

Report Part Title: Case 2: The Mekong River

Report Title: State Water Resource Competition and the Resulting Consequences of Diminished Water Supply

Report Author(s): Mitchell L. Gildea

Published by: Daniel K. Inouye Asia-Pacific Center for Security Studies (2014)

Stable URL: <https://www.jstor.org/stable/resrep14041.7>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



JSTOR

Daniel K. Inouye Asia-Pacific Center for Security Studies is collaborating with JSTOR to digitize, preserve and extend access to this content.

Chapter 3

Case 2: The Mekong River

Overview

The second case explores the Mekong River system and the countries which depend upon its water supply. The Mekong River system has the potential to be the impetus for great water cooperation. But, the river also holds prospects for conflict when given the wrong set of circumstances. Many water appropriators reside along its path, so the Mekong water supply diminishes as it flows south.



Figure 3. Map of the Mekong River Basin. *Source:* Australian Mekong Resource Centre, "Fig. 1 Map of the Mekong River Basin with Transboundary Zones," Mekong Brief, Number 6, September 2007.

This chapter covers the historical background of the Mekong to include China's role in water-sharing. The potential for water conflict as well as for water cooperation amongst the riparian nations is also addressed. Mekong River water resource management pitfalls and solutions are discussed with a view toward future water-related operations. In order to have effective water management, cooperation between the affected nations is essential.

Just as the Indus River Basin has two riparian countries, the Mekong River Basin is shared by several nations. This case is significant because, as the Mekong River transits several countries on the way to the sea, the water flow must be properly managed and shared. What lies in the balance is interstate cooperation or conflict between the countries of the Mekong. Elinor Ostrom provides some insight to the transboundary water resource sharing predicament in the Mekong basin:

Once multiple appropriators rely on a given resource system, improvements to the system are simultaneously available to all appropriators. It is costly to exclude one appropriator of a resource system from improvements ... without a fair, orderly, and efficient method of allocating resource units, local appropriators have little motivation to contribute to the continued provision of the resource system.⁸⁴

Here, Ostrom is showing how middle riparian actors along the Mekong, like Laos for example, may have little motivation to consider the effects of dam building and water diversion projects on its adjacent and lower riparian neighbors such as Thailand, Cambodia, and Vietnam. The headwaters nation (in this case, China) is prone to consider its interests when making improvements to the Mekong River system as part of developing its best internal security posture. Additionally, China needs to consider

84 Ostrom, *Governing the Commons*, 31, 33.

provision and appropriation problems and their effects when dealing with its Mekong neighbors to the south. Ostrom provides further explanation about water appropriation and provisioning:

Provision problems concern the effects of various ways of assigning responsibility for building, restoring, or maintaining the resource system over time; as well as the well-being of the appropriators. Appropriation problems are concerned with the allocation of the flow; provision problems are time-dependent. Both types of problems are involved in every CPR to a greater or lesser extent ...⁸⁵

If nations can agree to share water resources, then it may open the door for further cooperation. The alternative is conflict between the nations over the water. In the Mekong River system, “there is no strong sense that there is a water crisis” amongst the riparian states according to a study conducted by the Australian Mekong Resource Centre at the University of Sydney, Australia.⁸⁶ This is welcome news to China as it dominates control over the river's headwaters. Just because there is no sense of a crisis now does not mean that one isn't brewing. The next section will provide the necessary historical background of the Mekong region that is the backdrop for a developing water crisis.

Historical Background

“The Mekong River drains more than 313,000 square miles (810,000 square km) of land, stretching from the Plateau of Tibet to the South China Sea. Among Asian rivers,

85 Ibid., 47.

86 Philip Hirsch, Kurt Mørck Jensen, Naomi Carrard, Stephen FitzGerald, and Rosemary Lyster, *National interests and transboundary water governance in the Mekong*, University of Sydney: Australian Mekong Resource Centre, 2006.

only the Yangtze and Ganges have larger minimum flows.” It is also the 12th longest river in the world according to Encyclopædia Britannica Online.⁸⁷ The Mekong River has provided fresh water to China, Burma, Thailand, Laos, Cambodia, and Vietnam since their beginnings. The river is divided into two distinct areas; the Upper and the Lower Mekong River basins. China comprises the Upper Mekong basin, with Burma, Thailand, Laos, Cambodia, and Vietnam making up the Lower Mekong basin. The intersection where the two basins come together is known as the Golden Triangle; the convergence point of Laos, Burma, and Thailand.⁸⁸ (Not all sources agree on this dividing line.)⁸⁹ Further downstream, the Sab River connects the Mekong to the Great Lake or Tonle Sap in Cambodia:

The direction of flow of the Sab River varies according to the season. During the peak flood season, when the level of the Mekong is high, waters flow through the Sab River to the lake, which then expands from a little more than 1,000 square miles (2,600 square km) to a maximum of about 4,000 square miles (10,400 square km). In the dry season when the floods subside, the Sab reverses its flow to drain southeastward into the Mekong. The Tonle Sap is a highly productive fishing ground.⁹⁰

The river then continues down to its delta in Vietnam and into the South China Sea. Each riparian country of the Mekong has a river-connected history.

