

THE POLITICAL ECONOMY OF WATER

WILL ASIA SEE A WATER WAR IN THE FUTURE?

In earlier times, water was used as a tool of military conflict. Today however, there has been a structural change and now wars could be fought over water. The existing supply of water cannot keep up with demand and at the current rate any weak monsoon period could lead to the onset of a drought period in South and East Asia. While the potential for war breaking out due to a lack of water is low in the next ten years, water challenges due to increased instability will exacerbate tensions. This paper examines China's transboundary water policies, its relations with India, Kazakhstan and the countries forming the Mekong River basin as well as future policy implications to analyse the possibility of a water war in the area encompassing Cambodia, China, India, Kazakhstan, Laos, Myanmar, Thailand and Vietnam.

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INTRODUCTION

Former Chinese Premier Wen Jiabao was not being overly dramatic in 1999 when he called the country's water problems a threat to the "survival of the Chinese nation". (Lily Kuo, "China has Launched the Largest Water Pipeline Project in History", *The Atlantic*, 7 March 2014, online at <https://www.theatlantic.com>) Little did China, Asia or the rest of the world realise then that the problem of water scarcity and the impending doom of a water war would be this close. Since earliest times, water has been

used as a tool of military conflict. The use of water to establish supremacy dates back to 2500–2450 BCE, when surface water was diverted by the kingdom of Urlama, denying water to the neighbouring kingdom of Umma, in current day southern Iraq. In the modern era, in World War Two, the British air force bombed the Mohne and Sorpe dams and surface water bodies such as the Eder River in Germany as part of Operation Chastise. (David Kreamer, “The Past, Present and Future of Water Conflict and International Security”, *Journal of Contemporary Water Research and Education*, vol149, no1, 2013)

Since the times when water was used as a tool of war, there has been a structural change and now wars could be fought over water. Water scarcity has led to a fragile political situation in the South Asian subcontinent and although until now no war has been fought over water, the chances of a full-scale military war breaking out because of the lack of water as a resource cannot be ignored. The 2012 *Global Water Security* report (online at <https://www.dni.gov>) released by the United States National Intelligence Council, highlights that the current supply of water cannot keep up with demand and while the potential for war breaking out because of a lack of water is low in the next ten years, water challenges due to increased instability will exacerbate tensions.

Asia houses over 60 per cent of the population of the world but has the least per capita availability of water. With the Brahmaputra, Irrawaddy, Mekong and Salween rivers amongst many others flowing through it, China plays a vital role as it shares its water resources with multiple countries, thirteen of which border it directly.

THE ASIAN WATER CRISIS

A recent study conducted by the Massachusetts Institute of Technology concludes that Asia’s water crisis will worsen and at the current rate any weak monsoon period could lead to the onset of a drought period. The report stresses for urgent improvements in the management of water resources and other life sustaining resources such as forests and animals. (Brahma Chellaney, “Asia’s Next Major Conflict will be over Fresh Water”, *The National*, 10 May 2016, online at <https://www.thenational.ae>) In an article Strobe Driver (“‘Oil Then’, ‘Water Now’: Another Reason for War in the Twenty-First Century”,

E-International Relations, online at <https://www.e-ir.info>) explains that a lack of intervention and monitoring of water usage and the neglectful attitude towards this finite resource of developing nations are two primary causes for the mismanagement of water and a lack of cooperation between states could escalate into water wars. (Chietigj Bajpae, "Asia's Coming Water Wars", *Asia Pacific Journal*, 14 August 2006, online at <https://apjff.org>)

The most recent case of water scarcity and transboundary water issues to attract world attention is that of the People's Republic of China (PRC) and its neighbouring nations. Asia houses over 60 per cent of the population of the world but has the least per capita availability of water. International geostrategic analyst, Brahma Chellaney has identified China as the world's unrivalled hydro-hegemon, taking into account its position as an upstream nation and source of river water for most regional countries. (Gordon G Chang, "Blue Gold: The Coming Water Wars", *World Affairs*, September/October 2013) With the Brahmaputra, Irrawaddy, Mekong and Salween rivers amongst many others flowing through it, China plays a vital role as it shares its water resources with multiple countries, thirteen of which border it directly. Despite knowing that it is a vital source of water, the PRC is in the process of building multiple dams and hydroelectricity projects mainly to avert a looming water crisis within its own territory. This however could disrupt or even stop the flow of water to lower riparian nations and as such has created anxiety and tension among downstream states, leading to a criticism of Chinese policies. (Hongzhou Zhang and Mingjiang Li, "Thirsty China and its Transboundary Issues", *China and Transboundary Water Politics in Asia*, New York: Routledge, 2017)

