

Interstate Dam Disputes Threaten Global Security



American Security Project

Perspective

—

Noa Tann

Madeline Flamik

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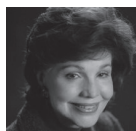
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Robert B. Crowe

Robert B. Crowe is a Partner of Nelson Mullins Riley & Scarborough in its Boston and Washington, DC offices. He is co-chair of the firm's Government Relations practice.



Lee Cullum

Lee Cullum, at one time a commentator on the PBS NewsHour and "All Things Considered" on NPR, currently contributes to the Dallas Morning News and hosts "CEO."



Nicholas Clark

Nicholas Clark is the former CEO and Executive Director of Alexium International. He is also co-founder and Managing Partner at Viaticus Capital.



Admiral William Fallon, USN (Ret.)

Admiral Fallon has led U.S. and Allied forces and played a leadership role in military and diplomatic matters at the highest levels of the U.S. government.



Raj Fernando

Raj Fernando is CEO and founder of Chopper Trading, a technology based trading firm headquartered in Chicago.



Scott Gilbert

Scott Gilbert is a Partner of Gilbert LLP and Managing Director of Reneo LLC.



Vice Admiral Lee Gunn, USN (Ret.)

Vice Admiral Gunn is the President of the Institute of Public Research at the CNA Corporation, a non-profit corporation in Virginia.



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Lieutenant General Claudia Kennedy, USA (Ret.)

Lieutenant General Kennedy was the first woman to achieve the rank of three-star general in the United States Army.



The Honorable John F. Kerry

John Kerry is a distinguished fellow for global affairs at Yale University. In 2013, Kerry was sworn in as the 68th secretary of state of the United States. Kerry served for more than twenty-five years as a U.S. senator from Massachusetts.



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General Lyles retired from the United States Air Force after a distinguished 35 year career. He is presently Chairman of USAA, a member of the Defense Science Board, and a member of the President's Intelligence Advisory Board.



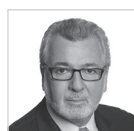
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Dennis Mehiel is the Principal Shareholder and Chairman of U.S. Corrugated, Inc.



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Stuart Pilch is the Co-Founder and Managing Director of Cambridge Advisory Group, an actuarial and benefits consulting firm based in Philadelphia.



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LtGen Norman Seip, USAF (Ret.)

Lieutenant General Norman R. Seip, USAF (Ret) served in the Air Force for 35 years. His last assignment was Commander of 12th Air Force.



David Wade

David Wade is a consultant helping global corporations and organizations with strategic advice, public affairs and thought leadership, crisis communications, political intelligence gathering, and federal and legislative strategy.

In this Report:

Interstate dam disputes pose a serious threat to global security and American interests. When states build dams on transboundary rivers, upstream of borders, they can reap the benefits while shifting costs onto downstream states. While these dams provide benefits to upstream states, they can deplete and degrade the water flowing downstream. When a downstream state already faces water shortages, these decreases in water quantity and quality can be devastating. Water shortages often spark social and political unrest, contributing to conflict within and between states.

Increased cooperation and coordination before, during, and after dam construction would do much to mitigate these security threats, ensuring that both costs and benefits are distributed equitably between states. Such coordination requires more robust, specific, and equitable water-sharing agreements. As climate change increases the frequency of temperature extremes and unpredictable precipitation patterns, river management will only become more vital to promoting peaceful cooperation, security, and sustainable development worldwide.

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IN BRIEF

- States build dams upstream of borders that degrade and reduce water flows into neighboring states, contributing to both internal and international tensions. As climate change exacerbates water shortages in many parts of the world, the power to restrict water becomes a key lever of coercion and contributor to conflict.
- This report examines key interstate dam disputes in the Middle East, East Africa, South Asia, and Southeast Asia.
- In order to mitigate conflict and bolster security surrounding these dam disputes, more robust, specific, and equitable water-sharing agreements are necessary.

About the Authors

Noa Tann is a Climate and Energy Security Intern at the American Security Project. She will graduate from the University of Central Florida in May 2019, with a B.A. in International and Global Studies and minors in Biology and Security Studies. A lifelong language learner, Noa speaks Arabic, Hebrew, French, Spanish, and Portuguese, and she has presented original work at the Showcase of Undergraduate Research Excellence in 2017 and 2018.

Madeline Flamik is a Climate and Energy Security Intern at the American Security Project. She will graduate from the State University of New York College at Geneseo in December 2018, with a B.A. in International Relations and minors in Environmental Studies and French. Madeline has interned with Senator Charles Schumer and New York State Governor Andrew Cuomo, and presented original research conducted in Senegal at the 2018 National Conference on Undergraduate Research.