87 *Encyclopædia Britannica Online*, s. v. "Mekong River,"

<http://www.britannica.com.ezproxy.hpu.edu/EBchecked/topic/373560/Mekong-River>, (accessed February 06, 2014).

88 Nicolas Farrelly, review of *The Golden Triangle: Inside Southeast Asia's Drug Trade*, by Ko-Lin Chin, *Journal of Contemporary Asia* Vol. 40, No. 3, (August 2010): 520-522. The Golden Triangle is well known for its opium production.

89 Nobuhiko Taniguchi, et al, "Genetic diversity of wild Mekong giant catfish *Pangasianodon gigas* collected from Thailand and Cambodia," *Fisheries Science* 73, No. 4, (August 2007): 792, Academic Search Premier, EBSCOhost (accessed November 29, 2012). This source claims that the Lower Mekong begins below Khone Falls in Laos.

90 *Encyclopædia Britannica Online*, s. v. "Mekong River,"

<http://www.britannica.com.ezproxy.hpu.edu/EBchecked/topic/373560/Mekong-River>, (accessed February 06, 2014).

Since 1950, China has taken over control of half of the country of Tibet and Chinese Han settlers have now exceeded the native Tibetans in population. So, China has, over time, taken possession of the rich water resources on the Tibetan Plateau. In this newly claimed territory, lie the headwaters to several major rivers that are the life source to South and Southeastern Asia. One these rivers is the Mekong.⁹¹ The entire Upper Mekong runs through the Yunnan province in China. Since 1950, China has taken advantage of the importance of the Mekong's water for irrigation and energy production.

To utilize this valuable water resource for its people, China has built dams to create hydropower and to service farming irrigation projects on its rivers including the Mekong. According to the *New York Times*, China claims that the dams benefit the countries downstream by easing “the annual cycle of flooding and water shortages that accompany the rainy and dry seasons.”⁹² Downstream countries disagree with China because they see a threat to their security coming from China's control of the Upper Mekong current flow. China also understands the importance of water to its farmers.

“The Chinese government has sought to encourage farmers to switch back from cash crops to staple foods so that the country does not become a major grain importer. But the continuing problem of water shortages has cast doubt on China's ability to boost the production of cereals.”⁹³ This is another reason for China's damming activities on major rivers like the Mekong. No wonder the Lower Mekong riparian countries are complaining. As we travel further south, the next riparian country after China is Laos.

91 Chellaney, *Water*, 97-99.

92 “Chinese dam may threaten food source of neighbors,” *New York Times*, September 30, 2001.

93 Chellaney, *Water*, 84-85.

Laos does not border any sea, so the Lao population must depend on the Mekong River for water, food, and transportation. The river extends the length of the country from the border with China down to Cambodia. The rich soil, provided by silt from the river, enables farmers to plant rice paddies along the river banks. Poor road conditions make it difficult to travel by car, so the Lao people use the river and its tributaries to travel by boat to different parts of the country.⁹⁴ The Mekong River also forms the western Laos border with Burma and Thailand. Laos, along with Thailand, has an interest in making the most of the Mekong to include production of electricity. Building hydroelectric dams along this section of river will provide power for both Thailand and Laos.⁹⁵

Laos was in the process of constructing a major dam, the Xayaburi, in 2013, in the northern part of the country and has plans to begin construction on a second major dam in the south near the Cambodian border sometime in 2014.⁹⁶ The building of these dams is controversial. Chiang Mai, in the article, “Damming the Mekong In Suspension,” expresses the concern for environmental groups. In discussing the construction of the Xayaburi dam, the article states that “it will devastate ecosystems and pose a threat to fisheries, food security and the livelihoods of 65m people.” The article goes on to say that the Xayaburi dam will be the first dam built outside of China along the Mekong River. By proceeding with the construction of this dam, Laos is opening the door to the

94 Donna O'Meara, “LAOS: The Mekong River,” *Faces* (07491387) 17, no. 2 (October, 2000) 6. *MasterFILE Premier*, EBSCOhost, (accessed February 9, 2014).

