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GRAB FOR WATER COULD SPARK CONFLICT IN PAKISTAN AND INDIA

by NICOLE LIVANOS

In both India and Pakistan, water shortages are pressing concerns and have been a source of conflict among the countries since their very beginnings. The 1947 Indian Independence Bill, which created Muslim-majority Pakistan and Hindu-majority India, drew lines based purely on religious grounds and paid no attention to hydrology.¹ In response to concerns about the location of water sources, Pakistan and India entered into the Indus Waters Treaty (IWT) in 1960.²

Pursuant to the IWT, the Jhelum, Chenab, and Indus rivers were designated to Pakistan, and the Ravi and Sutlej rivers were allocated to India.³ The headwaters of the rivers lie in conflict-stricken Kashmir, a highly desirable area for

both countries.⁴ “India and Pakistan need to keep water from becoming one more weapon in their geopolitical rivalries,” warns Paul Brown, former environment correspondent at the British Guardian.⁵ This concern is of international importance, as tensions are rising between the two countries in response to a final decision by the international Permanent Court of Arbitration over accusations of India violating the IWT by building dams.⁶

PAKISTAN’S WATER WOES

“Water shortages present the greatest future threat to the viability of Pakistan as a state and society,” explains South Asia scholar, Anatol Lieven.⁷ By 2030, Pakistan is expected to face a downgrade in categorization from “water stressed” to “water scarce” by the United Nations.⁸ Rapid population growth and outdated infrastructure are two culprits of this decline.⁹

Inefficient irrigation and drainage techniques have degraded the agriculture soil in Pakistan and worsened the shortages.¹⁰ Due to the scarcity of electricity, small-scale farmers are forced to pump for groundwater using old diesel-powered pumps, which adds the cost of rising fuel prices.¹¹ In addition, over-irrigation has caused soil salinity — an increase in the salt content in the soil — making vast expanses of land unable to yield meaningful harvests.¹²

Floods and poor drainage technology also plague the nation, and global warming has further exacerbated this problem.¹³ The Indus River Basin obtains water stocks from snow and rains of the Himalayas.¹⁴ Rising global temperatures have caused the mountain’s glaciers to thin by up to a meter per year.¹⁵ As they thin, river floods will overwhelm the deficient drainage system, and once the glaciers disappear, paramount river flows will continue to decrease dramatically, by up to 30 to 40 percent over 100 years’ time.¹⁶

Pakistani development economist Haris Gazdar believes that more water can be made available, but stresses that “conservation and management require not only investment but changes in social and political organization and technology.”¹⁷

INDIA'S WATER MISFORTUNES

Similar to Pakistan, India also suffers from severe water problems. According to the National Geophysical Research Institute (NGRI), groundwater in Delhi, the world's second most populous city, may run dry in three to five years.¹⁸ NGRI hydrogeologists blame not only agriculture infrastructure, but also urban planning. Cities are turning into "concrete jungles," resulting in very little rainfall getting infiltrated into the earth for conversion into groundwater.¹⁹ Ideally, 16 percent of total rainfall must seep into the earth to be recharged as groundwater.²⁰ Currently in Delhi, barely 8 percent infiltrates the ground.²¹

India's geography also presents many obstacles for water access.²² Residents in the mountainous regions must travel long distances to reach a water supply, as vast parts of India are arid, making freshwater scarce.²³ India disproportionately holds merely 4 percent of the world's water supply, while claiming home to around 16 percent of the world's population.²⁴ India lacks adequate infrastructure, as water plants lose 30 to 70 percent of water daily due to leaky pipes and theft.²⁵ "Collective annual costs for pumps and other such measures are three times what the city [Delhi] would need to maintain its water system adequately," according to Smita Misra, senior economist at the World Bank.²⁶

WATER CAPTURING METHODS

Pakistan and India both rely on the monsoon season to replenish water supplies.²⁷ The monsoon season runs from April through October, with barren grounds in the remaining months.²⁸ In Cherrapunju, India, nearly 40 feet of rain falls each year, which is more than 12 times the amount that falls in Seattle annually.²⁹ Despite this great amount, poor retrieval methods and contaminated waterways do not allow for much of the rainwater to be captured for safe use.³⁰ Though a similar amount of rain cascades over Pakistan, high levels of evapotranspiration — the amount of water that is consumed by evaporation and the transpiration of plants — cause the moisture from the monsoons to be rapidly consumed by the earth.³¹ MIT professor of Islamic architecture and urbanism, James Wescoat Jr., found that "in no case does annual precipitation exceed the annual actual evapotranspiration that can occur."³² Therefore, little of the abundant rainfall is captured for storage.³³

THE RIGHT TO SAFE WATER

Nearly 90 percent of Pakistan's nominal water supply is used for agriculture, leaving little for human consumption.³⁴ Over the last 60 years, Pakistan's per capita water availability has fallen by 75 percent, placing Pakistan last in per capita water availability amongst 26 Asian countries and the United States.³⁵ Similarly, the Water Resources Group study finds that by 2030, "water demand in India will grow to almost 1.5 trillion [cubic meters], driven by domestic demand for rice, wheat, and sugar for a growing population."³⁶ India's current water supply is only 740 billion cubic meters.³⁷

This is an alarming situation for India and Pakistan, as both countries are concerned that their growing populations will lose access to the basic human right to water.³⁸ Access to clean water is scant.³⁹ In August 2013, Pakistan's government collected water samples from across the country and found 80 percent were unsafe for drinking.⁴⁰ Similar issues exist in India where 97 million people lack improved drinking water sources, defined as those protected from outside contaminants such as fecal matter.⁴¹ A UNICEF study reveals nearly 600,000 Indian children die each year because of diarrhea or pneumonia, often caused by toxic water.⁴² "History shows us civilizations have vanished once water is also gone," warns Mrinal Kati Sen, Director of the NGRI.⁴³ "Water carries people and we need to wake up now and do something before it is too late."⁴⁴

HOPE FOR THE FUTURE

David Rieser, professor of environmental law at Loyola University Chicago School of Law, believes that the U.S. and U.S. companies have a role to play in water scarce regions. Specifically, Rieser believes that countries like the U.S. can share with Pakistan and India their expertise in "technology that would allow people to conserve water, use water differently, and build facilities that don't require as much water."⁴⁵ Pakistan and India must take advantage of opportunities to learn and make improvements in order to develop their water management and infrastructure systems. This is especially crucial now, as foul play by either country in relation to the IWT could create tremendous differences that could have monstrous impacts.⁴⁶

NOTES

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