A woman in a pink sari is operating a well in a dry, arid landscape. She is pulling a rope down into the well. Two young children are sitting on the stone steps of the well, looking on. Two large metal pots are placed on the steps next to them. The background shows a dry, open field with sparse vegetation and a camel grazing in the distance.

WATER SCARCITY AND
REGIONAL SECURITY IN

India



A CHAPTER SUMMARY FROM THE BOOK
WATER, SECURITY AND U.S. FOREIGN POLICY

India faces increasing water scarcity as its population and economy grow. By 2050, India is expected to be the world's most populous country and its economy is projected to be the world's third-largest by 2030. The middle class is growing and its people are demanding more water, both directly and indirectly. India's challenges in providing a reliable supply of water are compounded by centuries of poor water planning, a rapidly urbanizing population, and a lack of centralized water management. As much as 80% of India's surface water is polluted with sewage or runoff from industry and agriculture. Groundwater is neither regulated nor priced, leading to depletion of aquifers in many areas. India uses more groundwater than the U.S. and China combined, and will need to carefully manage its existing water resources in order to meet the challenges of changing demographics and a changing climate.



Ecological Challenges

Climate change is exacerbating India's water issues as rainfall patterns become less predictable. The challenges surrounding freshwater take many forms, but chief among them is scarcity.

With the demand for water rapidly increasing, India's lakes and rivers are already proving insufficient to meet the needs of the country or its downstream neighbors—and this is happening even during years of moderately low rainfall or moderate drought. Most riverine waters are already over-allocated, and groundwater use is steadily increasing. The agriculture sector is particularly hard-hit: Over the last decade, tens of thousands of farmers in India have committed suicide in the aftermath of crop failures resulting from deep drought, severe monsoons, or some combination of both.

Existing surface water resources are also in jeopardy: As populations and industry grow, there is an increased amount of

wastewater from both point sources like factories and nonpoint sources like agrochemicals and domestic animal waste. Regulatory systems for wastewater management are insufficient, and

corruption frequently prevents enforcement of environmental laws. This leads to the pollution of freshwater resources.





Societal Challenges

India has traditionally approached water shortages by finding ways to increase supply, but the region is running out of options in this regard. There has been little concerted effort to improve water-use efficiency and there is simply not enough water to go around.

Water allocation is already a source of conflict between Indian states that has resulted in protests, violence, and property destruction. Disputes over water allocation are likely to be one of the primary constraints on India's economic potential and social stability in the future.

Such intrastate disputes are becoming increasingly common as India divides itself into smaller states. In 1956, India had 14 states and six union territories; now there are 29 states and seven territories. Most of these borders are drawn on the basis of language, but the four newest states were formed in response to fights over natural resource sharing, particularly water. As the number of states increases, river water conflicts surge, and water-sharing arrangements must be constantly renegotiated. There is a real risk of destabilization and balkanization of the country, as statehood agitations based

on resource conflicts tend to strengthen regional identities and invoke strong feelings of deprivation and anger among minority groups.

Existing mechanisms for settling water disputes are insufficient, and Prime

Minister Narendra Modi has stated that those mechanisms may actually be counterproductive to fair allocation due to inconsistency, delays, and lack of transparency in the Inter-State Water Disputes (ISWD) Act. Additionally, the results of arbitration in water tribunals are nonbinding, and state governments frequently fail to comply. The Central Government of India has not stepped in to oversee implementation of tribunal decisions, which leaves little institutional recourse for dispute settlement. At present, there are several instances of state governments defying the orders of tribunals and even of the Supreme Court.

In Indian politics, water disputes serve as a distraction from the poor governance and corruption that are at the root of water allocation problems. Political parties use water allocation stances to position themselves as guardians of states' rights, further contributing to intrastate divisiveness. The Central Government also tends to side with whichever political party currently controls a particular state, resulting in immediate electoral gains at the expense of long-term water management solutions.





Implications for the U.S.

While the U.S.-India relationship has seen many shifts over the last five decades, India remains a major defense partner for the United States. India's stability is critical for the stability of the region. The nation is also a growing economic power; if its GDP grows at a rate of 6% annually over the next 10-15 years, as it is projected to do, it will become the world's third-largest economy.

As states in India gain more power, the Central Government will likely continue becoming less effective at managing internal debates and conflicts. The government's failure to provide long-term, nationwide water governance contributes to the nation's balkanization, which further weakens the Central Government. In order to protect U.S. interests in the region, it is vital that India have a strong, effective government.

Additionally, there is growing political and cultural pressure for India to define, solve, and manage its problems without external intervention. This isolationist bent will make it more difficult for

partner nations like the U.S. to contribute in meaningful ways to India's stabilization.

Recommendations

1. India's Parliament should take up the jurisdiction over, and management of, all major interstate rivers, regardless of which state boundaries they traverse. Water agreements between new states should ensure fair allocation, and existing

agreements should be renegotiated in light of changing conditions.

2. The Indian government should maintain strong inter- and intrastate water management institutions and should clarify and improve mechanisms for resolving water disputes.

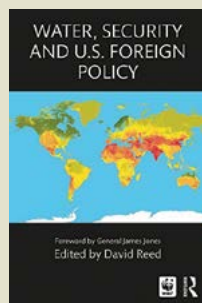
3. Existing environmental laws should be enforced and strengthened to prevent further pollution of freshwater resources, thereby reducing the need for expensive water treatment systems.

4. The U.S. should help facilitate data collection and sharing to develop long-term, equitable management of freshwater resources, including the implementation of water pricing.

5. U.S. agencies should share knowledge and technologies to help improve water use efficiency, especially in India's agriculture sector.

This summary is drawn from Water, Security and U.S. Foreign Policy, Chapter 13, by Cecilia Tortajada, Udisha Saklani and Asit K. Biswas, the Lee Kuan Yew School of Public Policy. Summary prepared by Chelsea N. Spangler, WWF-US.

PHOTOS | **Front page:** Woman drawing water from a desert well during a drought, Rajasthan, India © iStockphoto.com/hadynyah **Inside:** Stranded residents look down on the flooded Ganges River, Varanasi, India © iStockphoto.com/Danielrao; A flash flood during monsoon season, Varanasi, India © iStockphoto.com/Danielrao; Farmers protesting the government, Nagpur, India © Dipak Shelare/Shutterstock.com; Slum conditions, Patna, India © Yury Birukov/Shutterstock.com **Back page:** Women and children on the road between village and draw well, Jaisalmer, India © iStockphoto/yavuzsariyildiz
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Water, Security and U.S. Foreign Policy offers policy-makers a framework for identifying how water-related social and economic disruptions in partner countries can escalate into risks to U.S. security interests. Its 17 case studies explore how ecological change can translate into regional instability, migration, social and ethnic conflicts, the rise of insurgencies, and an expanding narcotics trade, with direct consequences for U.S. overseas interests. The book proposes U.S. responses that can help partner countries forestall social dislocation, rekindle economic growth, and strengthen government legitimacy in order to reinforce U.S. security.

Visit worldwildlife.org/initiatives/water-and-security to learn more about WWF's Water and Security initiative.

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