95 Ibid.

96 “Laos Pushes Ahead With Second Mekong Dam Project,” *Radio Free Asia*, November 12, 2013, <http://www.rfa.org/english/news/laos/don-sahong-11122013185743.html>, (accessed February 10, 2014).

development of “eight other dam projects in Laos, and two in Cambodia.”⁹⁷ Thailand will gain most of the electricity generated by the Xayaburi dam. “A power-purchasing agreement has already quietly been signed between Thailand and Laos, and the Thai side has pushed ahead with building a road to the site of the dam.”⁹⁸ If the environmental concerns come to pass, the dams could also have a detrimental effect on the downstream riparian countries of Cambodia and Vietnam.

Cambodia is one of several countries which depend on “the in flow of river and aquifer waters from across their national borders.”⁹⁹ As a result of this continuous flow of water, Cambodia is one of only two underdeveloped countries in Asia that “have sufficient water and land resources to significantly boost food production for export.”¹⁰⁰ Cambodia has a wet and a dry season and these affect the flow of the Mekong River. Greg Browder and Leonard Ortolano talk about the flooding that occurs throughout Cambodia during the wet season in their article entitled, “The Evolution of an International Water Resources Management Regime in the Mekong River Basin,” and the trouble caused by these floods:

During the wet season, torrential rains result in large-scale flooding along the entire reach of the Mekong River, with extensive over-bank flows in Cambodia and Vietnam. Because of the warm weather, there is no snowpack (except in the extreme north in China) to help store the precipitation. Every year, floods in the Mekong Basin kill dozens, sometimes hundreds, of people and cause extensive damage to crops and structures.¹⁰¹

97 Chiang Mai, “Damming the Mekong In Suspension,” *The Economist*, January 7, 2012, <http://www.economist.com/node/21542480>, (accessed February 10, 2014).

98 Ibid.

99 Chellaney, *Water*, 244.

100 Ibid., 84.

101 Greg Browder and Leonard Ortolano, “The Evolution of an International Water Resources Management Regime in the Mekong River Basin,” *Natural Resources Journal*, Vol. 40 (2000), 501, (accessed February 14, 2014).

Conversely, flooding from the Mekong provides nutrients to wetlands in Cambodia especially in the area around Tonle Sap. Browder and Ortolano explain the benefits to the Tonle Sap and its importance in regulating the Mekong water flow,

The heart of the Mekong Basin's aquatic ecosystem is the Tonle Sap in Cambodia, also known as the Great Lake. During the dry season, water flows out of the Tonle Sap into the Mekong River and then discharges into the South China Sea. In the wet season, however, there is a reverse flow and water flows from the Mekong River into the Tonle Sap, increasing its surface area four-fold from 2,500 km² (965 mi²) during the dry”¹⁰²

The ebbs and flows of the Tonle Sap have helped to balance this aquatic ecosystem, however, man made industrialization upstream in the form of large-scale dams are disrupting the natural seasonal flow norms.

John Bursa has experienced some of this disruption and its effects on the people of Laos and Cambodia. In addition to his time spent in the Indus River Basin countries, John Bursa spent time in both Laos and Cambodia with the UNWFP and has this to say about the effects of damming and climate change on the Lower Mekong River countries:

[H]uge points of contention and concern exists in regards to dams, of which apparently a number are being built in China. In Laos and Cambodia to a degree there is concern all up and down the mighty river of which I have travelled the majority. Everyone is concerned about the Chinese “exploitation”. This combined with the real affects of climate change are concerns for nearly all you come across. Climate change combined with dam building are being seen now as a concern. Not only is it bringing more rains deeper into Laos and causing flooding, but the dryer periods are also longer and harsher. Drought prior to the 2008 floodings in Vientiane were experienced throughout the Lao/Thai/Cambodian Mekong region. In 2009 we again saw flooding in lower Laos, which is also likely attributed to changes in climate as is the perspective of the people.¹⁰³

102 Browder and Ortolano, “The Evolution,” 503.

103 Bursa, e-mail message to author, October 6, 2013.

This is first hand confirmation of the impact of dam building and the secondary effects of climate change in Southeastern Asia – namely drought and flooding problems. One of the effects of these climate change events is fish depletion as expressed by Nobuhiko Taniguchi, et al, in their article, “Genetic diversity of wild Mekong giant catfish *Pangasianodon gigas* collected from Thailand and Cambodia.” The article describes the benefits and the diversity of fishes of the Mekong River,

The Mekong River hosts one of the most diverse freshwater faunas in the world. There are at least 1200 recorded fish species, and this diversity is based on the wide range of permanent and seasonal habitats that have arisen as a result of the complex geological history of the Mekong Basin. The separation of major fish habitats in time and space forces all Mekong fishes to migrate.¹⁰⁴

One migratory fish species of particular interest that has been impacted by climate change is the Mekong Giant Catfish. Taniguchi, et al give an account of the Giant Catfish habitat. “The known habitat of this species is the main stream of the Mekong River, where the water depth is 10 m or more. The fish particularly prefers rocky or gravel substrate, and sometimes underwater caves.”¹⁰⁵ Referring back to Laos and the prospects for the Xayaburi dam, this same article discusses the contention caused by its construction. “In 2007, Thailand was one of four countries which disagreed with Laos building the Xayaburi dam because of possible detriments to the Mekong giant catfish and other fish species which depend on strictly fresh water for survival.”¹⁰⁶ However, to

104 Nobuhiko Taniguchi, et al, "Genetic diversity of wild Mekong giant catfish *Pangasianodon gigas* collected from Thailand and Cambodia," 792.