A main reason for China interfering with the regular flow of rivers is the pollution it is facing. Due to immense infrastructure construction, vehicular density and improper management, water pollution has become a huge problem. Forty per cent of Beijing's water and 95 per cent of Tianjin's water is unusable. (*ibid*) Other drivers of Chinese water vulnerability are the conflicting objectives of environmental protection and economic development as well as poor communication and emergency response mechanisms due to weak administration. (Yan Feng and Daming He, "Transboundary Water Vulnerability and its Drivers in China", *Journal of Geographical Sciences*, vol19, no2, 2009) China's biggest project the Three Gorges Dam was completed in 2003. Currently, over a hundred projects are being planned on the Yangtze and its tributaries. Apart from water distribution issues that China's neighbouring nations face, another important factor is the environmental impact of such construction. Although the Chinese government claims that the dams

are a part of the plan to provide clean energy to citizens, it has been repeatedly proven wrong. The earthquake in Sichuan province, its after-effects on Ya'an city and the environmental degradation caused by silt trapping and greenhouse gas emission, paint a different picture. (Lewis, Charlton, "China's Great Dam Boom: A Major Assault on its Rivers", *Yale E360*, 2018, online at <https://e360.yale.edu>) In a sense, the building and construction of dams has made a mockery of the Chinese government's five-year plan for developing energy, reducing pollution and protecting the environment. (*ibid*)

CHINA'S RELATIONSHIP WITH INDIA, KAZAKHSTAN AND THE MEKONG RIVER COMMISSION

China's relations with neighbouring states such as India, Kazakhstan and the nations forming the Mekong River Commission (Cambodia, Laos, Thailand and Vietnam) determine the transboundary water issues and their possible escalation into war. Water issues along with border disputes most often lead to conflict. (Paul Smith and Charles Gross, *Water and Conflicts in Asia*, Asia Pacific Centre for Security Studies, 1999, online at <https://apcss.org>)

The Brahmaputra River accounts for 29 per cent of the total runoff of Indian rivers, 44 per cent of the country's total hydropower potential and plays a key role in its river linking project. The completion of the Zangmu Dam on the Yarlung Tsangpo River (the Tibetan name for the Brahmaputra) in 2014 by China poses a serious threat to the flow of water to the Tibetan plateau, India and Bangladesh. (Charlton, *ibid*)

Terming it a domestic issue, China has withheld hydrological data regarding the Brahmaputra River from India despite annual payments of 850,000 renminbi being made on time. (Brahma Chellaney, "Water Shortages could Trigger Asia Conflicts", *Nikkei Asian Review*, 30 December 2017, online at <https://asia.nikkei.com>) Moreover, the data is provided to Bangladesh free of cost. This has soured the already tense relationship between

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Additionally, the contamination of the Siang River that flows into Arunachal Pradesh from Tibet and the Doklam standoff between the two nations have worsened ties. Thus, institutional failures coupled with water scarcity may further deteriorate relations to the point of a potential war between the two countries. (Jin H Pak, “China, India and War over Water”, *Parameters*, vol46, no2, Summer 2016) It is extremely difficult to predict the hydro-relations between India and China, primarily due to the latter’s placement as an upstream nation and the complete secrecy with which its governance system functions. India must therefore urgently lobby neighbouring nations like Bangladesh, Bhutan and Nepal in a bid to slow down China’s implementation of large-scale diversion projects that could alter water security in the region. (Dhanasree Jayaram, *China’s Dams and Regional Security Implications: An Indian Perspective*, Issue Brief 259, Institute of Peace and Conflict Studies, March 2015, online at <http://www.ipcs.org>) However, such efforts to mitigate Beijing’s actions may not be successful considering the coercive diplomatic practices it indulges in.

