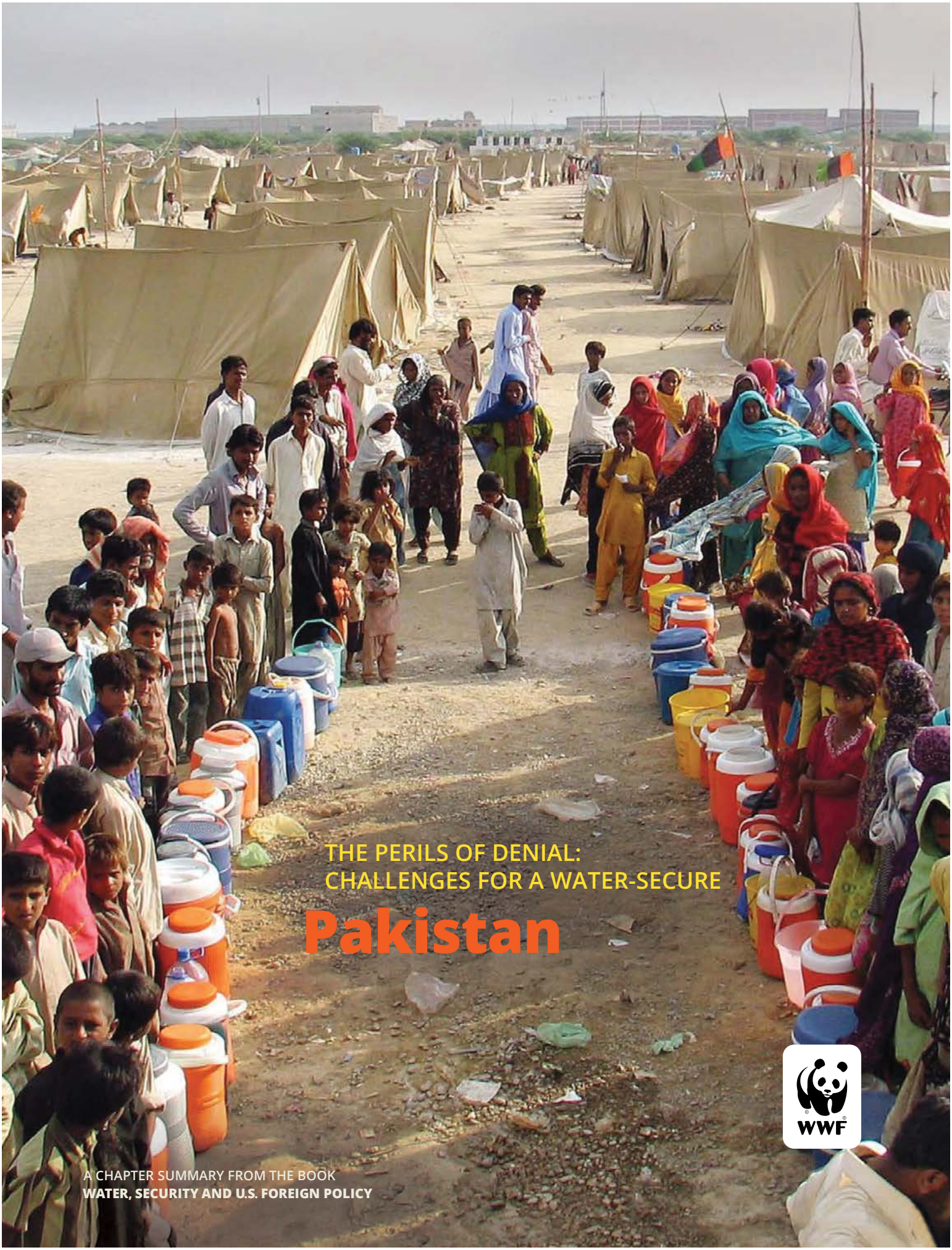


THE PERILS OF DENIAL: CHALLENGES FOR A WATER-SECURE Pakistan

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

Pakistan currently faces a water security crisis with serious social and economic repercussions. Water shortages are causing social unrest in Karachi and elsewhere, making governance increasingly difficult. Economic growth is limited because water resources are insufficient to supply competing sectors. Water is also a source of transboundary conflict with India, which controls the flow of the Indus River into Pakistan. All of these conditions serve to destabilize Pakistan and to provide fertile ground for insurgency. Some of the root causes of water insecurity in Pakistan are poor groundwater management and monitoring; overreliance on dams as the sole water management solution; and lack of control over riparian freshwater sources. The authors propose a comprehensive groundwater policy, soft engineering solutions like wetlands as natural flood buffers, and reopening conversations about the terms of the Indus Basin Water Treaty as first steps toward improving Pakistan's water security.

Ecological Challenges

Pakistan is South Asia's fifth most vulnerable country in terms of water availability, and Karachi is the sixth most water-stressed city in the world. Predictions indicate that the country will face absolute water scarcity (insufficient water supply to meet demand) as soon as 2025. While population and demand for water steadily increase, freshwater quantity and quality are decreasing.

One of the biggest water challenges for Pakistan is the fact that none of its freshwater sources originate within its own boundaries. Pakistan relies on three tributaries of the Indus River, which flows from Tibet and through India before reaching Pakistan. The river already supports around 215 million people, and populations in the region are growing. Additional water stress arises from increasing demand as these regional economies develop.

