

# Climate change and water security in Asia-Pacific

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ByHindustan Times

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A baffling aspect of international treaties and negotiations on the climate crisis relates to complete silence on the water woes of the globe. There is little appreciation for the fact that freshwater on the earth is as scarce as some of the most precious metals. Less than 3% of the earth's water comprises fresh water and of this over 2% is locked in glaciers and less than 1% makes up for all the ground water, soil and atmosphere moisture, lakes and rivers. Given these natural constraints on water availability, international forums on environment, development and climate have shown no concern to bring water to the negotiating table. As more and more water bodies dry up globally, international interlocutors have opted to be the proverbial ostriches hiding their heads in the sand which is raising its head literally across geographies. If lack of collective action to tackle the climate crisis was the first sin of the global leadership, ignoring the global water problem is the clear second sin. This needs to change and change immediately.



Climate change(Representational photo / Creative Commons)

Asia-Pacific is the most populous region in the world in which approximately 4.3 billion people (60% of the world's population) live across 40 nations. The region is also one of the most water-stressed regions of the world. More than 95% of Asia's human population faces water stress (annual water availability less than 1,700 cubic meter per capita) and 75% of Asia is water scarce with annual water availability less than 1,000 cubic metres per capita. Estimates of the Asian Development Bank suggest that the shortfall between

water availability and its demand is likely to increase to 40% by the year 2030. Higher demand from agricultural sector, the development of urban infrastructure and general water mismanagement have all contributed to the water crisis in the region. The ongoing climate warming constrains water availability on supply side and higher demand for various reasons are a potent mix for disaster, a double whammy. We may be reaping the harvest of free electricity and the penchant for free lunches among the electable and the electorate does not seem to ebb at all. Mankind has perhaps collectively expressed a death wish.

The demand-supply gap in water availability in the Asia-Pacific region is likely to worsen more with impending climate crisis. During the last ten years, India has experienced five warmest years on record. In 2019, the water level in Mekong reached its lowest point in 100 years. Projections of the World Resource Institute suggest that by 2040 most parts of the world would experience high to extremely high water stress conditions with large swathes of the Asia-Pacific region (China, India, Australia and many Southeast Asian Island nations) likely witnessing high (40-80%) water stress. Most of the major rivers of Asia-Pacific including the Indus, Ganga, Brahmaputra, Irrawaddy, Salween, Chao Phraya, Mekong, Red River, Pearl River, Yangtze, and Yellow rivers depend on the Himalayan glaciers and/or South Asia monsoons for their perennial water availability. Scientific studies suggest that the Himalayan region is warming at much higher rates than the global average. This is likely to result in increased river discharges in the short term but significantly depleted water flows in the long-run.

The South Asian monsoon is likely to turn more erratic in near future as a result of climate change with higher net rainfall spread over fewer number of days. This scenario is a perfect mix for increased flood risk in the downstream areas. The rapid rate of climate warming is known to result in the formation of more glacial lakes which are often dammed by loose rubble and are vulnerable to breaching due to higher water volumes. Glacial lake outburst floods (GLOF) from such events is on the rise. The Kedarnath tragedy of June 2013, which left a trail of death, destruction and misery in its wake was the result of such a lake burst event. During the last couple of decades, China has experienced the highest number of flood-related economic losses in the world. Have we learnt any lessons from these tragedies and economic losses?

The additional problem that makes water deserving of a seat at the international high tables is transboundary conflicts within and between nation-states. Conflicts relating to water take many different forms and the various elements of water security act as threat multipliers. These multipliers include political processes, development activities, water-related disasters, etc. The international water conflicts such as Mekong, Indus, Brahmaputra, etc. and intra-state water disputes in India, such as of Cauvery, Krishna, Narmada, Yamuna, etc. are prime examples of these conflicts. The climate change will only escalate the water insecurities among the parties, therefore, the geopolitical tensions. The Indus Water Treaty (IWT), for example, is already under pressure as the water demand in upstream India rises. The downstream Pakistan region under the impact of ongoing climate warming will be averse to any changes in the treaty India has recently

proposed, threatening to further deteriorate a delicately held peace between the two neighbors. India may well be justified in amending the IWT under the changed circumstances. India was close to restrict water flow in Indus in 2016 and 2019 in response to the Pakistan-backed terrorist strikes in its upper basin areas of Jammu & Kashmir.

Addressing the water crisis requires a mix of measures that must begin at home – judicious use of a scarce commodity such as water must be the central paradigm of water policy. A wider perspective to ensure a just water-sharing regime in which each state or a nation has access to equitable water resources in order to prevent conflicts. Worryingly, the serious water woes and its potential to snowball into conflict is yet to dawn on the international climate negotiators. We have argued elsewhere that The Mekong River Commission, which jointly manages the water resources of the Mekong River between Cambodia, Laos, Thailand, and Vietnam can serve as a model for addressing water disputes among other Asia-Pacific Nations. Given the vulnerability of Himalayan glaciers to warming and their ensuing recession, nations like Pakistan will do well to judiciously manage the Indus waters, for the critical dependence of its major water resources on the receding glaciers. Likewise, Bangladesh depends on 90% or more for its surface water resources on the trans-boundary imports which adds to its vulnerability under the impacts of climate change. Judicious and responsible management of water resources is equally crucial for India. Nearly 40% of piped water in urban India is reportedly lost due to leakages, water pricing and inadequate maintenance of the water supply infrastructure. This situation cannot continue. Modernisation of water supply infrastructure using the latest technologies such as leak sensors, etc. need to go hand in hand. Water harvesting for the nations in Asia-Pacific region is no more a matter of choice. We need to double our efforts to integrate actions of various stakeholders including scientists and civil society with the national water management policies. Localised small-scale actions that use indigenous knowledge and are rooted in nature have the best success rates in the fight against water scarcity and groundwater depletion. These need more support and encouragement.

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