China also has tense relations with Kazakhstan. Agreeing to talk about the problem of water scarcity and the signing of an agreement between the two for joint water sharing and diversion in 2011 was a big achievement, considering how the PRC has constantly avoided discussing water sharing issues in general. There are a multitude of reasons for the cooperation. (Selina Ho, “Why China is Cooperative on Water Policies with Kazakhstan”, *Water Policy Online*, 2017) For one Beijing wants to build an image of being a “good and cooperative” neighbour but more importantly it wants to utilise Kazakhstan’s oil, gas and energy reserves. For this purpose, China has established the Sino–Kazakh Economic and Energy Cooperation. However, tensions have been rising since China started diverting the Ili and Irtysh rivers, the two most important of the 24 rivers it shares with Kazakhstan. The diversion of water is to feed its growing agricultural and petroleum sectors. (Hongzhou Zhang and Mingjiang Li, “A Process-based Framework to Examine China’s Approach to Transboundary Water Management”, *International Journal of Water Resources Development*, vol34, no5, June 2018) Fear and mistrust by Kazakhstan is justified considering the rapid resource depletion and the inability to find alternative long-term solutions. The growing oil and petroleum industries coupled with the threat of drought in eastern Kazakhstan are two primary causes for worry. Additionally, China has not signed any multilateral legal agreement on transboundary water issues. It chooses to negotiate water

disputes bilaterally, repeatedly dismissing third party intervention. Many neighbouring nations argue that the PRC's relative size and clout give it an unfair advantage over the decision-making process. Moreover Kazakhstan's internal mismanagement and problems are an added burden to existing tensions. (Aseem Mustafina, "Transboundary Water Issues between Kazakhstan and China", *International Organisation of Scientific Research Journal of Humanities and Social Sciences*, vol19, no1, 2014)

As the upper riparian state China also has tense relations with the nations of the Mekong River Commission of 1967. (Chang, *ibid*) The commission was set up under a statute of the United Nations to ensure the sustainable development of the lower Mekong River basin and its members are Cambodia, Laos, Thailand and Vietnam. China and Myanmar refused to participate in it. In 1995 the four members signed the Sustainable Development of the Mekong River Basin Agreement with the cornerstone being the equitable and reasonable utilisation of water.

(Mark Grimsditch, *3S (Sesan, Srepok and Sekong) Rivers under Threat: Understanding New Threats and Challenges from Hydropower Development to Biodiversity and Community Rights in the 3S River Basin*, 3S Rivers Protection Network and International Rivers, April 2012, online at <https://www.internationalrivers.org>)

Today even though China and Myanmar are not members of the Mekong River Commission, they are

active dialogue partners and provide their own perspectives from time to time. On China's refusal to sign the Mekong River Agreement a representative had once stated, "Whatever action China takes to exploit Mekong's potential is purely an internal matter", sending a clear message to lower riparian states not to expect support or cooperation from the Chinese government on water sharing issues. (Smith and Gross, *ibid*)

China however has actively participated in the Greater Mekong Subregion Programme (GMSP) of the Asian Development Bank and the Mekong Basin Development Programme (MBDP) of the Association of Southeast Asian Nations. The GMSP is important in ensuring the hydropower development and regional economic interconnection of China and the Mekong region. It is also responsible

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for the rapid growth of the economy and infrastructure of Cambodia, Laos, Thailand, Vietnam as well as China and Myanmar by supporting the construction of bridges, railways and roads. The MBDP is for planning and executing regional economic and developmental projects, with an aim to integrate the Chinese and mainland Southeast Asian economies. However, the ecological impact of such extensive infrastructure growth programmes must not be ignored. (Evelyn Goh, *China in the Mekong River Basin: The Regional Security Implications of Resource Development on the Lancang Jiang*, Institute of Defence and Strategic Studies, Singapore, 2004, online at <https://www.rsis.edu.sg>)

CHINA'S CURRENT STATUS AND ITS ECOLOGICAL IMPACT

Chinese leaders view hydropower and politics synonymously and the Mekong River is regarded as one of the most important strategic national resources. (Sebastian Biba, *China Drives Water Cooperation with Mekong Countries*, thethirdpole.net, 1 February 2016, online at <https://www.thethirdpole.net>) Apart from building dams, China is also in the process of executing another important project, the South to North Water Diversion Programme, which was initiated by Mao Zedong in 1952 and approved in 2002 after 50 years of extensive planning. (Darrin Magee, "Moving the River: China's South-North Water Transfer Project" in Stanley D Brunn (Ed), *Engineering Earth: The Impacts of Mega-Engineering Projects*, Dordrecht: Springer, 2011) Set to be completed by 2040, the main aim is to divert water from the Haihe, Huaihe, Yangtze and Yellow rivers of the south to the population, industry and agriculture rich north to boost development. The plan is to move over 44.8 billion cubic meters of water annually from the southern to the northern part of the nation. Apart from facing flak for the environmental degradation the project is causing, a major worry is the reduced flow of water to lower riparian states, most of whose livelihood depends on the water flow. (Kuo, *ibid*) China's rampant dam building and water diversion programmes have not only caused a great deal of anxiety and distress to lower riparian states but have also had a significant ecological impact. Although critics say it will be several years before the full impact of the constant interference with the environment becomes visible, certain compelling issues have already been brought to light due to excessive construction. Currently, significant environmental damage is visible in terms of agriculture, fish stocks, the relocation of populations and the potential for

natural and man-made floods. (Milton Osborne, *River at Risk: The Mekong and the Water Politics of China and Southeast Asia*, Lowy Institute for International Policy, 19 August 2004, online at <https://archive.loyyinstitute.org>)

