mechanisms that help avoid adverse impacts as well as through the sharing of project benefits with affected communities. Applicable measures include comprehensive resettlement programs, grievance procedures, compensations for lost assets, creating new income opportunities, electrification and social infrastructure programs, issuing of fishing rights, and others. On the Senegal River, social impacts were mitigated by providing benefits for the local population inside and outside the Manantali Dam area through the electrification of the Manantali resettlement villages and those located near the basin, as well as income generation activities for poverty reduction supported by micro subsidies[278]. As for the Zambezi basin, loss of income due to reduced fish stock downstream of the dam could partly be balanced by establishing fisheries at the reservoir[279].

To ensure that impact mitigation measures are effective, ceaseless monitoring of social and environmental impacts should take place. As the environmental and social contexts of hydropower projects change over time, mechanisms that allow for flexibility have proven successful, such as agreements that allow the concerned parties to react to changes or new requirements by adapting previously agreed upon regulations. This approach has been taken, for example, by Canada and the USA. The main operating plans for the dams of the Columbia River Treaty can be amended by Supplemental Operating Agreements during the operational year in order to accommodate current breeding requirements for certain fish species or recreational water-level requirements[280].

[276] GIZ (2013), p6
[277] GIZ (2013)
[278] GIZ (2013)
[279] GIZ (2013), p7
[280] GIZ (2013)

V.6. Enhancement of Mekong cooperation mechanisms with international donors

It is useful to bring into play the voices and involvement of international donors, such as, the US, Japan, Korea, EU, World Bank, ADB, UN, India, Russia, and so on, through their cooperation mechanisms with the Mekong in order to enlist and enhance their support for improvement of the Mekong legal mechanisms.

ANNEX

ANNEX 1: 1995 Mekong Agreement

Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin

5 April 1995

The Governments of

The Kingdom of Cambodia,
The Lao People's Democratic Republic,
The Kingdom of Thailand, and
The Socialist Republic of Viet Nam,

being equally desirous of continuing to cooperate in a constructive and mutually beneficial manner for sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources, have resolved to conclude this Agreement setting forth the framework for cooperation acceptable to all parties hereto to accomplish these ends, and for that purpose have appointed as their respective plenipotentiaries:

The Kingdom of Cambodia:
HE Mr. Ing Kieth
Deputy Prime Minister and Minister of Public Works and Transport,
The Lao People's Democratic Republic
HE Mr. Somsavat Lengsavad
Minister of Foreign Affairs
The Kingdom of Thailand
HE dr. Krasae Chanawongse
Minister of Foreign Affairs
The Socialist Republic of Viet Nam
HE Mr. Nguyen Manh Cam
Minister of Foreign Affairs

Who, having communicated to each other their respective full powers and having found them in good and due form, have agreed to the following:

CHAPTER I. PREAMBLE

RECALLING the establishment of the Committee for the Coordination of Investigations of the Lower Mekong Basin on 17 September 1957 by the Governments of these countries by Statute endorsed by the United Nations,

NOTING the unique spirit of cooperation and mutual assistance that inspired the work of the Committee for the Coordination of Investigations of the Lower Mekong Basin and the many accomplishments that have been achieved through its efforts,

ACKNOWLEDGING the great political, economic and social changes that have taken place in these countries of the region during this period of time, which necessitate these efforts to re-assess, re-define and establish the future framework for cooperation,

RECOGNIZING that the Mekong River Basin and the related natural resources and environment are natural assets of immense value to all the riparian countries for the economic and social well-being and living standards of their peoples,

REAFFIRMING the determination to continue to cooperate and promote in a constructive and mutually beneficial manner in the sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources for navigational and non-navigational purposes, for social and economic development and the well-being of all riparian States, consistent with the needs to protect, preserve, enhance and manage the environmental and aquatic conditions and maintenance of the ecological balance exceptional to this river basin,

AFFIRMING to promote or assist in the promotion of interdependent sub-regional growth and cooperation among the community of Mekong nations, taking into account the regional benefits that could be derived and/or detriments that could be avoided or mitigated from activities within the Mekong River Basin undertaken by this framework of cooperation,

REALIZING the necessity to provide an adequate, efficient and functional joint organizational structure to implement this Agreement and the projects, programs and activities taken thereunder in cooperation and coordination with each member and the international community, and to address and resolve issues and problems that may arise from the use and development of the Mekong River Basin water and related resources in an amicable, timely and good neighborly manner,

PROCLAIMING further the following specific objectives, principles, institutional framework and ancillary provisions in conformity with the objectives and principles of the Charter of the United Nations and international law:

CHAPTER II. DEFINITIONS OF TERMS

For the purposes of this Agreement, it shall be understood that the following meanings to the underlined terms shall apply except where otherwise inconsistent with the context:

Agreement under Article 5: A decision of the Joint Committee resulting from *prior consultation* and evaluation on any *proposed use* for inter-basin diversions during the wet season from the mainstream as well as for intra-basin use or inter-basin diversions of these waters during the dry season. The objective of this *agreement* is to achieve an optimum use and prevention of waste of the waters through a dynamic and practical consensus in conformity with the Rules for water Utilization and Inter-Basin diversions as set forth in Article 26.

Acceptable minimum monthly natural flow: The acceptable minimum monthly natural flow during each month of the dry season.

Acceptable natural reverse flow: The wet season flow level in the Mekong River at Kratie that allows the reverse flow of the Tonle Sap to an agreed upon optimum level of the Great Lake.

Basin Development Plan: The general planning tool and process that the Joint Committee would use as a blueprint to identify, categorize, and prioritize the projects and programs to seek assistance for and to implement the plan at the basin level.

Environment: The conditions of water and land resources, air, flora, and fauna that exists in a particular region.

Notification: Timely providing information by a riparian to the Joint Committee on its *proposed use* of

water according to the format, content and procedures set forth in the Rules for Water Utilization and Inter-Basin Diversions under Article 26.

Prior consultation: Timely *notification* plus additional data and information to the Joint Committee as provided in the Rules for Water Utilization and Inter-Basin Diversion under Article 26, that would allow the other member riparians to discuss and evaluate the impact of the *proposed use* upon their uses and of water and any other affects, which is the basis for arriving at an agreement.

Prior consultation is neither a right to veto a use nor unilateral right to use water by any riparian without taking into account other riparians' rights.

Proposed use: Any proposal for a definite use of the waters of the Mekong River system by any riparian, excluding domestic and minor uses of water not having a significant impact on mainstream flows.

CHAPTER III. OBJECTIVES AND PRINCIPLES OF COOPERATION

The parties agree:

Article 1. Areas of cooperation

To cooperate in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin, including, but not limited to irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation and tourism, in a manner to optimize the multiple-use and mutual benefits of all riparians and to minimize the harmful effects that might result from natural occurrences and man-made activities.

Article 2. Projects, programs and planning

To promote, support, cooperate and coordinate in the development of the full potential of sustainable benefits to all riparian States and the prevention of wasteful use of Mekong River Basin waters, with emphasis and preference on joint and/or basinwide development projects and basin programs through the formulation of a basin development plan, that would be used to identify, categorize and prioritize the projects and programs to seek assistance for and to implement at the basin level.

Article 3. Protection of the environment and ecological balance

To protect the environment, natural resources, aquatic life and conditions, and ecological balance of the Mekong River Basin from pollution or other harmful effects resulting from any development plans and uses of water and related resources in the Basin.

Article 4. Sovereign equality and territorial integrity

To cooperate on the basis of sovereign equality and territorial integrity in the utilization and protection of the water resources of the Mekong River Basin.

Article 5. Reasonable and equitable utilization

To utilize the waters of the Mekong River system in a reasonable and equitable manner in their respective territories, pursuant to all relevant factors and circumstances, the Rules for Water Utilization and Interbasin Diversion provided for under Article 26 and the provisions of A and B below:

A. On tributaries of the Mekong River, including Tonle Sap, intra-basin uses and inter-basin diversions shall be subject to notification to the Joint Committee.

B. On the mainstream of the Mekong River:

1 During the wet season:
a) Intra-basin use shall be subject to notification to the Joint Committee.
b) Inter-basin diversions shall be subject to prior consultation which aims at arriving at an agreement by the Joint Committee.

2 During the dry season:
a) Intra-basin use shall be subject to prior consultation which aims at arriving at an agreement by the Joint Committee.
b) Any inter-basin diversion shall be agreed upon by the Joint Committee through a specific agreement for each project prior to any proposed diversion. However, should there be a surplus quantity of water available in excess of the proposed uses of all parties in any dry season, verified and unanimously confirmed as such by the Joint Committee, an inter-basin diversion of the surplus could be made subject to prior consultation.

Article 6. Maintenance of flows on the mainstream

To cooperate in the maintenance of the flows on the mainstream from diversions, storage releases, or other actions of a permanent nature; except in the cases of historically severe droughts and/or floods:

A. Of not less than the acceptable minimum monthly natural flow during each month of the dry season;

B. To enable the acceptable natural reverse flow of the Tonle Sap to take place during the wet season; and

C. To prevent average daily peak flows greater than what naturally occur on the average during the flood season.

The Joint Committee shall adopt guidelines for the locations and levels of the flows, and monitor and take action necessary for their maintenance as provided in Article 26.