105 Ibid., 793.

106 "Catfish relieve." *New Scientist* 210, no. 2810 (April 30, 2011): 4-5. *Academic Search Premier*,

put the matter in perspective, in 2011, Mekong Giant Catfish was a “least concern” endangered species according to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. One of the reasons for the fish still being threatened is the “species could be vulnerable to fishery pressures and impacts from future mainstream dams” as described earlier.¹⁰⁷ In addition to the effects of fishery pressures in Laos and Cambodia, Cambodia's southern neighbor, Vietnam, has also been impacted by the actions of upstream-partners.

Vietnam has the second highest population of the Mekong riparian nations and makes up the least part (only eight percent) of the Mekong Basin area.¹⁰⁸ With only 11 percent of the annual flow input from the Mekong, Vietnam gets what remains of the water after all of the other riparian countries.¹⁰⁹ Fluctuations in water flow have the most effect on Vietnamese farmers in the Mekong Delta.

The Mekong Delta is known as Vietnam's “rice bowl” because rice farming there supplies over half of the total rice production for Vietnam.¹¹⁰ As a result of the trickle down situation, there is not enough irrigation water at times for farmers in Vietnam to grow rice in the dry season, and the reduced flow of the Mekong allows for saltwater intrusion from the South China Sea to move up the delta great distances, further exacerbating the situation.¹¹¹ On the the other hand, flooding is another event that impacts the rice farmers each year.

EBSCOhost, (accessed November 29, 2012).

107 “Pangasius mekongensis (Mekong Giant Catfish),” IUCN.org,
<http://www.iucnredlist.org/details/181260/0>, (accessed February 9, 2014).

108 Browder and Ortolano, “The Evolution,” 503.

109 Ibid.

110 Ibid., 512.

111 Browder and Ortolano, “The Evolution,” 504.

Reiner Wassmann, et al, describe the seasonal change from dry to wet in the Vietnamese Mekong Delta:

The rainy season in the Mekong Delta starts in May and lasts until November. Water level rapidly increases from July to October and starts to decrease in November. September and October are the months prone to large flooding due to high upstream discharge and heavy rainfall.¹¹²

It is important to note that the majority of Vietnamese Mekong Delta is only slightly above sea level, so flooding is a major concern not only for its immediate effects but also for rises in sea level and saltwater intrusion during the wet season.¹¹³ As we can see, not all of the water-related problems faced by Vietnam and the other Mekong riparian countries can be immediately controlled by the efforts of mankind as some of the detrimental effects mentioned are strictly the result of natural causes like climate change. But, those effects that can be controlled by mankind should be explored by each and all of the riparian nations along the Mekong.

If nations can agree to share water resources, then sharing may open the door to further cooperation between the Mekong riparian neighbors. The undesirable alternative is the increased prospect for more conflict.

The Water Issue and Conflict

Three of the Mekong riparian states mentioned earlier have engaged in conflict in

112 Reiner Wassmann, Nguyen Xuan Hien, Chu Thai Hoanh, and To Phuc Tuong, "Sea level rise affecting the Vietnamese Mekong Delta: water elevation in the flood season and implications for rice production," *Climatic Change* 66, no. 1-2 (2004): 92.

113 *Ibid.*, 90.

the past. These wars were fought between China and Vietnam (1978-79 and again 1986-87); and between Cambodia and Vietnam (1977-79).¹¹⁴ Stephen Van Evera explains that “war is more likely when the control of resources enables the protection or acquisition of other resources.”¹¹⁵ This may explain why a downstream country, like Vietnam, may decide to militarily engage its upstream neighbor, China, in order to protect existing levels of water resources. To illustrate this possible military engagement more clearly, dam works in China could become military targets for Vietnam. Van Evera explains how cumulative resources, like the Mekong River and its waters, can be sources of conflict:

International politics is more competitive, hence more violent, when resources are more cumulative. When many resources are highly cumulative, states more fiercely defend what they have, seek more for themselves, and seek to prevent others from gaining more.¹¹⁶

So far, China and Vietnam have not yet gone to war over water, but if Van Evera's hypothesis holds true, then conflict may ensue at some point. Let's take a look at the contentious relationship between China and Vietnam today.

