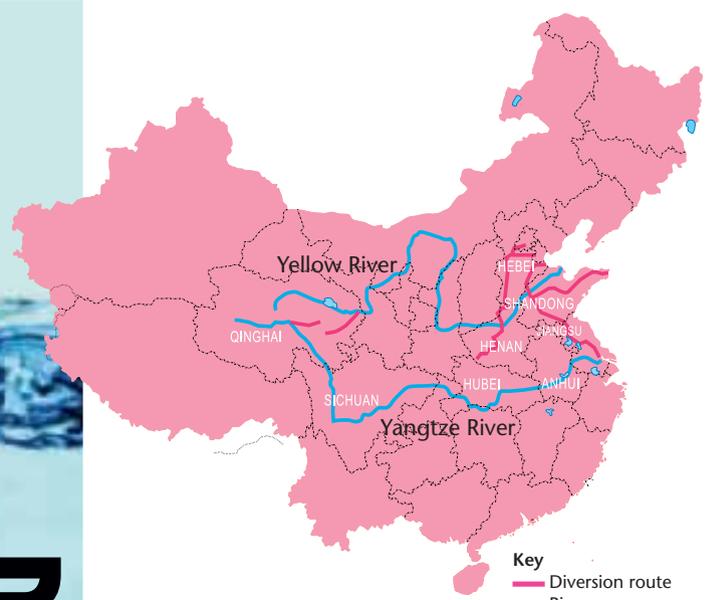


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The South-North water transfer project will connect the Yangtze River to the North

China's water paradox

Mao Zedong had a well-known saying: "Water abundance in the South and scarcity in the North; if possible we can borrow a little bit of water from the South to give to the North." Today, the huge South-North water transfer project is being implemented. The project is the biggest inter-basin water transfer in the world. After a 50-year study, three water-diverting routes have been worked out: the West, middle and East routes. Water will be diverted from the upper, middle and lower reaches of the Yangtze River, with a maximum transfer volume of 38-43 billion m³ per year. The East and middle routes have already been constructed.

The project seems to be vital, because North China is suffering from severe water shortages. However, at the same time, North China is the country's breadbasket, and annually exports substantial volumes of water-intensive products to South China. This creates a paradox: huge volumes of water are being transferred from the water-rich South to the water-poor North, while substantial volumes of food are being transferred from the food-sufficient North to the food-deficient South.

When we look at trade in agricultural products, China as a whole has a net import of water in virtual form – i.e., in the form of food commodities – of 9 billion m³ per year, which means around 7 m³ per person. Most virtual water is going to the

South. The North is an exporter of virtual water, both to the South and other countries. As can be seen in the figure, the virtual-water flow from North to South is around 52 billion m³ per year.

The current North-South virtual-water transfer exceeds the planned South-North real-water transfer volume of 38-43 billion m³ per year. One can look at this in two ways. Either, as Chinese officials tend to do, one can conclude that the planned real-water transfer from the South to the North is not over-designed, and might even be insufficient to meet the water needs in the North. Or, as some non-governmental organizations do, one can argue that reducing the production for export in the North and investing in increased production in the South would be a more straightforward solution than

continuing on the path of producing in a region where water is insufficient.

Here, of course, lies the big question: is bringing huge volumes of real water from South to North worth the social and environmental consequences? From a water-resources point of view it looks odd to transfer water, in real form, from one place to another, and then bring it back in virtual form. Why not try to reduce the use of water in the water-scarce North and gradually end the production of water-intensive commodities that are traded to the water-rich South? □

By **Arjen Y. Hoekstra**, Professor in Water Management, University of Twente, The Netherlands

Driving sustainable development in China

ITT



ITT, a high-technology engineering and manufacturing company, operates on all seven continents, but is currently seeing its fastest and largest growth in China – where ITT’s water and wastewater pump systems play an increasingly prominent role in China’s expanding infrastructure development. By investing and establishing a presence in China over the past century, ITT has built credibility and a reputation for reliability among the Chinese people and government officials.

ITT has demonstrated its commitment to promoting sustainable development in China through the installation of energy- and water-efficient products and technologies in small- and large-scale projects, thus tackling China’s water access and quality issues.

Frequently, ITT’s customers in China are cities and project-based corporations working on major government infrastructure projects such as Three Gorges Dam, the South-North Water Diversion Project, the Suzhou Subway and the country’s numerous wastewater initiatives in Beijing, Shenyang and Kunming. Most recently, ITT committed to helping China’s Chongqing Water Group construct sustainable water transport networks, necessary to improve the quality and supply of freshwater in Chongqing, the largest city in Western China.

Internally, ITT’s manufacturing plants in Shenyang and Nanjing incorporate ‘green’ practices, such as water treatment technologies that enable almost total water reuse and zero wastewater discharge – with the Nanjing plant conserving over 18,000 liters of water and wastewater each day.

To address the country’s water access and quality issues, ITT collaborated with the Center for Rural Drinking Water Safety, part of China’s Ministry of Water Resources, to complete two water treatment plants in China as part of a pilot project to find sustainable solutions for rural drinking water issues in China. The two plants supply more than 15,000 local residents with purified water that meets or surpasses national standards.

ITT also promotes sustainable development in China through its philanthropic efforts in the region. ITT Watermark, ITT’s signature corporate citizenship program, partnered with the China Women’s Development Foundation, a non-profit organization dedicated to improving the lives of women and children, to provide eight rural schools with safe drinking water, new sanitation facilities, and education on water safety and hygiene. ITT also deployed its technology to address water distress following the 2008 Sichuan earthquake, providing safe drinking water to more than 200,000 earthquake survivors. □