Article 7. Prevention and cessation of harmful effects

To make every effort to avoid, minimize and mitigate harmful effects that might occur to the environment, especially the water quantity and quality, the aquatic (ecosystem) conditions, and ecological balance of the river system, from the development and use of the Mekong River Basin water resources or discharges of wastes and return flows. Where one or more States is notified with proper and valid evidence that it is causing substantial damage to one or more riparians from the use of and/or discharge to water of the Mekong River, that State or States shall cease immediately the alleged cause of harm until such cause of harm is determined in accordance with Article 8.

Article 8. State responsibility for damages

Where harmful effects cause substantial damage to one or more riparians from the use of and/or discharge to waters of the Mekong River by any riparian state, the party(ies) concerned shall determine all relative factors, the cause, extent of damage and responsibility for damages caused by that state in conformity with the principles of international law relating to state responsibility, and to address and resolve all issues, differences and disputes in an amicable and timely manner by peaceful means as provided in Articles 34 and 35 of this Agreement, and in conformity with the Charter of the United Nations.

Article 9. Freedom of navigation

On the basis of equality and right, freedom of navigation shall be accorded throughout the mainstream of the Mekong River without regard to the territorial boundaries, for transportation and communication to promote regional cooperation and to satisfactorily implement projects under this Agreement. The Mekong River shall be kept free from obstructions, measures, conduct and actions that might directly or indirectly impair navigability, interfere with this right or permanently make it more difficult. Navigational uses are not assured any priority over other uses, but will be incorporated into any mainstream project. Riparians may issue regulations for the portions of the Mekong River within their territories, particularly in sanitary, customs and immigration matters, police and general security.

Article 10. Emergency situations

Whenever a party becomes aware of any special water quantity or quality problems constituting an emergency that requires an immediate response, it shall notify and consult directly with the party(ies)

concerned and the Joint Committee without delay in order to take appropriate remedial action.

CHAPTER IV. INSTITUTIONAL FRAMEWORK

A. MEKONG RIVER COMMISSION

Article 11. Status

The institutional framework for cooperation in the Mekong River Basin under this Agreement shall be called the Mekong River Commission and shall, for the purpose of the exercise of its functions, enjoy the status of an international body, including entering into agreements and obligations with the donor or international community.

Article 12. Structure of Mekong River Commission

The Commission shall consist of three permanent bodies:
- Council,
- Joint Committee, and
- Secretariat.

Article 13. Assumption of assets, obligations and rights

The Commission shall assume all the assets, rights and obligations of the Committee for the Coordination of Investigations of the Lower Mekong Basin (mekong Committee/Interim Mekong Committee) and Mekong Secretariat.

Article 14. Budget of the Mekong River Commission

The budget of the Commission shall be drawn up by the Joint Committee and approved by the Council and shall consist of contributions from member countries on an equal basis unless otherwise decided by the Council, from the international community (donor countries), and from other sources.

B. COUNCIL

Article 15. Composition of Council

The Council shall be composed of one member from each participating riparian State at the Ministerial and Cabinet level, (no less than Vice-Minister level) who would be empowered to make policy decisions on behalf of his/her government.

Article 16. Chairmanship of Council
The Chairmanship of the Council shall be for a term of one year and rotate according to the alphabetical listing of the participating countries.

Article 17. Sessions of the Council

The Council shall convene at least one regular session every year and may convene special sessions whenever it considers it necessary or upon the request of a member State. It may invite observers to its sessions as it deems appropriate.

Article 18. Functions of Council

The functions of the Council are:

A. To make policies and decisions and provide other necessary guidance concerning the promotion, support, cooperation and coordination in joint activities and projects in a constructive and mutually beneficial manner for the sustainable development, utilization, conservation and management of the Mekong River Basin waters and related resources, and protection of the environment and aquatic conditions in the Basin as provided for under this Agreement;

B. To decide any other policy-making matters and make decisions necessary to successfully implement this Agreement, including but not limited to approval of the Rules of Procedures of the Joint Committee under Article 25, Rules of Water Utilization and Inter-Basin Diversions proposed by the Joint Committee under Article 26, and the basin development plan and major component projects/programs; to establish guidelines for financial and technical assistance of development projects and programs; and if considered necessary, to invite the donors to coordinate their support through a Donor Consultative Group; and

C. To entertain, address and resolve issues, differences and disputes referred to it by any Council member, the Joint Committee, or any member State on matters arising under this Agreement.

Article 19. Rules of Procedures

The Council shall adopt its own Rules of Procedures, and may seek technical advisory services as it deems necessary.

Article 20. Decisions of Council

Decisions of the Council shall be by unanimous vote except as otherwise provided for in its Rules of Procedures.

C. JOINT COMMITTEE

Article 21. Composition of Joint Committee

The Joint Committee shall be composed of one member from each participating riparian State at no less that Head of Department level.

Article 22. Chairmanship of Joint Committee

The Chairmanship of the Joint Committee will rotate according to the reverse alphabetical listing of the member countries and the Chairperson shall serve a term of one year.

Article 23. Sessions of Joint Committee

The Joint Committee shall convene at least two regular sessions every year and may convene special sessions whenever it considers it necessary or upon the request of a member State. It may invite observers to its sessions as it deems appropriate.

Article 24. Functions of Joint Committee

The functions of the Joint Committee are:

A. To implement the policies and decisions of the Council and such other tasks as may be assigned by the Council.

B. To formulate a basin development plan, which would be periodically reviewed and revised as necessary; to submit to the Council for approval the basin development plan and joint development projects/programs to be implemented in connection with it; and to confer with donors, directly or through their consultative group, to obtain the financial and technical support necessary for project/program implementation.

C. To regularly obtain, update and exchange information and data necessary to implement this Agreement.

D. To conduct appropriate studies and assessments for the protection of the environment and maintenance of the ecological balance of the Mekong River Basin.

E. To assign tasks and supervise the activities of the Secretariat as is required to implement this Agreement and the policies, decisions projects and programs adopted thereunder, including the

maintenance of databases and information necessary for the Council and Joint Committee to perform their functions, and approval of the annual work program prepared by the Secretariat.

F. To address and make every effort to resolve issues and differences that may arise between regular sessions of the Council, referred to it by any Joint Committee member or member state on matters arising under this Agreement, and when necessary to refer the matter to the Council.

G. To review and approve studies and training for the personnel of the riparian member countries involved in Mekong River Basin activities as appropriate and necessary to strengthen the capability to implement this Agreement.

H. To make recommendations to the Council for approval on the organizational structure, modifications and restructuring of the Secretariat.

Article 25. Rules of Procedures

The Joint Committee shall propose its own Rules of Procedures to be approved by the Council. It may form ad hoc and/or permanent sub-committees or working groups as considered necessary, and may seek technical advisory services except as may be provided for in the Council's Rules of Procedures or decisions.

Article 26. Rules for Water Utilization and Inter-Basin Diversions

The Joint Committee shall prepare and propose for approval of the Council, inter alia, Rules for Water Utilization and Inter-Basin Diversions pursuant to Articles 5 and 6, including but not limited to: 1) establishing the time frame for the wet and dry seasons; 2) establishing the location of hydrological stations, and determining and maintaining the flow level requirements of each station; 3) setting out criteria for determining surplus quantities of water during the dry season on the mainstream; 4) improving upon the mechanism to monitor intra-basin use; and 5) setting up a mechanism to monitor inter-basin diversions from the mainstream.

Article 27. Decisions of the Joint Committee

Decisions of the Joint Committee shall be by unanimous vote except as otherwise provided for in its Rules of Procedures.

D. SECRETARIAT

Article 28. Purpose of Secretariat

The Secretariat shall render technical and administrative services to the Council and Joint Committee, and be under the supervision of the Joint Committee.

Article 29. Location of Secretariat

The location and structure of the permanent office of the Secretariat shall be decided by the Council, and if necessary, a headquarters agreement shall be negotiated and entered into with the host government.

Article 30. Functions of the Secretariat

The functions and duties of the Secretariat will be to:

A. Carry out the decisions and tasks assigned by the Council and Joint Committee under the direction of and directly responsible to the Joint Committee;

B. Provide technical services and financial administration and advise as requested by the Council and Joint Committee;

C. Formulate the annual work program, and prepare all other plans, project and program documents, studies and assessments as may be required;

D. Assist the Joint Committee in the implementation and management of projects and programs as requested;

E. Maintain databases of information as directed;

F. Make preparations for sessions of the Council and Joint Committee; and

G. Carry out all other assignments as may be requested.

Article 31. Chief Executive Officer

The Secretariat shall be under the direction of a Chief Executive Officer (CEO), who shall be appointed by the Council from a short-list of qualified candidates selected by the Joint Committee. The Terms of Reference of the CEO shall be prepared by the Joint Committee and approved by the Council.

Article 32. Assistant Chief Executive Officer

There will be one Assistant to the CEO, nominated by the CEO and approved by the Chairman of the Joint Committee. Such Assistant will be of the same nationality as the Chairman of the Joint Committee and shall serve for a co-terminus one-year term.

Article 33. Riparian staff

Riparian technical staff of the Secretariat is to be recruited on a basis of technical competence, and the number of posts shall be assigned on an equal basis among the members. Riparian technical staff shall be assigned to the Secretariat for no more than two three-year terms, except as otherwise decided by the Joint Committee.

CHAPTER V. ADDRESSING DIFFERENCES AND DISPUTES

Article 34. Resolution by Mekong River Commission

Whenever any difference or dispute may arise between two or more parties to this Agreement regarding any matters covered by this Agreement and/or actions taken by the implementing organization through its various bodies, particularly as to the interpretations of the Agreement and the legal rights of the parties, the Commission shall first make every effort to resolve the issue as provided in Articles 18.C and 24.F.