Introduction

Interstate dam disputes threaten international security and U.S. interests worldwide, and these threats are exacerbated by global climate change. Dam disputes occur when a state dams a transboundary river upstream of a border, reducing the quantity and/or quality of water flowing into downstream states and spurring tensions between neighbors. Whether upstream states build these dams to generate energy, irrigate fields, control flooding, or provide drinking water, downstream states often pay the price.

A 2015 study concluded that states are more likely to build dams, and to build them higher and deeper, when they can shift some of the costs onto their neighbors.¹ The study found that dams were 27% more likely to be placed upstream of an international border, and that these dams were 59% taller with almost twice the reservoir capacity of dams that were built in other locations. Although the benefits for upstream states may be great, the adverse effects on downstream states and the political tensions created by these dams show them to be a threat to international stability.

Downstream states experiencing water scarcity are especially vulnerable to the effects of upstream dams. They are predicted to become even more vulnerable as their populations grow, increasing demand for water, and as more frequent extreme heat, drought, and unpredictable rainfall combine to reduce water availability. According to the IPCC, arid and semi-arid river basins are the areas most at-risk for increased water stress in the next few decades, and humid river basins are not far behind.²

Dams not only decrease downstream flow, but also degrade the quality of water flowing from them. After a dam is completed, downstream flow is usually cooler in summer and warmer in winter. Water temperature is vital to river ecosystems, as it affects the amount of dissolved oxygen and nutrients the water can hold. Dams also trap sediment and nutrients, withholding them from downstream flow and often causing algal blooms in reservoirs. High algae levels make surface water nutrient-poor, and can make deeper water acidic enough to dissolve minerals from rocks. Additionally, reservoirs increase the surface area of water, accelerating evaporation to make rivers saltier. The higher salinity poisons aquatic organisms and can make water unusable for irrigation or drinking.³

Affected downstream states have justifiably reacted to these dams' construction as a threat to their national security. They have publicly opposed the construction and filling of their neighbors' dams, in both global and regional settings, contributing to rising tensions between states. The character of these tensions varies with the geopolitical dynamics of each dam dispute.

The framework of hydro-hegemony is helpful to understanding these dynamics. Hydro-hegemony asks the question: in a given river basin, who gets how much water, how, and why?⁴ By controlling water resources, states gain the power to make these decisions for their neighbors. These hydro-hegemons can create and maintain inequality in water distribution without fearing retaliation from their neighbors due to disparities in power. The four case studies in this report each present a slightly different hydro-hegemonic dynamic: Turkey has been establishing hegemony over Iraq for the past few decades,⁵ Ethiopia is currently challenging Egypt's hegemony on the Nile, and India and China are regional hydro-hegemons⁶ surrounded by water disputes on all sides.⁷

As climate change exacerbates water challenges worldwide, the power to withhold or permit water flow becomes a key lever of coercion for upstream states to exert influence over their neighbors, and resolving interstate dam disputes becomes an even more vital dimension of international security.

Interstate Dam Disputes in the Middle East

The Tigris-Euphrates Basin stretches from southeastern Turkey to the Persian Gulf, flowing through eastern Syria, western Iran, and all of Iraq. 88-98% of Euphrates runoff and 32-50% of Tigris runoff originate in the Turkish highlands, giving Turkey significant control over the water upon which Syria and Iraq depend.⁸ The remaining Tigris runoff comes from the Zagros mountains in Iran and northern Iraq.

The origins of today's dam disputes stretch back to the 1970s, when Syria and Turkey began damming the Euphrates, angering their downstream neighbors. In 1975, Syria's construction of the Tabqa dam coincided with the launch of an expansive Turkish program, the Southeast Anatolia Development project (or GAP, as it is known by its Turkish acronym), and a serious drought in Iraq. These conditions pushed Syria and Iraq to the brink of war.⁹

A second close call occurred in 1990, when Turkey cut off 75% of water flow to Syria and Iraq to fill the Ataturk Dam. Turkey mobilized its military, Iraq threatened to blow up the dam, and Turkey responded by threatening to cut off all water to Syria and Iraq.¹⁰ Ultimately, the conflict was left unresolved, as the Gulf War shifted Iraqi focus southward and decreased Iraq's ability to threaten Turkey over water issues.

10 years before the 1990 crisis, Turkey, Iraq, and Syria established a Joint Technical Committee on Regional Waters, and in 1987 the Turkish prime minister signed an agreement guaranteeing at least 500 cubic meters/second of water flow across the Syrian border. But in 1989, the Committee met and proved itself ineffective at promoting cooperation. Despite Iraqi and Syrian concerns, Turkey went ahead with the filling of the Ataturk Dam, antagonizing its neighbors and barely avoiding an armed conflict over water.¹¹

In 2018, Turkey has almost completed the GAP. Its most recent project, the Ilisu Dam, has sparked controversy due to the coincidence of its filling with a severe water shortage in Iraq.



