THE PANKAJ KUMAR JHA
CENTRE FOR SECURITY STUDIES | ISSUE BRIEF

JANUARY 2025

WATER WARS: A REAL POSSIBILITY OR A MYTH

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The water stress is increasing by the day. According to the World Resources Institute, 25 countries, housing one-quarter of the global population, face extremely high water stress each year.[1] The report further highlights that the most stressed regions are the Middle East and North Africa, where 83% of the population is exposed to extremely high-water stress, and South Asia, where 74% of the population is exposed. A high population depends upon the rivers in these regions, such as the Tigris-Euphrates basin, Ganga-Brahmaputra basin, Nile basin, etc. Additionally, regions of the Middle East and South Asia are also prone to other geopolitical conflicts, increasing the possibility of weaponising these waters.

Impact of Development, Climate Change

Water is an essential resource, an existential one that all equally require. However, due to its disproportionate distribution and availability, some regions are in more danger than others. According to the World Wide Fund, around 1.1 billion people worldwide lack access to water, and a total of 2.7 billion find water scarce for at least one month of the year.[2] Moreover, according to the UN, half of the countries worldwide will face water shortages or stress by 2025, and by 2050, as much as 75 percent of the global population may be affected by water scarcity.[3] However, this is even more concerning for developing countries that are mostly situated in arid, semi-arid, and tropical regions.[4] Further, due to rapid industrialisation, massive urbanisation, and intensification of agriculture, the issue is of immediate concern.

Since most developing countries are agrarian states, they utilise more water in agricultural activities than in the industrial sector. For instance, in India, 85-90% of the total usage of water is estimated to be in the agriculture sector.[5] Most of these countries are also developing urban centers with increasing water requirements. Rapid industrialisation is common to all developing economies, so water requirements are high in these nations. The increasing demand for water,

[1] Kuzma, S. (n.d.). *25 countries, housing One-Quarter of the population, face extremely high water stress*. World Resources Institute. https://www.wri.org/insights/highest-water-stressed-countries
[2] *Water scarcity | threats | WWF*. Water Scarcity. (n.d.). https://www.worldwildlife.org/threats/water-scarcity
[3] United Nations Convention to Combat Desertification. (2022). (rep.). *Drought in Numbers*. Retrieved from https://www.unccd.int/sites/default/files/2022-05/Drought%20in%20Numbers.pdf.
[4] Swain, Ashok. (2015). Water Wars. 10.1016/B978-0-08-097086-8.91087-0.
[5] *Assistance for conservation of water resources*. (n.d.). https://pib.gov.in/PressReleseDetail.aspx?PRID=1742813®=3&lang=1

coupled with the impacts of climate change, shifting river patterns, and growing desertification, has led to water becoming a source of disputes between countries over its sharing and distribution. However, whether these conflicts can turn into water wars, defined as armed conflicts between two or more states over scarce water resources, is still questioned by scholars.[6]

Hotspots for Water Wars

The UN predicts five hotspots for future water wars: Tigris-Euphrates, Ganga Brahmaputra, Indus, Nile, and Colorado rivers.[7]

Tigris - Euphrates Drainage System - Syria

The Tigris-Euphrates feeds the majority of southwest Asia, including Turkey, Iraq, Saudi Arabia, Iran, and Syria, which is a high political area and a ground for regular conflicts. Some scholars argue that one of the inspirations behind the Syrian civil war in 2011 was water and food insecurity. Syria is one of the driest countries in the world, which faced a drought between 2006 and 2011. This led to 75% of farms failing and the death of 85% of livestock, resulting in 1.5 million people moving to cities, looking for jobs in a deteriorating economy.[8] Along with this, there was the rise of the Islamic State group and the Arab Spring, which finally led to the civil war in 2011. Therefore, this drainage system is essential for maintaining peace in the region but is affected by climate-induced changes in rainfall patterns, which could cause dry spells, resulting in a threat to water security.