Article 35. Resolution by Governments

In the event the Commission is unable to resolve the difference or dispute within a timely manner, the issue shall be referred to the Governments to take cognizance of the matter for resolution by negotiation through diplomatic channels within a timely manner, and may communicate their decision to the Council for further proceedings as may be necessary to carry out such decision. Should the Governments find it necessary or beneficial to facilitate the resolution of the matter, they may, by mutual agreement, request the assistance of mediation through an entity or party mutually agreed upon, and thereafter to proceed according to the principles of international law.

CHAPTER VI. FINAL PROVISIONS

Article 36. Entry into force and prior agreements

The Agreement shall:

A. Enter into force among all parties, with no retroactive effect upon activities and projects previously existing, on the date of signature by the appointed plenipotentiaries.

B. Replace the Statute of the Committee for Coordination of Investigations of the Lower Mekong Basin of 1957 as amended, the Joint Declaration of Principles for Utilization of the Waters of the Lower Mekong

Basin of 1975, the Declaration Concerning the Interim Committee for Coordination of Investigations of the Lower mekong Basin of 1978, and all Rules of Procedures adopted under such agreements. This Agreement shall not replace or take precedence over any other treaties, acts or agreements entered into by and among any of the parties hereto, except that where a conflict in terms, areas of jurisdiction of subject matter or operation of any entities created under existing agreements occurs with any provisions of this Agreement, the issues shall be submitted to the respective governments to address and resolve.

Article 37. Amendments, modification, supersession and termination

This Agreement may be amended, modified, superseded or terminated by the mutual agreement of all parties hereto at the time of such action.

Article 38. Scope of Agreement

This Agreement shall consist of the Preamble and all provisions thereafter and amendments thereto, the Annexes, and all other agreements entered into by the Parties under this Agreement. Parties may enter into bi- or multi-lateral special agreements or arrangements for implementation and management of any programs and projects to be undertaken within the framework of this Agreement, which agreements shall not be in conflict with this Agreement and shall not confer any rights or obligations upon the parties not signatories thereto, except as otherwise conferred under this Agreement.

Article 39. Additional parties to Agreement

Any other riparian State, accepting the rights and obligations under this Agreement, may become a party with the consent of the parties.

Article 40. Suspension and withdrawal

Any party to this Agreement may withdraw or suspend their participation under present Agreement by giving written notice to the Chairman of the Council of the Mekong River Commission, who shall acknowledge receipt thereof and immediately communicate it to the Council representatives of all remaining parties. Such notice of withdrawal or suspension shall take effect one year after the date of acknowledgement of receipt unless such notice is withdrawn beforehand or the parties mutually agree otherwise. Unless mutually agreed upon to the contrary by all remaining parties to this Agreement, such notice shall not be prejudicial to nor relieve the noticing party of any commitments entered into concerning programs, projects, studies or other recognized rights and interests of any riparians, or under international law.

Article 41. United Nations and international community involvement

The member countries to this Agreement acknowledge the important contribution in the assistance and guidance of the United nations, donors and the international community and wish to continue the relationship under this Agreement.

Article 42. Registration of Agreement

This Agreement shall be registered and deposited, in English and French, with the Secretary General of the United Nations.

IN WITNESS WHEREOF, the undersigned, duly authorized by their respective governments, have signed this Agreement.

DONE on 5 April 1995 at Chiang Rai, Thailand, in English and French, both texts being equally authentic. In the case of any inconsistency, the text in the English language, in which language the Agreement was drawn up, shall prevail.

(Signatures)

ANNEX 2[281]: Summary of Key Events on Xayaburi dam

May 4, 2007
A Memorandum of Understanding (MoU) for the proposed Xayaburi Dam was signed between the Government of Lao PDR and the project's lead developer, Ch.Karnchang. The Laos PDR government and Ch.Karnchang agreed to conduct feasibility studies for the Xayaburi project.

November 2008
Laos PDR and Ch.Karnchang signed the Project Development Agreement.

February 2010
The EIA report was submitted to the Laos PDR government.

June 2010
Xayaburi Power Company Ltd. was established and registered.

July 2010
A Memorandum of Understanding (MOU) was signed by EGAT and the Laos PDR government agreeing to the eventual signing of a PPA for Xayaburi.

September 2010
The EIA report was approved and an Environment Compliance Certificate was issued. The Laos NMC submitted Xayaburi project documents to the MRC.

October 1, 2010
The PNPCA process for the project began.

October 29, 2010
The Concession Agreement was signed.

December 10, 2010
The NEPC issued a resolution, per the Ministry of Energy's recommendation, allowing EGAT to sign the PPA after the following conditions are met:
- The Xayaburi project shall comply with the 1995 Mekong Agreement;
- The draft of the PPA shall undergo approval of the Attorney General, with no need for further Cabinet re-approval if only non-substantive amendments are made;
- The EPPO and EGAT shall disclose information to the public;

[281] Memorandum on Legal Aspects of Challenge in Administrative Court of Thailand to Approval by Thai Agencies of Power Purchase Agreement and Loan by Krung Thai Bank for Xayaburi Dam in Lao PDR (2012)

- Any dispute related to the PPA shall be settled through arbitration, with Bangkok as the seat of arbitration, and with proceedings being conducted in Thai; the PPA shall require further approval from Cabinet after the NEPC approves the arbitration clause.

December 30, 2010
The Thai NEPC approved the PPA with conditions.

January 11, 2011
Cabinet issued a resolution acknowledging NEPC Resolution No. 4/2010 dated December 10, 2010.

February 14, 2011
The Laos PDR government stated that construction of the dam will not begin until the PNPCA is completed.

March 1, 2011
A Shareholders' Agreement was signed between Ch. Karnchang and P.T. Construction and Irrigation Company Ltd., Natee Synergy Company Ltd., and Electricity Generating Public Company Ltd.

March 24, 2011
The final draft of the MRC prior consultation review report was released.

April 19, 2011
The MRC Joint Committee agreed to defer the decision on whether or not to build the Xayaburi Dam to a future ministerial level meeting. The MRC subsequently announced on its website that this will be done at an MRC Council meeting.

May 5, 2011
The Government of Laos PDR hired Swiss consulting company Pöyry to carry out a compliance study of the Xayaburi Dam.

June 2011
Laos PDR declared that the PNPCA process for the Xayaburi Dam is complete.[282] The Pöyry report found the project to be principally in compliance with the MRC's requirements, yet also recommended that over 40 studies be conducted before the dam is built.

[282] MRC, Lower Mekong countries take prior consultation on Xayaburi project to ministerial level, April 19, 2011, at http://www.mrcmekong.org/news-and-events/news/lower-mekong-countries-take-prior-consultation-on-xayaburi-project-to-ministerial-level

September 2011
Laos PDR stated that the Pöyry report has been completed and was being sent to regional governments for consideration.

October 29, 2011
EGAT signed the PPA without the required public disclosure.

November 15, 2011
The Cabinet approved the loan agreement, contract of suretyship and other financial agreements related to the financing of the Xayaburi project by Krung Thai Public Bank.

December 6, 2011
Water and environment ministers who comprise the MRC Council agreed in that there is a need for further study on the sustainable development and management of the Mekong River, including impacts from mainstream hydropower development projects. The MRC Council Decision minutes states, "The Council of the MRC agreed in principle to implement the outcome of the verbal discussion by the member countries' Prime Ministers in the 3rd Mekong-Japan Summit in Bali, Indonesia in November 2011, to approach the Government of Japan to support the conduct of a study on sustainable management and development of the Mekong River including impacts by mainstream hydropower projects."

2012
Lao PDR commissioned French company CNR to review Poyry's 2011 study. This review has been criticized for not addressing concerns about the project's effect on fish in the Lower Mekong River.

February 2012
EGAT, through Director Pharuhas Wonthanes, confirmed in a public forum that it had signed the PPA in October 2011. The Thai National Human Rights Commission started the public investigation of the Xayaburi power purchase, and called all relevant public and private actors.

March 2012
An agreement was signed among companies for construction of the dam project, as confirmed by Ch Karnchang in April 2012.

April 2012
The Cambodia National Mekong Committee, through its Chair and Minister of Water Resources and Meteorology Lim Kean Hor, lodged its official protest over the reported start of construction of the project through a letter sent to the Lao National Mekong

Committee, through its Chair and Minister of Natural Resources and Environment Mr. Noulinh Sinbandhit, seeking cooperation through the halting of activities related to the construction of the Xayaburi Dam project, and urging the implementation of actions and measures for the study on sustainable management and development of the Mekong River under the Tokyo Strategy for Mekong-Japan Cooperation. "No construction of the Xayaburi Dam should proceed while further study is underway as it would violate the Mekong spirit, trust and goodwill of neighboring countries."

April 17, 2012

Ch Karnchang announced to the Thai Stock Exchange that it had signed a contract for the construction of the dam beginning March, despite calls from the MRC to wait for a further study. It signed a USD 1.7 billion contract with Xayaburi Power Co. for construction of the dam. Work on the dam had commenced on March 15, the company said on its website.[283]

Media and Mekong basin stakeholders reported that the preliminary construction on the Xayaburi Dam has continued despite the lack of regional agreement and with the proposed impact study not having yet been pursued.

