EXPLORING ASIA & THE ENVIRONMENT

PART FOUR: China's Water Blues

Join us as we visit Asia and explore the human impact on the environment. This five-part series runs Wednesdays through May 12.

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Over the past two decades, China has experienced rapid economic growth, and many citizens' personal fortunes have improved dramatically. China's economic miracle has been fueled largely by its ability to produce quality goods for export more cheaply than other countries can: A trip to any "big box" store reveals the wide array of goods now produced in China, ranging from Barbies to laptops. And even with the United States and many other western countries still feeling the pinch of an economic recession, China's economic engines are already on the rebound.

Challenges

Yet China's breakneck economic development has taken a toll on the environment and human health. Air quality in many of the country's big cities — more than 150 of them have populations greater than 1 million — can be poor due to pollutants from trucks, factories, power plants and private automobiles. Acute respiratory distress is one of the principal causes of emergency room visits across the country. Recently China has taken the number one spot for carbon emissions, surpassing the United States as a world class polluter — though two researchers in England found that nearly one-quarter of all that carbon dioxide resulted from making the Barbies and laptops bound for foreign department store shelves!

Steep mountainsides being prepared for a dam abutment on the Lancang (upper Mekong) River in Yunnan Province. (Photo: Darrin Magee)

Water and soil pollution hold similar negative consequences for human health. At present, roughly one-quarter to one-third of China's 1.3 billion people lack reliable daily access to clean drinking water. For many, the culprit is pollution from industries or pesticides and fertilizers from farmland, coupled with inadequate (or nonexistent) wastewater treatment.

Another factor is China's overall lack of freshwater resources. According to the Ministry of Environmental Protection, China has roughly one-quarter of the world average for available water supplies for each person, and more than 400 of China's cities suffer from water shortages. Northeastern cities, including Beijing and Tianjin (home to nearly 30 million people), are particularly at risk, and as economic development continues, water consumption will likely rise. Additionally, many rural areas and cities in the northwest find it increasingly difficult to access good water sources for irrigation, drinking or industrial use.

Actions Taken

To help combat these shortages, the government has undertaken a massive project to bring water from the water-rich Yangtze River in the southern part of the country to the drier Yellow River basin in the north. If completed, the South-North Water Transfer will take the rough equivalent of a second Yellow River from the larger Yangtze, diverting some 11 cubic miles of water each year! The water will flow though canals and tunnels over hundreds of miles to reach the dry areas in the north. While many worry about the environmental consequences of taking so much water from one river and transferring it to another, still more are concerned that long-term water shortages in the north will have severe consequences for agriculture and human life.

Recognizing that improving water quality will likely lead to healthier and happier people and less burden on the country's health care system, the Chinese government has made major investments in water treatment and clean-up efforts in recent years. In addition, numerous citizen groups have begun monitoring improvements in water quality, bolstering the efforts of the Ministry of Environmental Protection. One such group, the Institute of Public and Environmental Affairs, publishes online pollution maps showing the condition of the country's water bodies. We can only hope that increasing education about water quality and water use, and availability of water treatment technologies, will ease China's water woes in the near future.

Comprehension questions:

1) Explain two principal water-related challenges China faces.
2) Convert 11 cubic miles into cubic feet. How much of an area would that cover in one foot of water?
3) In what part of China might you expect the most rice to be grown? (Hint: Rice takes lots of water.)

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