Ataturk Dam. Image credit: gordontour / Flickr / Creative Commons

Ilisu Dam | Tigris River | Turkey-Iraq

Construction on the Ilisu dam began in 2006 and was completed in 2018. At full capacity, the dam could produce 2% of Turkey's electricity and hold 11 billion cubic meters of water in its reservoir – about half of the Tigris' annual flow into Iraq.¹² Turkey had scheduled the filling of the dam to begin on 1 July 2018, but agreed to postpone it to November 2018 after Iraqi outcry over water shortages.¹³

Even with the dam's filling delayed, it will still reduce the quantity and quality of Tigris inflow into Iraq. These effects are compounded by climate change. Temperatures in the Middle East are rising twice as fast as the global average,¹⁴ and the general heating in combination with more frequent periods of extreme temperatures and drought make Iraq especially vulnerable to water shortages. Iraq has reacted to Turkish dam-building less aggressively in the 21st century than in the 20th. In 2000, Saddam Hussein's Iraq threatened to bring Turkey before an international tribunal over building dams without consultation, but the threatened action never came.¹⁵ The Iraqi government's words might have held more weight if there had been a robust bilateral treaty with specific water-sharing stipulations in place. But in the absence of such an agreement, Turkey was under no obligation to get Iraqi consent before damming the river. After the 2003 U.S. invasion of Iraq, the Iraqi government's ability to respond to Turkish dam-building was significantly diminished. The state of insurgency that followed the invasion and the subsequent conflict with the Islamic State further decreased the Iraqi government's capacity to negotiate with Turkey, as well as its ability to manage Iraq's water effectively.

The security concerns surrounding the Ilisu dam dispute are primarily tied to instability in Iraq. Water from the Tigris sustains agriculture in central and southern Iraq, and any pollution or disruption of its flow hurts Iraqi farmers. In June 2018, the Iraqi government announced that rice and corn farming would be banned for the year due to water shortages, and wheat production may need to be reduced by up to 50%.¹⁶

Iraqi farmers losing their livelihoods often leave their lands, joining Iraq's 2.1 million-strong displaced population.¹⁷ Many southern Iraqis have been serving in the Popular Mobilization Forces (PMF) combating the Islamic State, and in 2018 these fighters are returning home to farms and villages that can no longer support them. Some of them choose not to come home at all, preferring to stay in militias that many Iraqis fear could become a parallel force threatening the state.¹⁸

In July 2018, the water shortage in southern Iraq began to spark violence. Demonstrators attacked government infrastructure, set fire to political offices, and declared the ruling Shiite political parties responsible. Thousands of protesters marched on government buildings in Nasseriyah, Kut, Karbala, Babil, Amara, Najaf, and Basra. Security forces have used live ammunition, tear gas, and water cannon on the crowds, killing at least 14 since July 8, according to police and medical sources.¹⁹

The water shortage compounded with many other factors, including an electricity cut-off, a major heat wave, rising unemployment and poverty, and rampant corruption, to destabilize southern Iraq. While the Iraqi government considers the Ilisu dam a contributor to Iraq's water scarcity issues, it could also be seen as a scapegoat for Iraqi water mismanagement. Blaming water scarcity on other states is an easy way to for the government to avoid taking responsibility.

A second dimension of security concerns raised by the Ilisu dam relates to the Kurdistan Workers' Party, usually known by its Turkish acronym PKK, whose center of anti-government operations lies in the same region of southeastern Turkey as the dam. The Turkish government has stated that flooding valleys behind dams is an intentional strategy to disrupt the PKK's movements, but Kurdish activists claim that the environmental and social damage caused by the dams will only exacerbate the conflict.²⁰

The social costs of Ilisu dam are significant – its reservoir, when filled, will completely flood the 12,000-year-old town of Hasankeyf, displacing 80,000 people.²¹ The government has constructed a replacement “New Hasankeyf” of spare, concrete buildings, but many current residents, mostly of the Kurdish minority, are not satisfied by this solution.²²

The Ilisu dam exacerbates social and political tensions within both Turkey and Iraq, and places further strain on the relationship between the two states. The Iraqi Minister of Water Resources, Hassan al-Janabi, has accused Turkey of using water as a commodity to be bargained with, disregarding Iraq's dire needs.²³ A new, robust water-sharing agreement, including at least Turkey and Iraq if not Iran and Syria (although Syria's current state of conflict makes this unlikely in the near future) is desperately needed in order to manage the Tigris-Euphrates Basin and prevent further conflict.