April 20, 2012

In a statement to media, Vietnam's representative to the Mekong River Commission Le Duc Trung said that Ch. Karnchang Public Company Limited's contract with the Lao Xayaburi Power Company violates the agreement made by MRC member countries. He said that the Thai company's action contradicted the Lao government's pledge to suspend dam construction until procedures of notification, prior consultation and agreement were complete.[284]

April 24, 2012

The Vietnam Union of Science and Technology Association, a scientists' group, voiced its concern over the dam, saying that the project will threaten regional food security and affect the lives of millions downstream, particularly in the Mekong delta, the heart of the country's rice production.

April 30, 2012

Thai energy experts led by Chuenchom Sangasri Greacen presented an alternative power development plan to the Energy Regulatory Commission ("ERC"). Officials from the Ministry of Energy and the EGAT were also in the audience. Called the "Power

[283] Radio Free Asia, Xayaburi Dam construction suspended, *at* http://www.rfa.org/english/news/laos/xayaburi-05092012154022.html.

[284] Talk Vietnam, MRC Vietnam condemns Thai company's contract to build Xayaburi dam, *at* http://talkvietnam.com/2012/04/mrc-vietnam-condemns-thai-companys-contract-to-build-xayaburi-dam/.

Development Plan (PDP) 2012 and a Framework for Improving Accountability and Performance of Power Sector Planning," the plan criticizes the country's plan for investing in energy infrastructure and recommends ways where energy use could be reduced. The plan shows that power from the Xayaburi Dam on the Mekong River, as well as proposed nuclear power plants, are not needed to meet Thailand's future energy needs, and that investment in energy efficiency, renewables and co-generation could lower electricity bills for consumers by 12 percent by 2030 and avoid unnecessary investment of USD 60 billion (or THB two trillion).

May 1, 2012

Thai group representing residents of eight Thai provinces along the Mekong, from Chiang Rai to Ubon Ratchathani, had a meeting with MRC CEO Hans Guttman. The representatives from affected communities sought answers to ambiguities that have surrounded the future of the Xayaburi Dam and other mainstream dams – particularly whether the prior consultation process for the Xayaburi Dam remains open and whether approval has been granted to build the dam.

MRC countries agree that construction on the Xayaburi Dam must be suspended, and that it needs further study before it can be built.

May 9, 2012

Radio Free Asia reported the director of the Lao Ministry of Foreign Affairs Sithong Chitgnothin as saying that, "no construction is going on; it has been discontinued, postponed." He said that Laos would stand by agreements of the MRC.

May 14, 2012

The MRC Secretariat replied to Save the Mekong coalition's request for clarifications on the Prior Consultation for the Xayaburi project. According to Hans Guttman, MRC Secretariat CEO, "At the end of the six-month timeframe of the process in April 2011, due to differing views of the four countries, no consensus could be reached on whether or not the consultation should be considered complete."

ANNEX 3 Impacts and Benefits to Human Security of Xayaburi Dam[285]

	Impacts Benefits	Impacts Benefits
Economic Security (Riparian)	- Physical resettlement of approximately 2,130 people from 10 villages. - More than 200,000 people located nearby would be affected due to impacts to fisheries, and loss of agricultural land and riverbank gardens, gold panning activities and access to non-timber forest products	• Employment during construction • Electricity promised to be provided to some local riparian communities
Economic Security (National/ Regional)	- Reliability of hydropower uncertain due to changing Mekong River hydrology because of unpredictable climate change - Risks that benefit-sharing mechanisms fail and economic benefits are not distributed down to the local level - The economic benefits of electricity use versus incurred costs due to loss of natural resources will accrue unequally within and between countries, widening inequality	• Revenues for the private sector hydropower developers, project financiers and the Government of Lao PDR • FDI as an economic stimulus in Lao PDR • Diversification of electricity generation fuel sources in Thailand, and reduced reliance on fuel imports from outside the Mekong Region • Improved navigability of the river to trading vessels
Food Security (Riparian)	- Loss of wild-capture fisheries, and changes to aquatic habitat and ecosystem (270,000 and 600,000 tons per year for full upper cascade) - Loss of river bank gardens and subsistence agriculture. Replacing lost food sources will be challenging, especially given current institutional weaknesses.	
Food security	Impacts potentially basin wide, including to Thailand, Cambodia and Vietnam's Mekong Delta,	

[285] A summary of the most significant potential benefits and impacts to the Human Security of riparian communities living nearby the Xayaburi dam, as well as beyond the project locality at the regional scale (produced by Carl Middleton (2011), Thabchumpon and Middleton (2011), utilizing data and analysis from ICEM 2010).

(Regional)		
Health Security (Riparian)	Health impacts from undernourishment a real risk if resettlement and livelihoods programs are inadequate.	New infrastructure in resettlement villages, such as public water supply and clinics, could improve health.
Environment Security (Riparian - regional)	- Hydrological changes affecting the Mekong River's flood-pulse ecosystem. - Irreversible ecosystem changes; for example, up to 41 fish species would be at risk of extinction. - Changes to sediment load could increase erosion and affect agricultural soil fertility	Less GHG emissions compared to fossil-fuel fired power stations
Personal Security (Riparian)	- Changes in access to and control over natural resources that are essential to livelihoods and ways of life, including gender differentiated impacts - Risk of violence if opposing the project - Changes in the river hydrology due to dam operation could constitute a safety risk to riverside communities - Climate change increases the likelihood of extreme weather events, that could surpass dam safety design	
Community Security (Riparian)	- Indigenous communities are located in the area to be resettled or otherwise affected - River-orientated culture, customs, and values of riparian communities would change	
Political	- Individual rights may be threatened	

Security (Riparian)	- Limited access to information, justice, or participation, in particular in Lao PDR	
Political Security (regional)	- Institutional arrangements and rules for managing privately operated mainstream hydropower projects are yet to be developed, and constitutes risks to international cooperation - Reduced ecosystem integrity, fisheries and agriculture productivity, and disruption to existing Mekong River uses could create national and cross-border tensions between the main project beneficiaries and those bearing project impacts - Migration of people affected by the project internally or across borders could create tensions with recipient populations	Deepening regional economic and power sector integration act as impetus for improved diplomacy between countries

ANNEX 4 Summary of impacts at Xayaburi project and cascade levels[286]

Findings on probable impacts of the Xayaburi Dam are summarized in independent expert reports and the MRC's own review report. These impact findings specific to the Xayaburi Dam mirror findings on impacts of mainstream dams in general. Studies of international experts on environmental and social impacts of the dam project have concluded that it would likely cause devastating effects that cannot be mitigated. The SEA commissioned by the MRC says the same about the impacts of the eleven proposed mainstream dams. There is, at present, no way of building the Xayaburi Dam without causing severe and long-lasting environmental and social damage.

Environmental Impacts

Ch Karnchang commissioned environmental[287] and social impact assessments[288] for Xayaburi, which found that the project would have acceptable impact levels and approved of existing mitigation measures. However, the findings of these assessments are inconsistent with the findings of independent international experts on the potential impacts of the Xayaburi dam, and of the SEA commissioned by the MRC on the potential impacts of proposed dams on the lower Mekong mainstream. The EIA findings, which did not include a transboundary assessment of impacts, have been criticized, and more in-depth studies have concluded that the plans for the dam would cause devastating effects on the natural environment that cannot be mitigated, including:

- Likely extinction of 41 critically threatened species, including the giant Mekong catfish;
- Overall significant reduction in biomass of fish in the Mekong River due to changed hydrology and inability of migratory species to circumvent the dam;
- Trapping of sediment, resulting in reduction of nutrients availability to downstream farmlands and fisheries and deterioration in water quality.

The MRC's Prior Consultation Project Review Report[289], which provides an assessment of the nature and expected impacts of the Xayaburi Dam, echoes the potential effect on hydrology and the rapidly changing fluctuation of water levels downstream. On fisheries, it states that the construction of a dam and reservoir at Xayaburi will introduce barrier effects to fish migration that the Fisheries Expert Group considers could potentially affect 23 to 100 species, including 5 in the IUCN Red List. The Xayaburi location is considered important to the Upper Lower Mekong Basin migration zone and includes several spawning sites, habitats and deep pool refuges. This importance is not fully recognized in the submitted documents. Uncertainty remains high due to knowledge gaps on

[286] Memorandum on Legal Aspects of Challenge in Administrative Court of Thailand to Approval by Thai Agencies of Power Purchase Agreement and Loan by Krung Thai Bank for Xayaburi Dam in Lao PDR (2012)
[287] Team Consulting Engineering and Management Co., Ltd., Environmental Impact Assessment: Xayaburi Hydroelectric Power Project, Lao PDR, Aug. 2010 ("Developer's EIA"), *available at* http://www.mrcmekong.org/news-and-events/consultations/proposed-xayaburi-hydropower-project-prior-consultation-process/.
[288] The Team Consulting Engineering and Management Co., Ltd., Social Impact Assessment: Xayaburi Hydroelectric Power Project, Lao PDR, August 2010 ("Developer's SIA"), *available at* http://www.mrcmekong.org/news-and-events/consultations/proposed-xayaburi-hydropower-project-prior-consultation-process/.
[289] MRC, Prior Consultation Project Review Report, March 24, 2011.

migratory fish, particularly in the peak wet season. The Fisheries Expert Group in this report also concluded that while some elements of an effective fish bypass have been provided, the design of the fish ladder for upstream migration and the provision for downstream migration of larvae and fry will be ineffective. The likelihood that large species longer than 150 cm can successfully bypass the dam upstream is low meaning there is a strong possibility of the naturally migrating Mekong giant catfish becoming extinct. On sedimentation, the Sediment Expert Group concluded that the provisions in the submitted documents do not reflect the Preliminary Design Guidance of the MRC, nor international good practice for sediment management.