Today, China and Vietnam are involved in a longstanding dispute over the Spratly Islands in the South China Sea. In July of 2012, *The New York Times* reported that China is becoming more aggressive in its claim to the islands:

The establishment of a legislature for islands and the dispatch of soldiers will antagonize Vietnam, which claims the same islands. Vietnam and China have fought since the 1970s over the three island groups; last month, Vietnam passed a law that claimed sovereignty over the Paracels and Spratly Islands. In response, China called the islands its 'indisputable' territory.¹¹⁷

114 Benjamin E. Goldsmith, “A Liberal Peace in Asia?,” *Journal of Peace Research*, Vol. 44, No. 1 (January 2007): 17.

115 Stephen Van Evera, *Causes of War*, 105.

116 *Ibid.*, 108.

117 Jane Perlez and Bree Feng, "China to Put Soldiers On Islands In Dispute," *New York Times*, July

The dispute over the Spratly Islands is part of Vietnam's economic security and adds another dimension to the protection of water resources for Vietnam because it has to consider the overall political consequences of militarily engaging China. In addition to China, Vietnam has also had past contentions with Cambodia.

Following the Vietnam War when North and South Vietnam were reunited,

relations with the revolutionary Democratic Kampuchea (Khmer Rouge) government in Cambodia rapidly deteriorated when it refused Hanoi's offer of a close relationship among the three countries that once formed French Indochina. Savage border fighting culminated in a Vietnamese invasion of Cambodia in December 1978. The Khmer Rouge were dislodged from power, and a pro-Vietnamese government was installed in Phnom Penh.¹¹⁸

Vietnam occupied Cambodia for eleven years and did not fully remove its troops until September of 1989. At that time, Vietnam was isolated from its riparian neighbors and wanted to mend its relations with them:

A peace conference in Paris formally ended the Cambodian conflict in 1991 and provided United Nations supervision until elections could be held in 1993. The Cambodian settlement removed a key obstacle to normalizing relations with China, Japan, and Europe¹¹⁹

according to William J. Duiker and William S. Turley in *Encyclopædia Britannica Online*. Because of the history between Vietnam and Cambodia, one can see where trust issues may arise with these two nations when it comes to water security. Since Cambodia

24, 2012.

118 *Encyclopædia Britannica Online*, s. v. "Vietnam," <http://www.britannica.com.ezproxy.hpu.edu/EBchecked/topic/628349/Vietnam>, (accessed February 17, 2014).

119 *Encyclopædia Britannica Online*, s. v. "Vietnam," <http://www.britannica.com.ezproxy.hpu.edu/EBchecked/topic/628349/Vietnam>, (accessed February 17, 2014).

lies directly adjacent to Vietnam, there is potential for water conflict as well as cooperation. After all, each country is looking to protect its economic and water security.

Each Mekong riparian country has its own economic and water security agenda. For example, in 2007, Thailand was one of four countries which disagreed with Laos building the Xayaburi dam because of possible detriments to the Mekong Giant Catfish and other fish species which depend on strictly fresh water for survival.¹²⁰ Like China, Vietnam has its sights set on economic development and so views the Mekong River as a way to advance this agenda. The difference here is that China does not have an upstream neighbor on the Mekong River. Vietnam is the caboose in the train of Mekong countries and the last in line to receive water. Could Vietnam be raising environmental concerns for the sole purpose of gaining economic advantage over its upstream neighbors? As mentioned earlier, Vietnam is a major rice producer. Water and silt in the Mekong Delta are vital to growing rice that feeds half of Vietnam's population and any restriction in the flow can effect rice production.¹²¹

There is some consensus that dams in China are restricting the flow of silt to the Mekong Delta. But, not all scholars agree. Shaojuan Li and Daming He, in their article, "Water Level Response to Hydropower Development in the Upper Mekong River," show that the argument is complex. The article shows that "river-flow variation is particularly subject to the influences of climate change and human activities, yet the Upper Mekong dams are but one of many drivers of change."¹²² What is not disputed is that something

120 "Catfish reprieve." *New Scientist* 210, no. 2810 (April 30, 2011): 4-5.

121 Browder and Ortolano, "The Evolution," 512.

122 Shaojuan Li and Daming He, "Water Level Response to Hydropower Development in the Upper

must be done to protect each country's water security. Is something in place, like the Indus Waters Treaty to help protect the Mekong River Basin and to prevent conflict between the affected states?