The key question is how Turkey could be motivated to give up some of its hydropower and water-storage potential for the benefit of its downstream neighbors. One argument for increased cooperation with Iraq involves Turkey's struggle against the PKK. PKK fighters have often taken refuge from Turkish forces in neighboring areas of Iraq and Syria, where instability helps them avoid authorities.²⁴

Restraint from extensive dam-building on Turkey's part, or at least increased cooperation with Iraq on dam projects, could mitigate this regional instability. While Syria is already in dire straits due to the ongoing civil war, it is not too late to prevent Iraq from reaching similar levels of instability. Ensuring that Iraqis get enough water from the Tigris and Euphrates would be a significant step towards this goal.

If Turkey is not willing to rein in its damming efforts, it could still make commitments to spread the Ilisu dam's benefits to Iraq. For example, Turkey could aid in improving Iraq's water management systems. Iraq's Water Resources ministry has prepared a comprehensive plan for improving water efficiency nationwide, but the estimated \$184 billion the plan costs is more than the Iraqi government can afford.²⁵ In exchange for shifting the Ilisu dam's costs onto Iraq, Turkey could offset some of the Iraqi water plan's cost through financial or technical aid.

Regardless of which approach best motivates Turkey, a specific and equitable bilateral agreement is needed. A robust water-sharing treaty would allow an unbiased mediator to adjudicate violations, and could begin to counteract the imbalances between Turkish and Iraqi negotiating power. But Iraq is desperately in need of water, while Turkey is not motivated to come to the negotiating table. In the interest of promoting a stable, sustainable future for the Middle East, the United States and its allies should pressure Turkey to reach such an agreement with its downstream neighbor.

Interstate Dam Disputes in East Africa

The Nile, the world's longest flowing river, is 4,132 miles long and drains an area spanning approximately 1,293,000 square miles.²⁶ The Nile flows north through ten states in East Africa – Burundi, Rwanda, Tanzania, Uganda, Kenya, the Democratic Republic of the Congo, South Sudan, Sudan, Ethiopia, and Egypt, where it empties into the Mediterranean. During the period of European colonialism, the Nile was divided between colonial powers, prompting competition for control over its waters. Many East Africans still lack access to water for drinking and irrigation due to colonial-era water divisions.²⁷

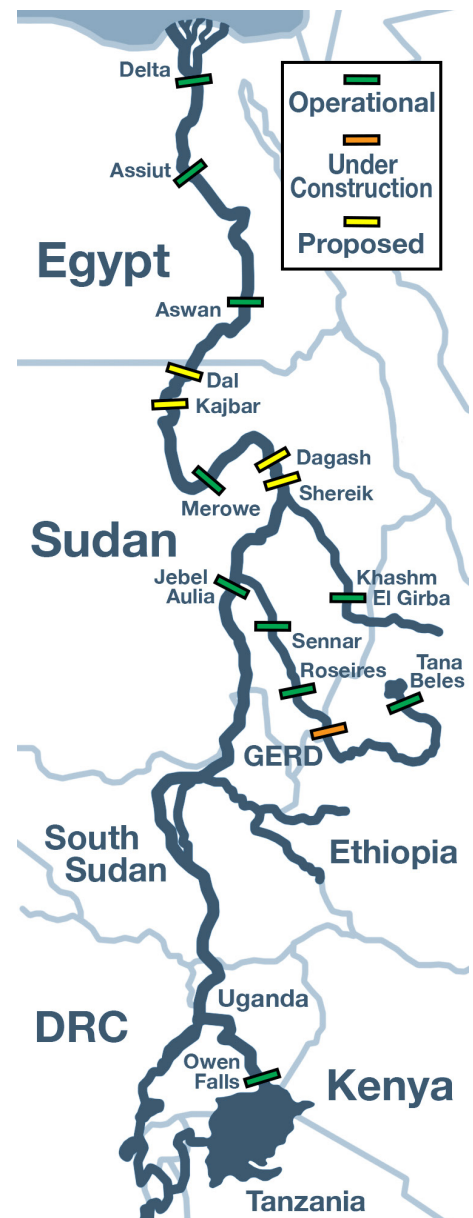
Grand Ethiopian Renaissance Dam (GERD) | Nile River Basin | Ethiopia-Egypt

Interstate conflict over water in the Nile River Basin is nothing new. In 1999, the Nile Basin Initiative (NBI) was signed by 9 of the 10 states bordering the river, with major support from international organizations such as the World Bank.²⁸ The NBI was created as an international partnership with three objectives: “developing the (Nile) river in a cooperative manner, sharing substantial socioeconomic benefits, and promoting regional peace and security.”²⁹ The NBI established a cooperative framework that encouraged states to invest in large-scale water-development projects based on a benefit-sharing approach.