These effects, along with the expected physical displacement of thousands of residents and inundation of farmland, will endanger food security and pose a threat to the livelihoods of hundreds of thousands of people who live along the Mekong River. The proposed developments, when under construction and throughout operations, also have the potential to create international tensions within the Lower Mekong Basin.[290]

Xayaburi is the first of eleven proposed dams in the Lower Mekong Basin. There are already four dams either operating or under construction in China, with four more planned. Whether the Xayaburi Dam proceeds is critical. There are six proposed dams in northern Lao PDR on the Mekong River: eleven in total along the entire Lower Mekong Basin below China. It is expected that if the Xayaburi Dam moves forward, it is very likely to lead to the approval of the five other dams in northern Lao PDR, as well as five further dams in southern Lao PDR and Cambodia. Lao PDR has demonstrated that it may be prepared to flout the objections of the other riparian states and move ahead unilaterally with the Xayaburi Dam, with Thailand purchasing the electricity. It is therefore considered that the completion of Xayaburi Dam will inevitably lead to the completion of at least some other mainstream dams, and that therefore the risks of those dams are also attributable to the Xayaburi developer and financiers. As the first project to go through the MRC's prior consultation process, it would set a precedent for how the governments make decisions on the other dams. The resulting cascade of dams will have significant cumulative impacts that would require further assessment.

Extinction of endangered fish species

The Mekong River fisheries are among the most biodiverse and productive in the world, with over 1,000 recorded species and fish harvests that total over USD 3 billion annually.[291] The Mekong is home to a number of emblematic giant freshwater fish, most of which are endangered, including the Mekong giant catfish, the giant pangasius, the seven-striped barb, and the giant barb – all species

[290] ICEM for MRC, SEA of Hydropower on the Mekong Mainstream: Final Report 135, Oct. 2010 ("SEA Final Report"), *at* http://www.mrcmekong.org/news-and-events/consultations/proposed-xayaburi-hydropower-project-prior-consultation-process/.

[291] Zeb Hogan, Imperiled Giant Fish and Mainstream Dams in the Lower Mekong Basin: Assessment of Current Status, Threats, and Mitigation 1, April 2011, *available at* http://www.internationalrivers.org/files/Hogan%20Fisheries%20EIA%20review.pdf.

that were once widespread throughout the Mekong basin but have in recent years dropped perilously in numbers.

The Xayaburi Dam's EIA concludes that fish populations will not be significantly impacted by the operation of the dam because "the project component will include fish pass facility"[292]. However, follow-up studies by independent experts and the MRC have come to the opposite conclusion. Zeb Hogan, Director of the National Geographic Society Megafishes Project, writes in a report to the MRC that the EIA failed to adequately consider the literature on fish migration in the Mekong River, improperly confined its scope to the immediate area of the dam, and overlooked the near-certainty that endangered giant fish species use the dam area as a migration corridor.[293] Given that adequate mitigation measures may not exist for fish so large, Hogan concludes, "Impacts from the dam could conceivably cause the extinction of the species."[294] Another study indicates that the fish passage facilities as designed to meet only four out of 39 criteria listed in the MRC's Preliminary Design Guidance for dams on the Mekong.[295] An international expert group convened by the MRC Secretariat has gone further, concluding that "current fish-passage technology would not be effective in maintaining the migration of the large number and diverse fish species found in the Mekong."[296] The Preliminary Design Guidance requires that any fish passage facilities be able to achieve 95 percent success rate; Xayaburi developers have not been able to demonstrate this.

Reduction in fish biomass

The Xayaburi project EIA does not evaluate the impact of the dam on the overall biodiversity and biomass of fish in the Mekong River. These impacts would arise largely from the barrier and hazard that the dam itself will pose to migrating fish, as well as the fact – overlooked entirely by the EIA – that the dam will create an upstream reservoir about 102 km in length.

The Project Review Report notes that the biomass of fish in the Mekong River may be 100 times greater than that in the Columbia River, whose fish bypass system served as the model for the proposed Xayaburi design.[297] It concludes that the fish passage facilities as designed are not adequate to handle the high biomass and diversity characteristic of the Mekong fisheries. The full cascade would block access to 90 percent of the upper Mekong fish migration system and would likely disrupt the migration of more than 100 fish species.[298] The biomass problem is likely to be even more acute for downstream dams in Laos in Cambodia, as the volume of fish migrating in

[292] Developer's EIA, *at* 5-12.
[293] Hogan 2011, *at* 2.
[294] *Id*. at 3, 5.
[295] Baran et al., Review of the Fish and Fisheries Aspects in the Feasibility Study and the Environmental Impact Assessment of the Proposed Xayaburi Dam on the Mekong Mainstream 6, Mar. 2011, available at *assets.panda.org/downloads/wwf_xayaburi_dam_review310311.pdf*.
[296] P. Dugan, Mainstream dams as barriers to fish migration: international learning and implications for the Mekong in Catch and Culture 12 (MRCS), Vol. 14 No. 3, Dec. 2008, at http://www.mrcmekong.org/assets/Publications/Catch-and-Culture/CatchCulturevol14.3.pdf
[297] MRC Prior Consultation Project Review Report, at 24.
[298] *Id*. at 39.

those zones is higher than at Xayaburi.[299] Even if proposed mitigation measures are taken into account, the report forecasts that the cascade of six Lao dams (along with additional dams on Mekong tributaries that are expected to be built) will lead to an overall drop in capture fish production of at least 16 percent in Lao PDR, five percent in Thailand, 18 percent in Cambodia and 16 percent in Vietnam – and possibly much higher.[300]

Baran et al. find that the construction of Xayaburi will cause at least six additional Mekong fish species to become endangered and one to become critically endangered.[301] They also note that the developer's EIA completely ignores the change in fish composition of the 102 km stretch of the Mekong River upstream of Xayaburi that will be converted into a reservoir. The population along the river depends largely on locally caught fish, and reservoir creation is generally associated with dramatic shifts in fish population that have not been quantified at all.[302] Specifically, there are at least 41 species of fish found only in the mainstream of the Mekong River upriver of Vientiane, which could be threatened by the alteration of their habitat.[303]

The MRC's SEA concurs with many of these findings and further concludes that the losses to fish population occasioned by the planned mainstream dams cannot be compensated adequately by the creation of reservoir fisheries, nor is aquaculture a feasible replacement for the lost fisheries.[304]

Sedimentation

Both the MRC's Preliminary Design Guidance and the Lao Department of Electricity's Optimization Study of Mekong Mainstream Hydropower recognize sediment trapping as a potential danger of the mainstream dams. In particular, they identify the following as major impacts of sedimentation:

- Interference with flow of nutrients downstream, with potential transboundary impacts on the health of fisheries and agricultural lands;
- Transformation of the river bed and banks upstream, which could cause local flooding;
- Interference with dam functioning and eventual reduction of reservoir capacity;
- Erosion and lowering of water table downstream;
- Creation of obstacles to downstream navigation.

---

[299] *Id*. at 98.

[300] *Id*. at 37-38. The Strategic Impact Assessment elaborates that the 6 Lao dams would be responsible for a reduction of 3%, or 60,000 tons of fish; the remainder would be attributable to increased tributary dams construction. If the full slate of mainstream dams were to be constructed throughout the Lower Mekong Basin, they would account for a loss of approximately 340,000 tons of fish resources annually. See International Centre for Environmental Management, Strategic Environmental Assessment of Hydropower on the Mekong Mainstream: Summary of the Final Report 15 (Oct. 2010) ("SEA Summary"), available at http://www.mrcmekong.org/news-and-events/consultations/proposed-xayaburi-hydropower-project-prior-consultation-process/.

[301] Baran 2011, at 21.

[302] *Id*. at 22-23.

[303] *Id*. at 21.

[304] *See* SEA Summary, at 15-16.

