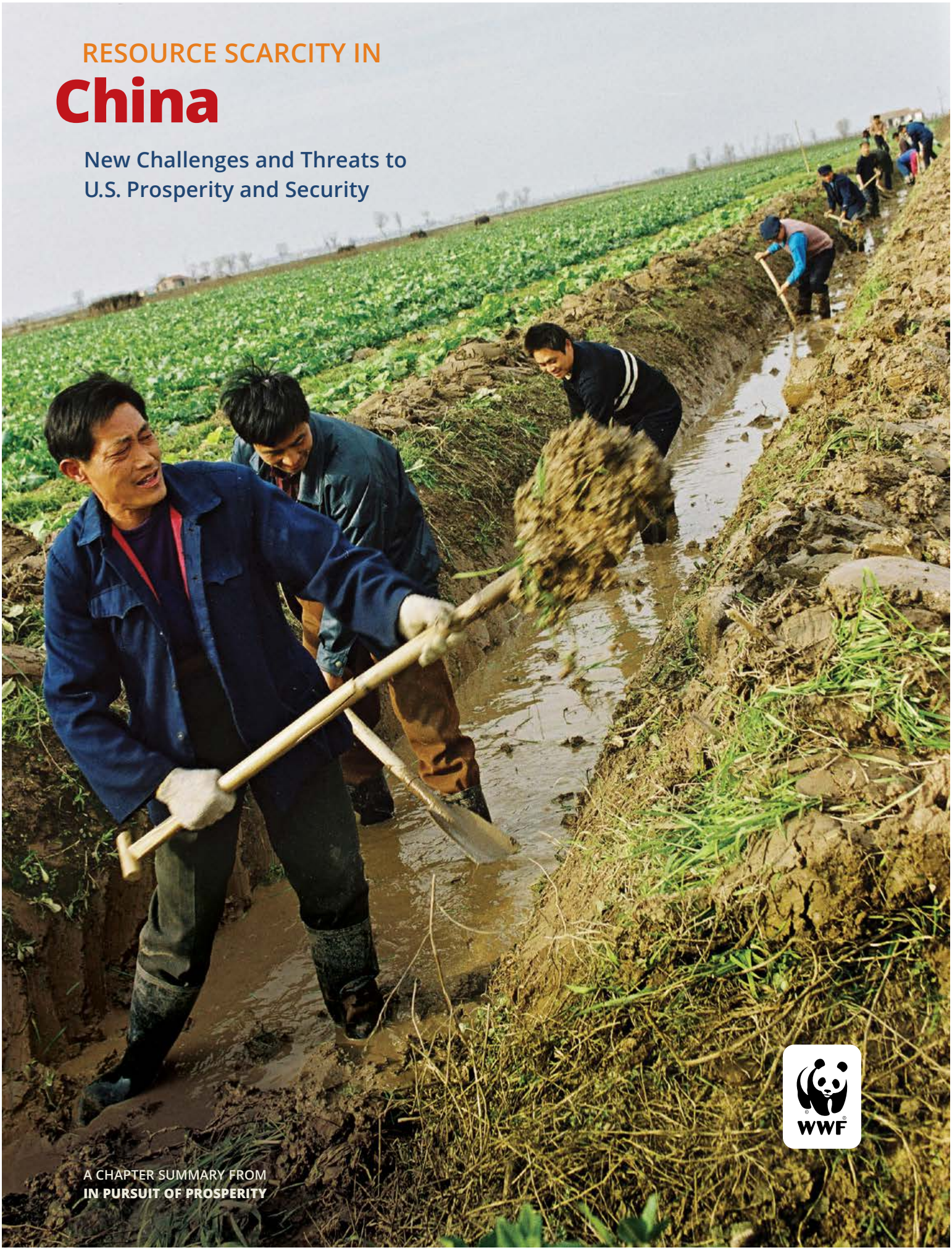
RESOURCE SCARCITY IN

China

New Challenges and Threats to U.S. Prosperity and Security



A CHAPTER SUMMARY FROM
IN PURSUIT OF PROSPERITY

During the past 40 years, the interdependence of the U.S. and Chinese economies has grown exponentially. A successful and prosperous China has become central to America's interests. China, whose economy is rapidly growing and is the world's most populous country, is expected to achieve all of the United Nations Millennium Development Goals by 2015.