When Ethiopia unilaterally announced the construction of the 6,400-megawatt Grand Ethiopian Renaissance Dam (GERD) in 2011, Egypt asserted that this new development ignored the NBI's benefit-sharing approach.³⁰ The GERD would generate significant benefits for Ethiopia, while pushing the cost of decreased water flow onto Egypt.

Prior to the GERD, economic constraints and external pressures had prevented upstream states of the Nile Basin, including Ethiopia, from developing their water resources and hydroelectric potential. This arrangement allowed states like Egypt to benefit from prolific downstream flow. However, upstream states have recently experienced significant population growth, economic development and political consolidation. Such changes increase the demand for energy, arable land, and potable water in these states, and subsequently, their need to control water resources and undertake development projects.

Ethiopia seized the opportunity to develop its section of the Nile, as the Blue Nile in the Ethiopian highlands provides about 86% of the river's total runoff.³¹ Any Ethiopian water development could significantly impact the quality and quantity of downstream flow into Egypt and Sudan.



The GERD has the potential to act as a catalyst for both cooperation and conflict. It could provide benefits to all three states, including flood and sediment control, energy generation, and increased water supplies in times of drought. However, the GERD will also reduce freshwater inflow to Egypt by 22 billion cubic meters each year when completed. A 2017 study predicts that this reduced flow could exacerbate saltwater intrusion into the Nile Delta, putting over 90 million Egyptians at risk and making the entire region uninhabitable by the end of this century.³²

Initially, the Sudanese government shared Egypt's reservations, but the prospects of obtaining electricity and improved irrigation from the GERD ultimately outweighed its costs. Sudan's decision to side with Ethiopia challenged a 1959 treaty that bound Sudan to act in accordance with Egypt regarding Nile Water issues.³³ To some, Sudan's shift in their GERD stance signified the end of Egypt's reign over the Nile. Political instability following the Arab Spring, and the resignation of President Hosni Mubarak distracted Egypt from its concerns over the dam, allowing Ethiopia to continue construction in the absence of a comprehensive water agreement. Years of failed negotiations and political gridlock ended in 2015 with the establishment of the Declaration of Principles, which outlined a cooperation framework based on the principle of shared benefits.³⁴ Despite this achievement, tensions continued into May 2018, when Egypt and Ethiopia announced the establishment of the National Independent Scientific Research Study Group to explore "the filling and operation rules in accordance with the principle of equitable and reasonable utilization of shared water resources [and prevent] significant harm."³⁵

On July 3, 2018, Ethiopian Prime Minister Abiy Ahmed, Egyptian President Abdel Fattah al-Sisi, and Sudanese Foreign Minister Osama Faisal met again to discuss the establishment of a joint fund for investment and development projects related to the GERD at Cairo's Central Bank.³⁶ While conflict is deescalating and cooperation between the three states is progressing, as negotiations are set to continue in the upcoming months, tensions remain as they have for centuries in the Nile River Basin.

Ethiopia has vowed to protect Egypt's share of Nile waters. Yet, there is speculation that this cooperative rhetoric is merely a tool to appease Egypt, considering Egyptian leaders have openly threatened war over control of the river before. Instability in East Africa is a global security threat upon which the United States should keep a watchful eye, especially as terrorist threats in the Western desert and Sinai Peninsula make conflict very possible in the near future.³⁷ For the United States to conduct effective counterterrorism efforts and promote political stability in the region, its foreign policy must address underlying threats to security, including climate change and water scarcity exacerbated by interstate dam disputes.

Interstate Dam Disputes in South Asia

Water security is a driving force of state stability in South Asia, as the indirect effects of water stress – migration and food shortages – are destabilizing the Indus River Basin. The transboundary basin spans four states: China, India, Pakistan, and Afghanistan, and drains 450 thousand square miles.³⁸ The region is facing debilitating water scarcity, which exacerbates existing cultural and political tensions, particularly between India and Pakistan. India and Pakistan signed the Indus Water Treaty (IWT) in 1960 after nine years of negotiations in cooperation with the World Bank, with the goal of mitigating water conflict within the region. The treaty divided Indian and Pakistani rights and obligations regarding the Indus River system. The eastern rivers – the Ravi, Sutlej, and Beas – were allocated to India, and the western rivers – the Indus, Sindh, Chenab, and Jhelum – to Pakistan.³⁹ India and Pakistan were also given the right to conditional use of the other state's rivers for domestic power generation, agriculture, and other non-consumptive purposes. However, such usage must not lower the natural flow of water within the other state's borders.