The Xayaburi EIA describes the dam as a run-of-river dam[305] and, therefore, foresees no problem with sediment trapping during its operational period. It does envisage severe erosion during the construction phase. It therefore proposes only basic measures to facilitate the flushing of sand from the area immediately upstream of the powerhouse.[306] However, as Baran et al. conclude, Xayaburi, with its large superstructure, probably does not qualify as a run-of-river dam.[307]

The Sediment Expert Group (SEG), which provided expert advice to the MRC on the preparation of the Project Review Report, concludes that sedimentation could become a major problem for Xayaburi unless the project design includes sedimentation routing and flushing capabilities.[308] However, given that the project developer does not foresee anything but localized sedimentation, these concerns are not taken into account and do not appear to be part of the plans.[309]

The SEG Report notes that sediment changes in rivers can have extremely detrimental effects. Sediment tends to be trapped behind a dam, leading to slower flows upstream and "sediment scouring" downstream. The faster downstream flows can be expected to degrade wetlands and erode fertile alluvial plains, delta agricultural lands, coastal beaches sand spits, and riverbanks. Further effects include algal blooms upstream due to increased nutrient content in the reservoir and reduced nutrient output downstream, resulting in lost fertility to agricultural lands that depend on sediment deposits from upstream.[310] The SEG concludes that as designed, Xayaburi could trap up to half of all incoming phosphorus and one-third of all incoming nitrogen, but that the proposed modifications could reduce such trapping to acceptable levels.[311] It further concludes that the dam as planned could result in a nutrient level reduction of up to 15 percent to the lower reaches of the Mekong, which would include parts of Thailand, the Tonle Sap inland fisheries of Cambodia, the agricultural lands of the Mekong Delta in Vietnam, and offshore fisheries.[312]

Projected human and social impacts

Given the widespread predicted environmental impacts of the Xayaburi Dam and the other 10 proposed projects that may push through if the Xayaburi Dam is constructed, it will come as no

[305] Project Review Report, at 14. Definitions for the term of run-of-river vary, but it generally refers to hydroelectric projects that either raise no barrier to the flow of water, have at most a small and quickly filled reservoir, or do not affect the flow of the river by more than a day's natural outflow. *See* Baran 2011, at 10-11.
[306] Sedimentation Expert Group Report ("SEG Report"), attached as Annex 3 to Project Review Report, at 7.
[307] Baran 2011, at 11.
[308] SEG Report, at 7-9.
[309] *Id*. at 9.
[310] *Id*. at 11. The SEA also estimates that if all planned dams were constructed, inundation would permanently destroy 17% of all Mekong Basin wetlands. SEA Summary, supra note 300, at 12.
[311] *Id*. at 12.
[312] *Id*. at 13. The report also gives a breakdown of the relative contribution of various future dam construction scenarios to sediment trapping, concluding that the six Lao dams would result in an overall reduction of 5% in sediment loads from the baseline scenario. The greatest contributors to sediment trapping are the upstream dams in China and the dozens of planned upstream tributary dams. Id. at 21Table 5.2a. The 5% estimate appears to assume that the project is modified as recommended by the expert group, although the report is not clear on this point. If all expected dams on the river are constructed, they could trap between 75-100% of all sediment.

surprise that the human and social impacts of the dam are expected to be concomitantly severe. These impacts include:

- Loss to fisheries and agricultural production;
- Growth in inequality and impoverishment, particularly of poor families in rural and urban riparian areas, undermining food security;
- Displacement of communities.

Fisheries and Agriculture

The SEA estimates that if all planned mainstream dams were constructed, losses to fisheries would total almost USD 500 million per year.[313] If only the six Lao dams were constructed, the incremental damage to fisheries would cause annual protein loss equivalent to 60 percent of the annual livestock production of Lao PDR.[314] The SEA concludes:

> The mainstream projects would fundamentally undermine the abundance, productivity and diversity of the Mekong fish resources, affecting millions of rural people who rely on it for nutrition and livelihoods.[315]

The Project Review Report agrees with this assessment, finding that the cascade of six Lao dams would put the livelihoods of an estimated two million people at risk.[316]

The SEA also estimates that inundation and erosion of riverbank gardens and reduced nutrient loads in the Mekong as a result of the mainstream dams would cost approximately UD 50 million annually – a figure that includes both the value of lost land and the cost of replacing natural nutrients with fertilizer.[317]

The Developer's SIA measures only the direct impact of the dam on the inhabitants of the immediate vicinity of the project, ignoring these basinwide effects.[318] In an independent assessment of the Xayaburi project, David J.H. Blake, a livelihoods expert with extensive experience in the Mekong Basin, critiqued both the Developer's EIA and SIA, noting the reports' erroneously narrow focus and the many technical weaknesses. The developer's studies thus overlooked important information about wildlife resources, agricultural lands, forest resources, and mineral resources that would be affected by the dam.[319] Blake concludes that the studies therefore grossly underestimate the basinwide depletion of fish resources.

---

[313] SEA Summary, at 11.
[314] *Id*. at 15.
[315] *Id*. at 14.
[316] Project Review Report, at 85.
[317] SEA Summary. at 11.
[318] Developer's SIA, at 1-2 – 1-3.
[319] David J.H. Blake, Comments concerning the Environmental Impact Assessment and Social Impact Assessment documents provided for the Xayaburi Hydroelectric Power Project, Lao PDR 5-8, Aug. 2010, *available at* http://www.internationalrivers.org/files/Blake%20Livelihoods%20Review%20FINAL.pdf.

Inequality and Impoverishment

The SEA concludes that the proposed dams would contribute to growing income inequality in the Mekong Basin, as benefits would accrue to "electricity consumers using national grids, developers, financiers and host governments, whereas most costs would be borne by poor and vulnerable riparian communities and some economic sectors."[320]

The Project Review Report surveys households and communities in the Mekong Basin, finding that the rural poor of the region depend on access to a variety of livelihood strategies, most notably fishing and farming, which were the chief of occupations of 63 percent of respondents. However, food insecurity is high, especially in Cambodia, and is a common feature of rural poverty. The report concludes, therefore, "Poorer households would be far more likely to suffer the consequences of any major decline in fish stocks than better-off households."[321] The most serious impacts are expected in downstream Lao PDR and Cambodia. In the former, households spend relatively little on food due to primary reliance on their own husbandry, which means that families would need to see a significant increase in income to offset a decline in the fish stocks and crops that directly provide their sustenance. In the relevant areas of Cambodia, families already spend a significant amount on food due to a scarcity of farmland, which they pay for by selling relatively abundant fish; a decline in fish stocks would disrupt their primary source of income and undermine their ability to purchase adequate food.[322]

In addition to these basinwide losses, Blake notes that the developer's SIA overlooks the likelihood that an influx of construction workers will put extreme pressure on local wildlife resources in the vicinity of the dam, impinging on communities' access to a supplementary source of food.[323]

Displacement

The developer's SIA concludes that 458 households in 19 villages as total number of "project affected persons"[324]. It proposes that some be resettled and others be compensated with adequate farmland,[325] and recommends the development of a Social Development Plan including community development and livelihood restoration.[326] MRC documents do not attempt to investigate the adequacy of Lao PDR's provision for community resettlement, which it deems to be a national issue not appropriate for the regional body.[327]

---

[320] SEA Summary, *at* 11.
[321] Project Review Report, *at* 85-88.
[322] Id. at 90.
[323] Blake 2011, at 9.
[324] Developer's SIA, at 7-1. It is estimated that over 100,000 people would have to be resettled if all planned mainstream dams were to be constructed. SEA Summary, at 16.
[325] *Id*. at 7-1 – 7-2.
[326] *Id*. at 7-3.
[327] *Id*. at 83.

Blake notes, however, that the SIA's analysis is inadequate. He points out that the studies do not even begin to consider the ripple effects of the large-scale construction activities, roads, and power transmission lines on the public health of communities that may be outside of the dam corridor.[328] He also analyzes the SIA's identification of affected communities that will lose their farmland because of the dam. Blake finds that the SIA does not look widely enough to identify communities that will be affected and underestimates the difficulty of adequately resettling entire communities, especially in a mountainous area such as Xayaburi, where suitable agricultural land is at a premium.[329]

There is agreement among independent experts and even with the MRC, as reflected in its Prior Consultation Review Report, that there is a high risk of grave environmental and social impacts associated with the Xayaburi Dam project. These include impacts on fisheries, biodiversity, sedimentation, hydrology, as well as worsened conditions for livelihood and housing, and increased food insecurity, inequality and impoverishment. The MRC-commissioned SEA, which covers the potential impacts of proposed dams on the lower Mekong mainstream, presents similar findings and suggests a ten-year delay on any construction on the lower Mekong mainstream. There are serious knowledge gaps that need to be filled before these impacts are fully understood, and present mitigation measures being proposed are seen as highly insufficient to ensure that human lives and the environment are truly protected.

[328] Blake 2011, at 9-10.
[329] *Id*. at 17-18, 20-21.

ANNEX 5 Summary of Impacts on Fisheries at Don Sahong Project[330]

Fisheries

The Siphandone area is renowned for its rich fisheries, with more than 201 species known to reside in the area at least part of the year, many of which are of high commercial value. The area is recognized by scientists as a critical year-round bottleneck for fish migrating throughout the lower Mekong basin, which local villagers capitalize on to harvest an abundant fish catch. The most significant environmental and socioeconomic impacts of the Don Sahong Dam would be felt by local and regional inland fisheries.

The Don Sahong Dam would form a barrier, blocking the entire Hou Sahong Channel, which has been recognized, by scientists and the MRC, to be of critical importance to migratory fish. It is one of the key pathways in the Mekong used year-round by fish migrating between Cambodia, Laos, Thailand and Vietnam. The Don Sahong Dam threatens the migration, feeding, and breeding patterns of a diverse number of fish species -- including major migrations between Laos and Cambodia -- which would seriously impact most of the major fisheries of southern Laos (see box, page 3). The Don Sahong Dam's impact on fish and fisheries could affect hundreds of thousands of people living along the Mekong River and its tributaries throughout southern and central Laos, as well as in Cambodia, Vietnam and Thailand. Despite the risk posed to the entire region, there has been no transboundary impact assessment or regional consultation to discuss the project.

The following are the main fish migrations in the Khone Falls area, all of which would be partially or fully blocked by the Don Sahong Dam. There are other less significant migrations that would also be affected.

December to February: A number of important species of medium-sized cyprinid fishes migrate from the Sekong, Sesan and Srepok Rivers in Cambodia and Laos to the Mekong River at Stung Treng, Cambodia and then upriver to Laos. They pass through the Khone Falls area via Hou Sahong and then migrate past Pakse and up the Mekong River to the border between Laos and Thailand. These fish migrations would be blocked by the Don Sahong dam. Other fisheries in the Sekong River in Laos would also be affected, since the fish there migrate back and forth between upstream of Khone Falls and the Sekong.