THE POTENTIAL ESCALATION OF A WATER WAR AND POLICY IMPLICATIONS

Water has always been viewed as a strategic resource that needs to be protected and valued. There is a long history of conflict between water sharing nations but the situation has never escalated to that of war. However, given the current economic and political situation in Asia, the chances of a water war breaking out in the near future cannot be ruled out. Plans executed by the GMSP have not been a complete success and have faced multiple obstacles. The lack of adequate coordination between governments, international organisations and non-governmental organisations and a paucity of funds to proceed with designed plans due to events such as the economic crisis are just the tip of the iceberg. (Dieu Quang Pham

and Thao Thi Thanh Pham, *Urbanising Mekong Delta in Vietnam: The Challenges of Urban Expansion Adapting to Floods*, The Fifth International Conference of the International Forum on Urbanism, National University of Singapore, 2011) However, the recent agreement in the Mekong Delta region may be viewed as a *realpolitik* dimension of the conflict for water.

The most important impact of China's hydropower development on the Lancang Jiang (Mekong) is its ability to control the amount of water released to lower riparian states, with Cambodia and Vietnam being the worst hit. Poor channels of communication within Chinese provinces and between Beijing and downstream countries, together with China's adamant refusal to sign agreements regarding water, apart from the power dynamics of it being

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the hydro-hegemon of this subcontinental region, leaves lower riparian states in a disadvantageous position. (Goh, *ibid*) Additionally, the individual interests of countries in Southeast Asia have been instrumental in preventing the formation of a united front against China. They do not have the coherence to take concerted action. Rather bilateral relations play an important role. Although nations such as Indonesia view the growth of China as a threat, others such as Myanmar see it as an opportunity while for Cambodia and Laos it may be a blessing. (Csaba Barnabás Horváth, “China’s Rise and the Geopolitics of Southeast Asia”, *Defence Review: The Central Journal of the Hungarian Defence Forces*, vol145, special issue, 2017, online at <https://honvedelem.hu>)

Policies are implemented under two broad frameworks—coordination and collaboration. The coordination framework includes working on policy implications that move towards improving communication channels and implementing agreed upon policies between China, India, Kazakhstan and the countries of the Mekong River Commission. Although civil society organisations, media houses and nongovernmental organisations have tried improving the process and channel of the flow of information, the limited communication between Chinese governmental departments, lack of organisation between different ministries and widespread corruption, lead to delayed responses and compromise the decision-making process. (Zhang and Li, 2017, *ibid*) The cooperative framework also includes setting up desalination and recycling plants to improve the current situation of the lower Mekong region. While these solutions seem viable, problems which discourage nations include procuring clearances from governments, the financial burden and most importantly the environmental drawbacks. These however could be combated by encouraging third party engagement of either developed nations with the technological know-how and financial capability or of intergovernmental organisations such as the United Nations or World Bank.

The collaboration framework includes a working “blue revolution” system, that is, the water equivalent of the “green revolution” to arrest the rapidly decreasing access to freshwater resources. It also encompasses some structural policy changes that China needs to make to mitigate the chances of a water war and improve relations with lower riparian nations. The PRC should revise its data sharing policy as providing downstream states with hydrological data would prove beneficial in many ways, such as in improving the adaptability to changes

in the volume of water flow. China should also adopt a policy of informing and giving prior notification to lower riparian countries and conduct non-partial environmental impact assessments. Additionally, China must negotiate equitable rules for water sharing and resource management with respect to the geographical locations of other nations. (Biba, *ibid*)

Although experts such as Zhang and Li, (2018, *ibid*) are confident that water scarcity by itself will not lead to war, they highlight that water insecurity, increasing water scarcity, threatening national sovereignty and decreasing political stability in the upstream nation could increase the possibility of war. (Pak, *ibid*) An important observation made by Brahma Chellaney is that most of the water deals signed by Beijing date back to the twentieth century. However, the possibility of China cooperating with lower riparian nations and signing similar water deals in the current day scenario, given the ever-increasing demand and growing infrastructure, seems bleak. (Chang, *ibid*)