The IWT devised an action plan to address future water conflicts. Depending on the severity of the disagreement, the states should approach the situation differently. “Questions” regarding the Indus Water Basin, the lowest level of dispute, are to be handled by the Permanent Commission of Indus Waters (PCIW). “Differences,” somewhat stronger concerns, are to be resolved by a Neutral Expert, and “Disputes,” the most urgent issues, are to be referred to an International Court of Arbitration (ICA).⁴⁰

Since the establishment of the IWT, there have been many controversies regarding the construction and design of water-development projects on both sides of the basin, some of which have been resolved and some of which are ongoing. From December 2001 to June 2002, India threatened to pull out of the IWT in retaliation for alleged Pakistani support of Uri terrorist groups. Subsequently, Pakistan stated it was prepared to use nuclear weapons over a water conflict. Though India never withdrew from the IWT, the bellicose exchange between the two states further strained relations. The continuity of the IWT through two wars indicates that future conflicts over water management are still possible.

Kishanganga Hydroelectric Project | Indus River Basin | India-Pakistan

In 2007, tensions rose again when India announced the construction of the Kishanganga Hydroelectric Project on the Jhelum River, one of the waterways assigned to Pakistan by the IWT.⁴¹ Pakistan became concerned with the design of the dam, and in 2010 requested that the World Bank appoint an arbitrator to decide whether the project’s design was in accordance with the IWT. Pakistan feared that the project would decrease the quantity of water that reached its western rivers, endangering its irrigation system and domestic water supply. The World Bank and the arbitrator requested that construction be suspended during their investigation. In 2013, the ICA ruled the design of the hydropower project was in accordance with the IWT, permitting India to continue construction.⁴²

Bilateral negotiations continued for the next two years, but yielded little results. Displeased with this outcome, Pakistan once again called for an ICA, and India requested a separate Neutral Expert evaluation in 2015, suspending construction for a second time. The two states concluded that by having the World Bank investigate both of their concerns simultaneously, they risked contradictory outcomes. On December 12, 2016, the World Bank paused processing the states’ requests, and construction resumed.⁴³

May 19, 2018 marked the inauguration of the Kishanganga Hydroelectric Project amid Pakistani protest.⁴⁴ The Pakistani government asserted that opening the plant without an IWT resolution further violated the treaty, and once again requested an arbitrator to evaluate the project. The World Bank denied Pakistan’s appeal, but encouraged India and Pakistan to resolve the water dispute in an amicable manner. The World Bank requested that Pakistan withdraw its arbitration request and accept India’s offer to appoint a Neutral Expert, in the hope of reaching a permanent resolution on the subject.



It is essential to comprehend the severity of the India-Pakistan water dispute and its global security implications, particularly as both states have nuclear capabilities and have expressed willingness to use them. Additionally, preexisting instability within the region makes it a hot-spot for extremism. Numerous extremists ran in the 2018 Pakistani general elections, including Islamist militant Hafiz Saeed, who announced that if his party were to win, Pakistan would prohibit India's construction of future dams and obstruct India's share of Pakistani water.⁴⁵

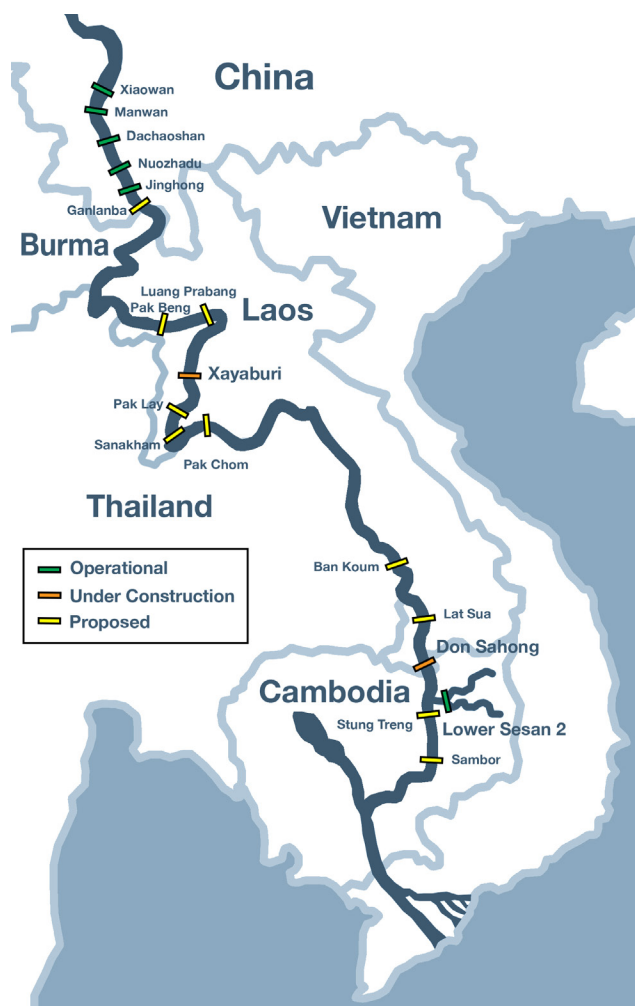
Any instability in South Asia should be of concern to the United States, as Pakistan is a key U.S. ally in the region and has served as a critical base for U.S. troops fighting in Afghanistan. Therefore, it is advantageous for the United States to monitor the growing water scarcity crisis in South Asia, in order to ensure that existing tensions do not escalate into a full-fledged war.⁴⁶