January to March: Very large and important schools of small species of cyprinid fishes, especially Henicorhynchus lobatus (pa soi); migrate upriver from the Tonle Sap Lake in Cambodia to Laos via Khone Falls and the Hou Sahong channel. These fish – which like those described above, are very important to the livelihoods of people living along the Mekong River in southern and central Laos – would be blocked by the Don Sahong dam from entering Laos.

[330] This data is re-produced from the data by International Rivers; Adapted from "Baird, I.G. (1996) Khone Falls Fishers, Catch and Culture, Mekong River Commission, 2(2):1-3."

April: The important large cyprinid fish species, Cirrihnus microlepis (pa phone), migrates up the Mekong River from Cambodia to Laos, passing through the Hou Sahong channel.

April to May: The small Pangasiidae catfish, Pangasius macronema (pa nyone thamada), migrates up the Mekong River from Cambodia into Laos via the Hou Sahong channel each year.

May to June: Catfish in the Pangasiidae family migrate up the Mekong River in Cambodia to Laos via the Khone Falls area and the Hou Sahong channel. One of these fishes, Pangasius krempfi (pa souay hang leuang), even migrates all the way up the Mekong River from the Mekong Delta in Vietnam.

October to January: Threatened large carps, Probabus jullieni (pa eun ta deng) and Probarbus labeamajor (pa eun khao) spawn in the Khone Falls area, near the proposed Don Sahong dam site.

Tourism

The Don Sahong Dam would threaten Siphandone's two main tourist attractions – the Irrawaddy Dolphins and the Khone Phapheng waterfalls. The project would reduce the flows to the Khone Phapheng falls by diverting water to the dam for electricity generation. There would also be significant short-term disturbance to the area during project construction and a lasting aesthetic impact caused by the dam's infrastructure, which would also detract from the area's tourist appeal.

References

Sunchindah, A. 2013. The Lancang-Mekong River basin: Reflections on cooperation mechanisms pertaining to a shared watercourse. *NTS Policy Brief* no.PO13-01. Singapore: RSIS Center for Non-Traditional Security (NTS) Studies.

Backer, E.B. 2007. The Mekong river commission: Does it work, and how does the Mekong basin's geography influence its effectiveness? http://www.fni.no/doc&pdf/ebb2mekong22007.pdf

Beardena, B.L. 2010. *Mekong water governance - the legal regime of the Mekong River: a look back and some proposals for the way ahead*.

Boer, B.W. 1999. The Rise of environmental law in the Asian region. *University of Richmond Law Review*.

Brahma. 2011. *Water: Asia's new battleground*. Washington, DC: Georgetown University Press.

Brels, S., D. Coates, and F. Loures 2008. Water resources management: The role of international watercourse agreements in implementation of the CBD. *CBD Technical Series* no. 40. Montreal, Canada: Secretariat of the Convention on Biological Diversity.

Browder, G. 1998. Negotiating an international regime for water allocation in the Mekong River Basin. Unpublished PhD Dissertation. Stanford University, Palo Alto, California.

Browder, G. and L. Ortolano. 2000. The evolution of an international water resources management regime in the Mekong River basin. *Natural Resources Journal* 40(3), 499–531.

Middleton, C. 2011. Conflict, cooperation and the transborder commons: The controversy of mainstream dams on the Mekong River. *International Rivers* January 2014. Hokkaido University, Sapporo, Japan: Slavic Research Center,

Chaipipat, K. 1992. Strong distrust delays cooperation on Mekong. *The Nation* March 27, 1992. Bangkok, Thailand.

Kuenzer, C., I. Campbell, M. Roch, P. Leinenkugel, V.Q. Tuan and S. Dech. 2012. *Understanding the impacts of hydropower developments in the context of upstream-downstream relations in the Mekong River*. Japan: Springer.

Sneddon, C. and C. Fox. 2007. Power, development, and institutional change: Participatory governance in the lower Mekong basin. *World Development* 35, no. 12: 2168.

Hensengerth, O. 2009. River cooperation and the regional public good: The case of the Mekong River. *Contemporary Southeast Asia: A Journal of International and Strategic Affairs* 31.2: 326-49, 336.

Blackmore, D. D. Grey and M.Halle. 2010. A strategic review of the basin development plan - report of the international team of the IPOE. Vientiane: Mekong River Commission.

Don Sahong dam cumulative impact assessment. 2013.

Dore, J. and Yu Xiaogang. 2004. The Politics of water in the Mekong region: The case of Yunnan hydropower expansion. Paper presented at the World Water Council Workshop on Water and Politics: Understanding the Role of Politics in Water Management, Marseille.

Elhance, A.P. 1999. *Hydro-politics in the Third World: Conflict and cooperation in international river basins.* Washington, DC, USA: United States Institute of Peace Press

Foran, T. and K. Manorom. F. Molle, T Foran, and M Käkönen, Editors. 2009. Pak Mun dam: Perpetually contested? *Contested waterscapes in the Mekong region: Hydropower, livelihoods and governance*. London: Earthscan,

Gajaseni, N., O. Heal and G. Edwards-Jones. M. Finger, L. Tamiotti, and J. Allouche, Editors, 2006. *The Mekong River basin: comprehensive water governance. In the multi-governance of water. Four case studies.* Albany, NY: SUNY Press.

GIZ. 2013. Assessment of RBO-level mechanisms for sustainable hydropower development and management. *MRC-GIZ Cooperation Programme*.

Greacen, C. and A. Palettu. L. Lebel, J. Dore, R. Daniel, R. Koma, and Y. Koma, Editors. 2007. *Electricity sector planning and hydropower. Democratizing water governance in the Mekong*. Chiang Mai, Thailand: Silkworm Press.

Browder, G. and L. ORTOLANO. *The Evolution of an International Water Resources Management Regime in the Mekong River Basin.*

Ha, M. 2011. The role of regional institutions in sustainable development: a review of the Mekong River commission's first 15 years. *Consilience: The Journal of Sustainable Development* 5(1): 125–140.

Handley, P. and M. Hiebert. 1992. Hostile undercurrents: dispute deepens over use of Mekong River water. *Far East Economic Review 16:* 2 April 2, 1992.

Hirsch, P., K.M. Jensen, B. Boer, N. Carrard, S. FitzGerald, and R. Lyster. 2006. *National interests and water governance in the Mekong.* Sydney, Australia: Australian Mekong Resources Center, University of Sydney.

Hirsch, P. and A. Wyatt. 2004. Negotiating local livelihoods: Scales of conflict in the Se San River basin. *Asia Pacific Viewpoint* 45(1): 51–68.

Hirsch P., K.M. Jensen. 2006. *National interests and water governance in the Mekong*.

Hoyle, H. 2010. Trouble brewing in the Mekong Basin, China: The world affairs blog network, http://foreignpolicyblogs. com/2010/04/01/trouble-brewing-in-the-mekong- basin/

Hydropolitical_AS: Hydropolitical vulnerability and resilience along international waters – Asia, United Nations Environment Programme. 2009.

International Rivers. 21 March 2011. Global call to cancel the Xayaburi dam on the Mekong River mainstream in Northern Lao PDR. Addressed to Thongsing Thammavong (Prime Minister of Lao PDR) and Abhisit Vejjajiva (Prime Minister of Thailand): Published by *International Rivers* on

behalf of 263 NGOs. Available: http://www.internationalrivers.org/en/2011-3-22/263-ngos-globally-call-mekong-governments-cancel-plans-build-xayaburi-dam.

International Rivers. March 22, 2011. Press Release: 263 NGOs call on Mekong governments to cancel plans for Xayaburi Dam. Berkeley: *International Rivers*. Available: http://www.internationalrivers.org/en/2011-3-22/263-ngos-globally-call-mekong-governments-cancel-plans-build-xayaburi-dam.

International Rivers. March 14, 2011. Press Release: Fate of Mekong River hangs in the balance. Berkeley: *International Rivers.*

International Rivers. August 4, 2011. Press Release: Illegal construction on the Xayaburi dam forges ahead. Berkeley: *International Rivers*. Available: http://www.internationalrivers.org/en/2011-8-3/illegal-construction-xayaburi-dam-forges-ahead.

International Rivers. April 19, 2011. Press Release: Lao disagrees with neighbors on Xayaburi dam. Berkeley: *International Rivers.*

Available: http://www.internationalrivers.org/en/node/6429.

International Rivers. June 23, 2011. Press Release: Laos steamrolls neighbors in Xayaburi dam process. Berkeley: *International Rivers*.

Available: http://www.internationalrivers.org/2011-6-22/laos-steamrolls-neighbors-xayaburi-dam-process.

International Rivers. April 18, 2011. Press Release: Outrage over secret Xayaburi dam construction. Berkeley: *International Rivers*.

Available: http://www.internationalrivers.org/en/2011-4-17/outrage-over-secret-xayaburi-dam-construction.

International Rivers. Trial and error too risky for the Don Sahong Dam: A technical review of the Don Sahong's 2013 Environmental Impact Assessment.

Interim Mekong Committee (IMC). 1991. 1991 Interim Mekong Committee Annual Report. Bangkok, Thailand.

Jacobs, J.W. 1994. Toward sustainability in lower Mekong River basin development. *Water International* 19(1), 43–51.