China has made notable progress in reducing air and water pollution, slowing deforestation and improving economy-wide energy efficiency. However, China's environmental health is still deteriorating, and the country's impacts on environmental resources are of global concern.

Environment

Resource scarcity is a serious constraint for China. Already the world's largest energy consumer, China's appetite for energy will only grow, and its energy imports are rising. Despite high transport costs and its contribution to air pollution and global climate change, domestic coal satisfies 70% of China's energy needs.

Water insecurity represents an even harder constraint on China's growth, with per capita freshwater resources at just a quarter of the world average. China bears the burden of feeding 20% of the world's population with less than 10% of the world's arable land and only 7% of the world's potable water. Water shortages and poor water quality have been aggravated by the growth of water-intensive industry and huge cities. More than 100 Chinese cities experience frequent water shortages.

Climate change will intensify pressures on China's diverse ecosystems and human communities; already rising temperatures are deepening water scarcity and inducing extreme weather events. In the arid North China Plain, which produces 26% of China's grain, water resources are under extreme pressure. China has responded with construction of massive water movement infrastructure and is pumping groundwater at unsustainable rates. Despite those efforts, between 15 and 27 million hectares of irrigated land may dry up by 2050, with major impacts on food security. Water scarcity also has consequences for the country's energy generation capacity.

Societal transformation in China—involving the rural-to-urban migration of more than 300 million people—has been promoted by government policy beginning 20 years ago. Today, harsh environmental conditions in rural areas of China are reinforcing that transformation. But urban dwellers face severe environmental scarcities too. Urban air pollution caused over 470,000 deaths in 2008, with the highest mortality rates in the poorest, most vulnerable sectors of Chinese society.

With aging populations and rapid urban growth, China's major cities have experienced improvements in air quality, but exposure rates are outpacing efforts to reduce pollution. The United Nations Development Program (UNDP) warns that 9% of China's GDP is lost through environmental damage, and undoubtedly, that cost will continue to rise. The social

costs of economic growth are reflected in the 90,000 protests related to environmental degradation every year.

The impact of China's demand for resources on its neighbors is enormous, creating markets and jobs, but also precipitating tensions. Water and energy scarcity pressures have led China to build an ever-growing number of dams on the upper reaches of the Mekong, Irrawaddy, Brahmaputra and other major rivers. Such projects have embroiled China in water-rights disputes with many of its neighbors. China's acquisition of timber, semi-precious stones and hydroelectric power from Myanmar has spawned widespread illegal resource trade across the region.

China is the largest supplier and user of wood products sourced from timber illegally harvested in Russia, Malaysia and Indonesia. And Chinese fishing fleets challenge access rights to open-seas fisheries across the South China Sea. The footprint of Chinese extractive industries is also growing in Africa and Latin America, marked by corruption and lack of transparency. Globally, China's

contribution to greenhouse gas emissions and biodiversity loss have a significant impact. As its resource consumption has grown, increasing reliance on external energy sources has exposed China to the vagaries of international commodity and politically risky markets. Dependence on unsavory countries for resources has drawn China more deeply into a number of sticky international situations, such as the Iranian nuclear crisis.

China has committed itself to a broad array of ambitious policy goals to achieve sustainability and has moved decisively on many fronts to address growing environmental challenges. But decentralized decision-making processes in China allow local officials to undermine national objectives. The country's energy path, for example, is determined by decisions made at the local level in response to local economic and social pressures. The fragmented but authoritarian system lacks transparency, facilitates noncompliance and allows for a high level of individual discretion on the part of bureaucrats—all contributing to weak enforcement of environmental protections.

Implications for the U.S.