Interstate Dam Disputes in Southeast Asia

The Mekong River is the longest in Southeast Asia, rising in China and flowing through Myanmar, Laos, Thailand, and Cambodia before forming an extensive river delta in Vietnam, where it drains into the South China Sea. Along its course, the Mekong sustains the food and water security of 60 million people,⁴⁷ who depend on it for drinking water, fishing, and rice irrigation. Dams along the Mekong bring sudden ecological, agricultural, and social change to some of the most vulnerable populations in the region.

Communities along the Mekong are among the poorest in Southeast Asia, in which the average annual income is under \$200 per year. Many of these residents make their livings from riverbank agriculture and fishing, linking their lives inextricably to the river.⁴⁸ Excessive and badly-placed dams displace these people, forcing them to resettle in areas with different ecological and agricultural dimensions, where familiar methods of farming and fishing cannot function.⁴⁹

The ecological implications of poorly-planned Mekong dams are huge. They can block fish migration and decrease water levels in the Lower Mekong, increasing saltwater intrusion into groundwater, crippling rice production and fishing yields, and polluting drinking water.⁵⁰ So far, the only completed dams on the Mekong are Chinese, but Laos and Cambodia each have one under construction, and all three states have extensive plans for future dam projects.



Chinese Dams

China has built six dams on the Mekong River, and has plans to build 21 more. Chinese dams alone have decreased downstream flow by about 30% in the wet season, and increased water temperatures for hundreds of kilometers downstream.⁵¹ These changes shrink fertile floodplain areas, trap 94% of sediment from flowing downstream, and block fish migration – changes with dire long-term impacts for ecosystems and people.

China's damming efforts have not gone unnoticed by its downstream neighbors. Thai researcher Thitinan Pongsudhirak, director of the Institute of Security and International Studies at Thailand's Chulalongkorn University, asserts that China damming the Mekong is "analogous and connected" to its actions in the South China Sea.⁵² By damming the Mekong, China is gaining leverage over its neighbors and establishing its position as a regional hydro-hegemon. Chinese dams on the Mekong even extend past the state's borders, with China directly or indirectly funding dam construction in downstream states. Of the 11 dams currently planned in Cambodia and Laos, six are backed by China.⁵³



Nuozhadu dam, China's largest on the mainstream Mekong.

Photo credit: International Rivers / Flickr / Creative Commons

Laotian Dams

Laos began building the Xayaburi dam in early 2012. Construction was briefly suspended due to complaints from Cambodia and Vietnam, but after a few design changes the process resumed, and commercial operation is set to begin in 2019.⁵⁴ 2,986 people who lived on the location of the dam or in areas to be flooded have been evacuated, and the ecological impacts of the dam are predicted to be devastating.⁵⁵

Laos is constructing a second dam, the Don Sahong, less than two kilometers from its southern border with Cambodia. The Don Sahong will cause serious downstream impacts in Cambodia, especially on fish; and with 80% of Cambodians depending on fish for their main source of protein, the threat to Cambodian food security is very real.⁵⁶ Construction on the Don Sahong Dam began in 2016, despite repeated repudiation by Cambodia, Thailand, and Vietnam.⁵⁷

Seven other dams in Laos are currently in planning stages. The two currently under construction are neither funded by the Chinese government nor connected to Chinese firms, but several of the planned dams are.

Cambodian Dams

Cambodia has one completed dam on a tributary of the Mekong, the Lower Sesan 2 Dam, which began operating in November 2017. It was developed by a Chinese firm, Hydrolancang International (Lancang being the Chinese name for the Mekong), and its reservoir flooding displaced over 5,000 locals from indigenous Bunong, Lao and Khmer communities.⁵⁸ Besides the direct human impacts, the dam is predicted to cause a 9.3% decrease in fish stocks basin-wide, and threaten over fifty fish species in the long term.⁵⁹

Two more dams, both with Chinese funders, are planned further south on the mainstream Mekong. China's positive view of Cambodian damming was framed by its representative to the United Nations' Economic and Social Commission for Asia and the Pacific, who stated, "What benefit does Cambodia get from upstream dams? Nothing. But Cambodia can benefit by developing its own dams. We should all benefit from the river."⁶⁰ This rhetoric defends China's dam-building efforts by implying that downstream states are able to benefit just as much from damming as China, but this argument is misleading. It ignores the many threats Chinese dams pose to downstream states, as well as the compounding ecological impacts of excessive damming.