Jacobs, J.W. 2002. The Mekong River commission: Water resources, planning and regional security. *The Geographical Journal* 168:354–364.

Keskinen, M. 2008. Water resources development and impact assessment in the Mekong Basin: Which way to go? *Ambio* 37: 193–198.

Khruschev Report. 1961. Khruschev report on Moscow conference of representatives of communist and workers parties (1961). Folder 4, President's Office Files Box 126(a), (6 January 1961). Boston, Massachusetts, USA: John F. Kennedy Library.

Kirby, M., et al. 2010. The Mekong: a diverse basin facing the tensions of development. *Water International* 35(5): 573-593.

Kirk, H. 2014. Legal briefing: How international law applies to the Don Sahong Dam,
Sokhem Pech (2011). UN Watercourses Convention and Greater Mekong Subregion.

Lauridsen, P.E. 2004. Water management in the Mekong: River of controversy or river of promise?

Lefebvre, H. 1991. The Production of space. Oxford: Blackwell.

Lim, K.H. 2012. Letter from Chairman of the CNMC and Minister of Water Resources and Meteorology Cambodia National Mekong Committee (CNMC).

Macan-Markar, M. 2009. Dams across the Mekong could trigger a 'water war'. *IP News.* http://ipsnews.net/news. asp?idnews=47367

MacQuarrie, P.R., V. Viriyasakultorn, and A.T. Wolf. 2008. Promoting cooperation in the Mekong region through water conflict management, regional collaboration, and capacity building. *GMSARN International Journal* 2: 175-184.

Hill, M.T. and S. A. Hill. 1994. Fisheries ecology and hydropower in the Mekong River: An evaluation of run-of-the-river projects. *Mekong Secretariat* p.90.

Masviriyakul, S. 2004. Sino-Thai strategic economic development in the greater Mekong subregion (1992-2003). *Contemporary Southeast Asia* 26(2), 302-319.

Mekong Legal Network. 2012. *Discussing Mekong Legal Reform of Hydropower Governance in Vietnam.*

Memorandum on legal aspects of challenge in administrative court of Thailand to approval by Thai agencies of power purchase agreement and loan by Krung Thai Bank for Xayaburi Dam in Lao PDR. August 2012.

Makim, A. 2002. The changing face of Mekong resource politics in the post-cold war era: Re-negotiating arrangements for water resource management in the lower Mekong River basin (1991–1995). Working Paper No. 6. Sydney, Australia: Australian Mekong Resource Centre, University of Sydney.

McCaffrey, S. C. 2007. *The Law of international watercourses, 2nd edition.* Oxford, UK: Oxford University Press.

Menniken, T. 2006. *Konflikt und Kooperation am Mekong. Internationale Politik an grenzüberschreitenden Wasserläufen*. Münster, Germany: LIT-Verlag.

Middleton, C., J. Garcia and T. Foran. F. Molle, T. Foran and M. Käkönen, Editors. 2009. *Old and new hydropower players in the Mekong Region: Agendas and strategies*. Contested waterscapes in the Mekong Region: Hydropower, livelihoods and governance. London: Earthscan Publications.

Mekong Committee. 1973. 1973 Mekong Committee Annual Report: Bangkok, Thailand.

Molle, F. and L. Lebel, J. Dore, R. Daniel, and Y. Koma, Editors. 2007. *Irrigation and water policies: Trends and challenges*. In Democratizing water governance in the Mekong. Chiang Mai, Thailand: Silkworm Press.

Mony, S. 2011. Water experts warn of conflict over Mekong dams. *VOA Khmer News*. http://mouthtosource.org/rivers/ mekong/2011/07/18/water-experts-warn-of-conflict- over-mekong-dams/Chellaney

Mekong River Commission (MRC). 2014. Regional benefit sharing brochure v95.

Mekong River Commission (MRC) Basin Development Plan. 2011.

Mekong River Commission (MRC). 2002. Mekong news. *Newsletter of the Mekong River Commission.* 1 2002(2: April–June).

Mekong River Commission (MRC). 1995. Mekong River Commission: Towards sustainable development. Annual Report. Bangkok, Thailand.

Mekong River Commission (MRC). 2008. The story of Mekong cooperation. http://www.mrcmekong.org/about_mrc.htm#story

Mekong River Commission (MRC). 2008. Mekong news. *Newsletter of the Mekong River Commission*: 6. 2008(3): (July–October).

Mekong River Commission (MRC). 1999. *Public participation in the context of the MRC*. http://www.mrcmekong.org/download/programmes/Public_Participation_Mrc_context.pdf (accessed 17 April 2009).

Mekong River Commission (MRC). 2011. *Hydropower database.* MRC Secretariat. Accessed October 15, 2011. http://www.mrcmekong.org/programmes/Hydropower/hydropower-database.htm."

Mekong River Commission (MRC). 2011. *IWRM-based basin development strategy for the lower Mekong basin*. Vientiane: MRC.

Mekong River Commission (MRC) 2011. *Press release: Lower Mekong countries take prior consultation on Xayaburi project to ministerial level*. Vientiane: MRC. http://www.mrcmekong.org/MRC_news/press11/Lower-mekong-coutries-take-prior-consultation19Apr11.html.

Mekong River Commission (MRC) 2011. *Prior consultation project review report: Proposed Xayaburi dam project - Mekong River*. Vientiane: MRC Secretariat.

Mekong River Commission (MRC) 2011. *Strategic plan 2011-2015*. Vientiane: MRC Secretariat.

Öjendal, J. 2000. Sharing the good: Modes of managing water resources in the lower Mekong River basin. Ph.D. dissertation. University of Göteborg, Sweden.

Pech and Sunada, 2006. The governance of the Tonle Sap Lake, Cambodia: Integration of local, national and international levels. *Water Resources Development* Vol. 22, No. 3, 399–416.

Pech and Sunada, 2006. Management of water disputes in the Mekong River Basin: Roles of law, institution and technology. Proc of Third APHW Conference on Wise Water Resources Management Towards Sustainable Growth and Poverty Reduction, Paper ID: ST1-03-A16-046, October 16-18, 2006, Bangkok, Thailand.

Hirsch, P. *Security and conflict in the Mekong basin: From geopolitics to resource management.* NSW, Australia: Australian Mekong Resource Centre, University of Sydney.

Hirsch, P. *et al.*. 2006. National interests and water governance in the Mekong. University of Sydney, http://www.mekong.es.usyd.edu.au/projects/mekwatgov_mainreport.pdf.

Pichyakorn, B. and S.P. Subedi, Editor. 2005. *International watercourses law: the experience of the Mekong River basin*. In International Watercourses Law for the 21st Century: The case of the River Ganges Basin. Aldershot, Hampshire, UK: Ashgate Publishing Ltd.

Radosevich, G. E. (1995). Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin: Commentary and History of the Agreement (Draft 5/95).

Radosevich, G.E. 2008. The role and relevance of the UN convention on the law of the non-navigational uses of international watercourses to the lower Mekong states. WWF Greater Mekong Programme.

Ravnborg, H.M., Editor. 2004. Water and conflict: Conflict prevention and mitigation in water resources management. Copenhagen: Danish Institute for International Studies (DIIS).

Radosevich, G. In-depth analysis for the Mekong River Basin: Observations on the 1995 agreement on the cooperation for sustainable development of the Mekong River Basin System 1. Global Environment Facility (GEF). International Waters Governance project.

Cronin, R. and T. Hamlin. 2012. Mekong turning point: Shared river for a shared future.

Grumbine, R.E. and X. Jianchu. 2011. Mekong hydropower development. *Policy Forum, Environment and Development*.

Rix, A.S. 2003. The Mekong River basin: a resource at the crossroads of sustainable development. *Temple Environmental Law & Technology Journal* 21(2), 103–129.

Sewell, D. and G. White. 1966. The lower Mekong: An experiment in international river development. New York: Carnegie Endowment for International Peace.

Stahl, K. 2006. Influence of climate hydroclimatology and socioeconomic conditions on water-related international relations. *Water International* 30(3):270-282.

Sneddon, C. and C. Fox. 2006. Rethinking waters: a critical hydropolitics of the Mekong Basin. *Political Geography* 25: 181-202.

Schmeier, S. Regional cooperation efforts in the Mekong River Basin: Mitigating river-related security threats and promoting regional development. Germany: Berlin Graduate School of Transnational Studies at the Hertie School of Governance.

Toda, O., H. Tanji, H. Somura, K. Higuchi, and K. Yoshida. 2004. Evaluation of tributaries contribution in the Mekong River Basin during rainy and dry season. Paper presented at the Second Conference of the Asia Pacific Association of Hydrology and Water Resources. July 5-9, 2004, Singapore.

Trandem, A. October 18, 2012. The Mekong River reaches critical point as the Xayaburi Dam advances. International Rivers. Retrieved from: http://www.internationalrivers.org/blogs/263/the-mekong-river-reaches-critical-point-as-the-xayaburi-dam-advances

Tri Le-Huu and Lien Nguyen-Duc. Mekong Case study. Water Resources Section. Division of Environment and Sustainable Development: UN-ESCAP

Water policy at http://www.iwaponline.com/wp/toc.htm

WWF. 2011. Critical review of the Pöyry compliance report about the Xayaburi dam and the MRC design guidance – Fish and fisheries aspects. WWF.

http://www.internationalrivers.org/node/2334

http://www.internationalrivers.org/node/8103

http://www.internationalrivers.org/node/8340