Overview of Tried Agreements and Oversight

So far, there is not a formal treaty in place for the Mekong River Basin countries to help manage water distribution but various attempts have been made prevent conflict and manage transboundary water resources. In their article entitled, "Management of Transboundary Water Resources: Lessons from International Cooperation for Conflict Prevention," Juha I. Uitto and Alfred M. Duda discuss the importance of managing transboundary water resources and the avoidance of conflict over them:

The assumption is that shared water resources can actually provide the basis for cooperation and sharing of benefits, rather than conflict, provided that the threats to the international waters are objectively recognized and institutional structures for collaboration are created.¹²³

Though they focus on other parts of the world, the authors provide some relevance to the Mekong River situation in the article. Since there is no constant tension like that between India and Pakistan along the Mekong, the prospect of a liberal peace is possible between states like China and the other Mekong riparian countries as Alam describes in the previous case study on the Indus River. Benjamin Goldsmith in, "A Liberal Peace in

Mekong River," *Ambio* Vol. 37, No. 3 (May, 2008): 176.

123 Juha I. Uitto and Alfred M. Duda, "Management of Transboundary Water Resources: Lessons from International Cooperation for Conflict Prevention," *The Geographical Journal*, Vol. 168, No. 4, Water Wars? Geographical Perspectives (Dec., 2002): 366.

Asia?” states that “there is a liberal peace based primarily on economic interdependence.”¹²⁴ To maintain this peace, the waters must be equitably distributed to satisfy both the liberalist and realist objectives of each riparian country. Since 1992, various facilitator groups have risen to help manage the Mekong transboundary water resource disparities and the avoidance of conflict between the Mekong nations.

One research group that is endeavoring to equitably distribute the Mekong waters is the Mekong River Commission (MRC). The MRC was established in 1995 “to coordinate water resources planning and development across Southeast Asia's lower Mekong River basin. The MRC's member nations are Cambodia, Laos, Thailand and Vietnam.”¹²⁵ Neither China nor Burma are part of the MRC, although China has signed an agreement with the commission to provide hydrological data on the water levels of the Mekong to the member countries.¹²⁶ Because two of the Mekong riparian countries are not part of the MRC, enforcing equitable water distribution is difficult in light of each nation's economic plans. The MRC is not able to stop conflict between the riparian nations over water appropriation due to its lack of authority to control the actions of any of the member nations. Now, the focus has shifted more to another group – the Greater Mekong Subregion (GMS), to come up with economic solutions in order to help the Mekong riparian countries to prosper.¹²⁷

The GMS was formed in 1992 by the Asian Development Bank to foster

124 Goldsmith, “A Liberal Peace in Asia?,” 22.

125 Jeffrey W. Jacobs, “The Mekong River Commission: transboundary water resources planning and regional security,” *Geographical Journal* 168, no. 4 (December 2002): 354.

126 Mekong River Commission Upstream Partners. <http://www.mrcmekong.org/about-the-mrc/upstream-partners-2/>, (accessed February 22, 2014).

127 Oliver Hensengerth, “Vietnam's Security Objectives in Mekong Basin Governance,” *Journal of Vietnamese Studies*, Vol. 3, No. 2 (Summer 2008): pp. 121.

economic cooperation between its member states. The GMS has three more years of experience than the MRC and its members include China, Thailand, Laos, Burma, Cambodia, and Vietnam.¹²⁸ The GMS scheme has been more successful than the MRC in accomplishing trans-boundary cooperation along the Mekong. The GMS works at the ministerial level and uses summits to bring heads of state together, and it,

is grounded in the political culture of East and Southeast Asia. This political culture, which has been termed the 'ASEAN Way,' is an informal, consultative, and evolutionary mode of cooperation that has found application in the Mekong Basin, where it is called the 'Mekong spirit'¹²⁹

as described by Oliver Hensengerth in, "Vietnam's Security Objectives in Mekong Basin Governance." The GMS has been effective in using the "ASEAN Way" without the legal enforcements of the MRC to garner international cooperation. However; this type of cooperation is also allowing each country to proceed with its own economic agenda; sometimes at the expense of their riparian neighbors.

Sokhem Pech and Kengo Sunada have addressed the protectionist behavior of the Mekong countries in their article, "Population Growth and Natural-Resources Pressures in the Mekong River Basin," using the following factors:

- Each Mekong country tends to take an independent course of action, often ignoring external and indirect effects. This represents one of the largest challenges to overcome, since the asymmetry of causal responsibility, power/capacity, and distributional problems are highly prevalent in the subregion.
- An effective and truly Mekong-wide institution for negotiating cooperative development is lacking, and there is no commonly accepted knowledge base or tools for impact assessment and monitoring.¹³⁰

128 Hensengerth, "Vietnam's Security Objectives," 104.

129 Ibid., 109.

130 Sokhem Pech and Kengo Sunada, "Population Growth and Natural-Resources Pressures in the Mekong River Basin," *Ambio*, Vol. 37, No. 3, Mekong at the Crossroads (May 2008): 224.