Indus Drainage System - India & Pakistan

In 2002, violence erupted in Kashmir, India, when police opened fire on a group of villagers fighting over water from an irrigation stream, resulting in two deaths and 25 injuries.[9] While there

[6] Wolf, Aaron & Hamner, Jesse. (2000). Trends in Transboundary Water Disputes and Dispute Resolution. 10.1057/9780230596634_8.
[7] Cassidy, E. (2020, May 4). *5 Water-Stressed River Basins to watch - Resource Watch blog*. Resource Watch Blog. https://blog.resourcewatch.org/2018/11/09/5-water-stressed-river-basins-to-watch/
[8] Doha Debates. (2019, October 2). *Are future water wars inevitable?* [Video]. YouTube. https://www.youtube.com/watch?v=cSxUqCQnKTk
[9] Doha Debates. (2019, October 2). *Are future water wars inevitable?* [Video]. YouTube. https://www.youtube.com/watch?v=cSxUqCQnKTk

is a mostly successful water-sharing treaty over the Indus between India and Pakistan, recent spats between the two and climate-induced threats have forced the pundits to question its viability now.

Ganga - Brahmaputra Drainage System - India & China

While Asia is home to more than 50 percent of the global population, it has less freshwater-3,920 cubic meters per person per year-than other continents, aside from Antarctica.[10] With a population of more than 500 million, the Ganges basin is one of the most populated basins in the world and one of the most water-stressed.[11] It is also one of the most populated basins whose majority population relies on agriculture. This increases the demand for a regular uninterrupted supply of water in the river system. Both river systems are fed by a wide network of glaciers that are being adversely affected by the effects of climate change. The Tibetan plateau - Asia's "water tower"- is being threatened by these climate-induced water losses, which further affect the water capacity in the river systems of the Ganga and Brahmaputra. China's plans to build dams and divert water from the river to support its growing needs in Tibet have raised concerns in India. China constructed the 'Three Gorges Dam' in 2003 and is now planning the world's first 'super dam' on the river to extract a humungous amount of hydropower. A major fear is that large-scale Chinese water projects could significantly reduce the flow of the Brahmaputra, impacting India's agricultural productivity, livelihoods, and water supply, particularly in the northeast region. Scholar Brahma Chellaney, in his article *Coming Water Wars,* says - "the most dangerous idea that China is contemplating is the northward rerouting of the Brahmaputra River."[12] Moreover, there are contentions from the Indian side about the lack of sharing of information on the Brahmaputra by China, which increases the trust deficit among these competing neighbours.

Nile Drainage System - Africa

[10] Donnellon-May, G. (2022, September 17). Are 'Water wars' coming to Asia? *The Diplomat*. https://thediplomat.com/2022/09/are-water-wars-coming-to-asia/#:~:text=The%20U.S.%20NIC%20Global%20Trends,narrative%20has%20also%20been%20refuted.
[11] Cassidy, E. (2020, May 4). *5 Water-Stressed River Basins to watch - Resource Watch blog*. Resource Watch Blog. https://blog.resourcewatch.org/2018/11/09/5-water-stressed-river-basins-to-watch/
[12] Chellaney, B. & PROJECT SYNDICATE. (2009). Water wars. In *THE INTERNATIONAL ECONOMY: Vol. FALL 2009* (pp. 38–39). THE MAGAZINE OF INTERNATIONAL ECONOMIC POLICY. http://www.international-economy.com/TIE_F09_Chellaney.pdf

The Nile, the world's longest river, flows through 11 countries in North Africa. Most of Egypt is desert; therefore, 97% of the population live in the narrow land close to the river. In 2012, water scarcity sparked conflict in southern Egypt when farmers held over 200 tourists as hostages to protest insufficient irrigation water, releasing them after officials promised a temporary water release.[13] Moreover, construction of the Grand Renaissance Dam by Ethiopia has raised fears about water security for downstream countries like Egypt and Sudan. This increases the centuries of contention that Egypt has with the many upstream countries of the Nile.