Institutions and Solutions

There are two international forums that nominally coordinate development on the Mekong: the Mekong River Commission (MRC), a treaty organization created by Cambodia, Laos, Thailand, and Vietnam in 1995, and the Lancang-Mekong Cooperation Mechanism (LMCM), launched by China in 2016 with the participation of all the MRC members and Myanmar.

The MRC conducts important research on dam impacts and helps states build water-development capacity, but it has been ineffective at mitigating dam disputes, partially because China is not a member of the organization. Disagreements raised in the MRC over the Xayaburi and Don Sahong dams were never resolved, and construction continued despite the disputes. States and construction firms simply ignore the organization, or steer around it.⁶¹

The LMCM is much broader in scope, including cooperation on political and security issues, sustainable economic development, and social/cultural matters. However, the LMCM is perceived as mainly serving China's interests. It helps China expand political and economic influence in Southeast Asia by leading the framework through which downstream states discuss water-development projects. Because China knows its downstream neighbors' plans, it can offer key loans or opportunities for Chinese companies to help them build dams.

Although these offers benefit Southeast Asian states in the short run, in the long term they increase the risk of over-dependence and indebtedness to China.⁶² Chinese construction firms usually bring in Chinese workers, depriving the host state of opportunities to employ its own people and grow domestic technical expertise. The LMCM may aid Southeast Asian states' development, but that aid comes along with serious risks of exploitation by China.

The worst-case scenarios of the dam-building bonanza on the Mekong include significant drops in fishing yields, rice production, and drinking water supplies throughout Southeast Asia. These changes would create serious food and water security concerns, threatening livelihoods and economies throughout the region.

In order to avoid the worst impacts, several adjustments must occur. First, Southeast Asian states must stay wary of Chinese exploitation, both in the context of the LMCM and in their use of Chinese construction firms for dam-building. Second, alternative means of clean energy production should be considered to replace the large number of planned hydroelectric dams. True energy security comes from diversification of energy resources, so deemphasizing hydroelectricity would make Southeast Asian energy development more sustainable in the long term, as urbanization and economic development continue to increase demands for electricity.⁶³

Finally, Cambodia, Laos, Thailand, and Vietnam should refocus on the Mekong River Commission, in order to keep connectivity and cooperation strong while decreasing dependence on China. If each of these states put faith into this institution and abided by its decisions, China would have to take notice. Eventually, the MRC could incorporate Myanmar and China as members, or absorb the Lancang-Mekong mechanism into its existing structures. If Southeast Asia is to develop sustainably, it cannot ignore the security concerns posed by excessive dam-building and Chinese ambitions on the Mekong.

Conclusions

In the Middle East, East Africa, South Asia, and Southeast Asia, interstate dam disputes constitute serious security threats both within and between states. Several conclusions can be drawn from the analyses presented in this paper:

1. There is a need for strong bilateral and regional water-governance institutions, agreements, and treaties. Too often, these institutions exist, but states ignore their commitments as soon as it impacts their interests. Where no clear agreements exist, such as in the Tigris-Euphrates Basin, states should begin to draft them. Where institutions already exist but remain ignored, such as in Southeast Asia, states should recommit to them, and act within these frameworks with long-term interests in mind.
2. When planning dams upstream of international borders, states should take action to ensure that downstream states receive some of the benefits of the dam. If the dam generates hydroelectricity, it could provide an opportunity for bilateral cooperation on energy development. If the dam irrigates crops or stores drinking water, downstream areas could be guaranteed water rights in times of drought, instead of being dependent on the upstream state's generosity when such conditions occur. While these measures may seem altruistic, it is in states' national security interest to prevent avoidable conflicts and instability in their vicinity, and more equitable water-sharing practices could go far to accomplish that goal.
3. It is in the United States' interest to promote international cooperation on transboundary water issues. Long-term instability in the Middle East, threats to major American allies like Egypt, conflict between nuclear powers, and increased Chinese influence over Southeast Asia are all outcomes that could be mitigated or avoided by addressing water-sharing concerns now – rather than in several decades when climate change has pushed already water-stressed areas into crisis. Without infringing upon state sovereignty or overreaching on bilateral issues, the US should include the promotion of water-management cooperation and the resolution of interstate dam disputes among its foreign policy goals.

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