Climate change poses additional risks as temperatures rise, rainfall patterns become increasingly variable, and floods and droughts become more severe. In the Tibetan Plateau and western Himalayas, where the Indus River originates, temperatures are already 4–5 degrees Celsius above average, and the current rainfall average is less than 9.5 inches per year. In 2010, Pakistan experienced floods more severe than ever before, affecting around 20 million people and causing an estimated US$5 billion in damages to the agriculture sector alone. The year 2012 also saw major flooding, affecting another 4.8 million people and destroying over a million acres in crops. Meanwhile in other regions of Pakistan, prolonged droughts continue to jeopardize smallholder agriculture. The Global Climate Risk Index by Germanwatch found that Pakistan was the country most affected by extreme weather in 2012, both in terms of human losses and financial losses.

Societal Challenges

Water insecurity limits Pakistan's economic growth and contributes to civil unrest and conflict. Decreasing agricultural productivity jeopardizes rural livelihoods and food security; growth of manufacturing and mining sectors is stifled; access to drinking water and sanitation for rapidly urbanizing populations is limited; and waterborne diseases threaten public health.

Agricultural productivity accounts for 22% of Pakistan's GDP and employs around 43% of the workforce, but the agriculture sector and rural livelihoods are directly threatened by water scarcity and unpredictable weather patterns. Adverse weather also decreases the productivity of staple crops, which threatens Pakistan's food security. As of 2016, Pakistan scored 47.8 (out of 100) on the Global Food Security Index, and 22% of the population was undernourished.

All economic sectors rely on access to freshwater, but demand is increasing as supply decreases. Particularly in Pakistan's larger cities, the industrial and service sectors are growing and there is increasing competition between domestic consumers and businesses, which both rely on the same groundwater resources. Groundwater supplies are further strained by internal migration from rural to urban areas. In the city of Lahore, for example, the groundwater level is decreasing at a rate of 0.55 meters each year. As domestic competition increases, it is often the less-privileged populations who must bear the greatest consequences of water scarcity.

Water sanitation in Pakistan is so inadequate that up to 4% of annual GDP is spent on treatment of water-related diseases (US$800 million), and nearly 300,000 infants die annually from waterborne illness. In the capital of Islamabad, only 15% of tested water samples were considered fit to drink; the rest were contaminated with harmful bacteria. Similar studies were carried out in other cities, and in all cases the vast majority of samples (85%–100%) were considered unsafe due to contamination—either by harmful bacteria or by arsenic from industrial pollution.

Pakistani citizens blame many of these issues on the government for its failure to provide adequate water infrastructure. In Karachi, protests to demand solutions to the water crisis are becoming almost commonplace.

Implications for the U.S.

Pakistan's water crisis increases risks to U.S. interests. These range from threats to supply chains, to the rise of insurgent groups that pose direct threats to U.S. security. Because all sectors rely on water, scarcity is a major contributor to socioeconomic instability. This volatility combines with weak food security, public health crises, the collapse of rural livelihoods, and rapid urbanization to reinforce conditions of social unrest and weak governance. All of this creates fertile ground for insurgency by militant and terrorist groups. Ineffective governance also prevents the implementation of infrastructure improvements that could mitigate existing water-related problems. The presence of terrorist groups in Pakistan leads to decreased foreign direct investment (FDI), further weakening the government's ability to improve the conditions that contribute to insurgency in the first place. The more Pakistan's government is hobbled by insurgency and falling FDI, the more U.S. intervention is

needed to provide financial, military, and humanitarian support.

Conflict between Pakistan and India over water rights is another concern that touches U.S. interests. While the Indus Basin Water Treaty has helped maintain relative peace since 1960, tensions are flaring as demand for water increases and efforts to renegotiate the terms of the treaty flounder. Public sentiment in Pakistan maintains that unchecked abstraction in India is in violation of the treaty, and in 2016 hostile actions on both sides of the border led to threats of military action and of restricting flow of the river. This tension complicates U.S. relations with Pakistan's government, which increasingly views U.S. ties with India as a threat.

Recommendations

In order to address Pakistan's current challenges, U.S. involvement should prioritize long-term solutions that account for basin-level management for the Indus. Suggested interventions include the following:

1. Provide important technical support to help monitor and manage existing groundwater resources. To some extent, the U.S. is already deploying its technology to monitor groundwater near Pakistan's border with India, but data collection should be expanded to other areas of concern within Pakistan. This should include providing technical support to facilitate a water agreement between Pakistan and Afghanistan.

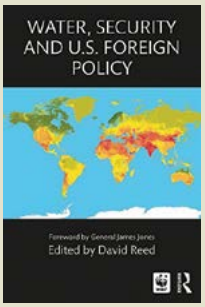
2. Help facilitate the establishment of a system of monitoring and pricing water for various sectors. This will allow markets to play a role in ensuring sustainable use of limited water resources, and could improve infrastructure by covering operation and maintenance costs for service providers.

3. Support the use of soft engineering solutions, such as wetlands and environmental reserves, to complement the use of dams for water storage and flood buffers.

4. Encourage actors from NGOs, academia, and the private sector to inform and support the government in broadening and improving water management.

This summary is drawn from Water, Security and U.S. Foreign Policy, *Chapter 12, by Ali Hasnain Sayed, WWF-Pakistan, Chelsea N. Spangler, WWF-US, and Muhammad Faizan Usman, WWF-Pakistan.*

PHOTOS | **Front page:** Flood-affected refugees wait in line for drinking water, Karachi, Pakistan © Asianet-Pakistan/shutterstock.com **Inside:** Traffic jam due to protest against drinking water shortages, Karachi, Pakistan © iStockphoto.com/PPI-Images; Pakistani infantry soldier stands guard, Swat Valley, Pakistan © iStockphoto.com/Imran Ahmed; Children seek drinking water, Sukkur, Pakistan © Asianet-Pakistan/shutterstock.com; Army airlift rescue from a flooded area, Sukkur, Pakistan © Asianet-Pakistan/shutterstock.com **Back page:** Flood victims scramble for aid supplied by their military, Sukkur, Pakistan © iStockphoto/EdStock



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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