Colorado River - USA

The Colorado River provides for the water needs of 35 million people, flowing through 7 states of West America and Mexico.[14] The management of the river is regulated by a combination of interstate compacts, court rulings, federal legislation, secretarial guidelines, and an international treaty, all of which are collectively known as the Law of the River.[15] The most important is the century-old Colorado River Compact, which has been under scrutiny for a long time now due to the mismatch between demand and supply and the effects of climate change.[16] This compact will expire in 2026, and the plans for future water sharing remain uncertain among revised stakeholders with realistic expectations of the water flow in the river, considering climate change and ever-increasing carbon emissions. While there have been efforts to reduce consumptive uses to maintain the resource, proper and revised agreements are necessary for a permanent solution to the crisis.[17]

'Water Wars'

[13] Doha Debates. (2019, October 2). *Are future water wars inevitable?* [Video]. YouTube. https://www.youtube.com/watch?v=cSxUqCQnKTk

[14] Wilmoth, T. (n.d.). Time is running out to solve the Colorado River water crisis. *The Hill*. Retrieved from https://thehill.com/opinion/energy-environment/4844270-time-is-running-out-to-solve-the-colorado-river-water-crisis/.

[15] Wheeler, K. G., Udall, B., Wang, J., Kuhn, E., Salehabadi, H., & Schmidt, J. C. (2022). What will it take to stabilize the Colorado River? *Science Galley*, *377*(6604), 373–375. https://doi.org/10.1126/science.abo4452

[16] *Colorado River Crisis explained*. Harvard Gazette. (2024, September 17). https://news.harvard.edu/gazette/story/2023/02/colorado-river-crisis-explained/

[17] See footnote 15.

In 1995, then World Bank Vice President, Dr. Ismail Serageldin, had said that, "If the wars of this century were fought over oil, the wars of the next century will be fought over water."[18] "The only matter that could take Egypt to war again is water," declared then President Anwar Sadat in the spring of 1979, only days after signing the historic peace treaty with Israel.[19]

Such quotes highlight that 'water wars' are not a novel phenomenon. Even though the agenda of wars over water is sometimes said to be overstated by media and scholars, its speculations cannot be invalidated. Transboundary rivers present complications and often involve issues of national security, territoriality, and competition. Water is an essential resource that affects the livelihood of the people and hence contributes to social and political stability too. At least 1,473 instances of violence, conflicts, and water-related issues have been reported globally between 1990 and 2023.[20] Out of these conflicts, about two-thirds of all water-related conflicts have occurred in the past decade. Asia and Africa constitute almost 80% of all conflicts worldwide. These instances of violence over water combined with uncertain geopolitical environment around the world and increasing regional disputes among countries of high-water stress regions such as India, Pakistan and China, West Asia and North African countries have increased contemplations about 'water wars.'

Scope of Transnational Cooperation

However, transboundary waters are not just a ground for conflict. Rather, a space to cooperate not just on water sharing but also on climate change and other water-related issues, which could maintain water security for all. According to UN Water, almost 450 agreements have been signed on international waters between 1820 and 2007.[21] Despite complexities, it has been seen that water disputes can be handled diplomatically. The signing of agreements on crucial rivers in conflict-prone regions is often cited to downplay the likelihood of "water war" scenarios. Proper river

[18] Doha Debates. (2019, October 2). *Are future water wars inevitable?* [Video]. YouTube. https://www.youtube.com/watch?v=cSxUqCQnKTk
[19] Starr, J. R. (1991). Water wars. *Foreign Policy*, *82*, 17. https://doi.org/10.2307/1148639
[20] Kiran Pandey, & Kiran Pandey. (2024, March 22). *Wars over water*. Down to Earth. https://www.downtoearth.org.in/water/wars-over-water-95195
[21] UN Water. (n.d.). (publication). *UN Water Factsheet on Transboundary Waters*.

water-sharing agreements, information-sharing agreements, transborder climate change-mitigating efforts and appropriate international measures in this regard can help reduce the possibilities of war over this precious resource.

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6. Kiran Pandey, & Kiran Pandey. (2024, March 22). *Wars over water*. Down to Earth. https://www.downtoearth.org.in/water/wars-over-water-95195
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10. UN Water. (n.d.). (publication). *UN Water Factsheet on Transboundary Waters*.
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13. Wolf, Aaron & Hamner, Jesse. (2000). Trends in Transboundary Water Disputes and Dispute Resolution. 10.1057/9780230596634_8.