So, the MRC and the GMS were setup to develop cooperation along the Mekong, however, we can see that both groups lack the needed viable solutions to equally protect all of the Mekong riparian states' water interests. Additionally, two other entities were also established, in part, to help solve the water resourcing problem. These two groups are the Global Environment Facility and the Association of Southeastern Nations (ASEAN) Regional Forum (ARF).

The Global Environment Facility or GEF was established in 1991 to bridge the gap between the MRC and GMS.¹³¹ The GEF developed the GEF Operational Strategy for international waters in 1995.¹³² The GEF strategy paper offers lessons that promote “peaceful cooperation for environmental management, benefit sharing and sustainable use of trans boundary freshwater resources” according to Juha I. Uitto and Alfred M. Duda in their article entitled, “Management of Transboundary Water Resources: Lessons from International Cooperation for Conflict Prevention.”¹³³ The article goes on to say that “there is evidence that water may also become the unifying resource around which countries cooperate.”¹³⁴ The GEF has also found evidence “that water may also become the unifying resource around which countries cooperate” and that “all relevant stakeholders in the countries – including the public and private sectors, the scientific community and civil society” must be committed to the issues in order of priority according to Uitto and Duda.¹³⁵ All of the countries participating in GMS are also

131 Uitto and Duda, “Management of Transboundary Water Resources,” 368.

132 Ibid., 366.

133 Ibid., 366, 367.

134 Ibid., 367.

135 Ibid., 376, 377.

members of GEF. How can the Mekong riparian countries mutually benefit from the precepts of the GMS, the MRC, and the GEF if there is no political enforcement of the prescribed tenets by the individual countries? The answer to this question will need to involve the “Mekong spirit” in order to maintain the existing attitude of respect amongst the Mekong riparian countries that, for now, holds them together.

Why were these Management Efforts Not Successful and What Can Be Done Going Forward?

Lack of political enforcement is the problem with GMS, MRC, and GEF solutions. Without enforcement, any beneficial solutions to Mekong water sharing disparity will be rendered ineffective. Since the “ASEAN Way” is respected amongst the riparian countries of the Mekong, perhaps leadership from an organization that embraces ASEAN principles along with political enforcement is in order. Unfortunately, not all of the GMS and GEF countries are members of ASEAN. But, they all are members of the ASEAN Regional Forum (ARF). In fact, it is interesting that India and Pakistan are also members of the ARF. The difference between the ARF and the other groups is its political teeth to accomplish and enforce the intended solutions of the MRC, GMS, and the GEF Operational Strategy.

The ARF was established on July 25, 1994 by the ASEAN Ministerial Meeting and Post Ministerial Conference. The objectives of the ARF are “to foster constructive

dialogue and consultation on political and security issues of common interest and concern; and to make significant contributions to efforts towards confidence-building and preventive diplomacy in the Asia-Pacific region.”¹³⁶ With these objectives in mind, the ARF may be the forum to address and eventually solve the Mekong River waters dilemma. It could also be the forum used to share lessons learned from the Indus Waters Treaty that could benefit the riparian countries of the Mekong River.

Additionally, according to the ARF Security Outlook 2013, “ARF provides a platform on which security needs for both traditional and non-traditional concerns can be assessed peacefully through dialogue, consultation and cooperation.”¹³⁷ Building from the goals of its founding document, the ARF is in the process of implementing the ARF Preventive Diplomacy Work Plan. *Preventive Diplomacy* is “action taken to prevent disputes from arising between parties, to prevent existing disputes from escalating into conflicts and to limit the spread of the latter when they [occur]” according to the 1992 UN Secretary General Report entitled, “Agenda for Peace.”¹³⁸ The ARF Concept Paper lays out a three-stage process to promote confidence and develop preventive diplomacy and conflict resolution¹³⁹ In its 2010 draft of the Preventive Diplomacy Work Plan, the

136 About the ASEAN Regional Forum, <http://aseanregionalforum.asean.org/about.html>, (accessed October 12, 2013).

137 ASEAN Regional Forum, “ANNUAL SECURITY OUTLOOK 2013,” <http://aseanregionalforum.asean.org/files/ARF-Publication/ARF-Annual-Security-Outlook/ARF%20Annual%20Security%20Outlook%202013.pdf>, 6, (accessed October 12, 2013).

138 Secretary-General, United Nations Security Council, “An agenda for peace: preventive diplomacy, peacemaking and peacekeeping,” (1992), http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDAQFjAB&url=http%3A%2F%2Fwww.un.org%2Fen%2Fsc%2Frepertoire%2F89-92%2FChapter%25208%2FGENERAL%2520ISSUES%2FItem%252029_Agenda%2520for%2520peace_.pdf&ei=o8lZUqTkGaf8iQKr2YHQBg&usg=AFQjCNFr2v1BbsRgkvKxh-HnXixL7_Vs2Q&bvm=bv.53899372,d.cGE&cad=rja, (accessed October 12, 2013).