China's environmental challenges translate into risks for the United States. The possibility of a serious slowdown of China's economic growth, higher and more volatile commodity prices on world markets, instability along China's periphery, and the degradation of the global commons are all real threats. Depleted resources, degraded ecosystems and unhealthy living conditions are already leading to productivity losses and social protests. Environmental scarcities or related social disruptions could lead to a sudden slowdown in China's phenomenal economic growth.

Given the close ties between the U.S. and Chinese economies, such a hard landing would have widespread ramifications. On the other hand, continued Chinese growth will affect world markets for food, fuel and other resources, such as rare earth elements. Environmental stresses and shrinking farmland in China, along with rising consumption, will contribute to higher and more volatile global food prices. Rising oil imports will raise global fuel prices and the cost of petroleum-based agricultural inputs, with consequences for the U.S. and global economies.

China's neighbors, which China views as key sources of energy and raw materials, are highly vulnerable to both economic and ecological shocks transmitted by the Chinese economy. The U.S. and China have a common interest in stabilizing these fragile states. Continued growth of resource-intensive industries and consumption in China, without a turn to a more sustainable path, will play a detrimental role in the world's ability to protect our atmosphere and other global commons.

While some view China primarily as an economic and geostrategic competitor, the study concludes that if China does threaten the United States, it will not be by choice, but rather as a consequence of its inability to ensure greater sustainability both at home and in its dealings abroad.

Recommendations

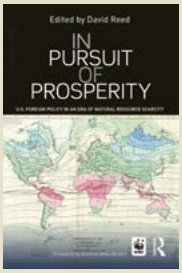
The transition to a resource-efficient, low-carbon, sustainable development trajectory is a choice the Chinese must make for themselves. But by capitalizing on the mutually beneficial nature of the U.S.-China relationship and moving away from zero-sum thinking that views China solely as a competitor, the U.S. can help facilitate this transition. A range of multilateral and bilateral policies could build a stronger basis for cooperation on climate, energy and environmental issues while also integrating China more securely into the multilateral system.

Multilateral engagement can be reinforced through the Trans-Pacific Partnership, advancement of the Doha Round of the World Trade Organization (WTO), bolstering commitments to repeal fossil fuel subsidies and progress on measures to combat wildlife trafficking.

Bilateral efforts should include improvements in regulations and agreements on intellectual property, green technology transfer, exports and investments; collaboration in areas of mutual interest such as low-carbon technology; institutional capacity-building for energy and the environment; and combating illegal trade in natural resources. To legitimize these efforts, the U.S. must lead by example at home in pursuing low-carbon, sustainable growth.

This summary is drawn from In Pursuit of Prosperity, *Chapter 3, by Chris Sall of Tufts University and Katrina Brandon.*

PHOTOS | **Front page:** Villagers dredge irrigation channel, Hunan Province, China © Yifei Zhang/WWF-Canon; **Inside:** Woman carries water during drought, Inner Mongolia, China © Global Warming Images/WWF-Canon; Man cycles through polluted streets, Taiyuan, Shanxi Province, China © Thomas Haugersveen/WWF-Norway; Hydropower station damming the Min river, Sichuan Province, China © Claire Doole/WWF-Canon; Street protest, Hong Kong © iStockphoto.com/EyeScaTch; **Back page:** Smuggled tiger seizure, Thailand © James Morgan/WWF-Canon



In Pursuit of Prosperity: U.S. Foreign Policy in an Era of Natural Resource Scarcity explores the evolution of environmental sustainability in U.S. foreign policy. Through expert analysis of nine strategically important regions, WWF's David Reed and a team of experts in foreign policy and environmental affairs identify emerging threats to the prosperity and national security of the United States. They assert that the combined impacts of climate change and natural resource scarcity require a fundamental shift in U.S. foreign policy to ensure the prosperity of our country's trading and political partners around the globe.

For more about WWF's In Pursuit of Prosperity initiative, visit www.worldwildlife.org/ipop.

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