139 Fact Sheet, “The ASEAN Regional Forum: A Concept Paper,” Bureau of Political-Military Affairs

ARF set down the following objectives:

- to establish appropriate preventive diplomacy mechanisms for the ARF
- to move the ARF process forward from Stage I - Confidence Building Measures to Stage 2 - Preventive Diplomacy, while recognizing and retaining confidence building measures and
- to increase the capacity and capabilities of the ARF and its participating countries in the area of preventive diplomacy¹⁴⁰

Currently, the ARF is actively working to accomplish the second objective according to the Chairman's Statement Of The 20th ASEAN Regional Forum of 2 July 2013 "through action-oriented cooperation and activities, while continuing confidence-building measures."¹⁴¹ Water resource concerns have been part of the ASEAN Regional Forum Working Group on Preventive Diplomacy since 1996. At that time, the working group considered water a subject area of "potential crisis" for the ARF member countries.¹⁴²

To help alleviate the potential for a water crisis, one ARF member country that has come up with some creative solutions to water scarcity is Singapore.

Singapore has developed water options for itself that the Mekong-wide countries

(Washington DC, July 15, 2002), <http://2001-2009.state.gov/t/pm/rls/fs/12052.htm>, (accessed February 20, 2014).

140 ASEAN Regional Forum, "Preventive Diplomacy Work Plan (draft as of 2010)," <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CC4QFjAB&url=http%3A%2F%2Faseanregionalforum.asean.org%2Ffiles%2FArchive%2F18th%2F5th%2520ARF%2520EPs%2C%2520Dili%2C%252027-28Jan2011%2FAnnex%252012%2520-%2520ARF%2520Preventive%2520Diplomacy%2520Work%2520Plan.pdf&ei=qbtZUry2Noa5igLs3oHYDA&usg=AFQjCNE5Aq0RO6m4lelyljbicprlXLD4-Q&bvm=bv.53899372,d.cGE&cad=rja>, (accessed October 12, 2013).

141 "Chairman's Statement Of The 20th ASEAN Regional Forum," (2 July 2013). http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCsQFjAA&url=http%3A%2F%2Fwww.mofa.go.jp%2Fmofaj%2Farea%2Fasean%2Farf%2Fpdfs%2Fcs_1307_en.pdf&ei=EcZZUu-ILaGCiwL0nICQCA&usg=AFQjCNH2ZqID6efkX0kwCdWDBeihFNAdiQ&bvm=bv.53899372,d.cGE&cad=rja, (accessed October 12, 2013).

142 ASEAN Regional Forum, "Seminar on Preventive Diplomacy," (Paris: 7-8 November 1996), <http://aseanregionalforum.asean.org/component/content/article/3-public-library/137-seminar-on-preventive-diplomacy-paris-7-8-november-1996.html>, (accessed October 12, 2013).

may consider where water scarcity is an issue. Singapore has diversified their water supply by developing four different water sources including “water from local catchment areas, imported water, reclaimed water known as NEWater and desalinated water” to make up its lack of natural water sources.¹⁴³ The catchment areas are for capturing rainwater and NEWater is made from treated and filtered sewage water. In fact, NEWater is so clean that it is safe to drink.¹⁴⁴ But, NEWater is an expensive venture for countries that are not in Singapore's financial situation. The suggestion for other countries would be to develop a “diversified and sustainable water supply” as Singapore has done.¹⁴⁵

To summarize, the Mekong River system is the life source to several riparian nations along its path from the Tibetan Plateau to the South China Sea at Vietnam. China controls the source of the Mekong River and has the potential to cause great harm to its downstream neighbors by continued dam construction and water diversion. Given the history of the region and the contention among the inhabiting countries of Southeastern Asia, equitable water-sharing becomes that much more important for sustaining this limited resource.

There are groups, such as the MRC and GMS, who's purpose it is to manage water distribution and to foster economic cooperation amongst the countries of the Mekong. But these groups have fallen short in their quest to solve the water distribution problems because their decisions lack enforcement. One organization that has the potential to improve the Mekong predicament is the ARF. The ARF consists of all the Mekong

143 Four National Taps Provide Water for All, PUB, Singapore's National Water Agency. <http://www.pub.gov.sg/water/Pages/default.aspx>, (accessed on February 21, 2014).

144 I actually have a bottle of NEWater at home.

145 Ibid.

riparian countries plus other ASEAN nations like India, Pakistan, and Singapore. The ARF combines the “Mekong spirit” with political enforcement of rules to potentially produce lasting sustainability for the Mekong water supply amongst all of the Mekong nations. In the next chapter, we shall compare the Indus River Basin with the Mekong River Basin and take a closer look at China's role.