

River Basin Governance in China

By Jennifer L. Turner

14-17 June 2004 the River Basin Governance Study Group—a China Environment Forum and Institute for Developing Economies initiative supported by the Japan Foundation's Center for Global Partnership—traveled to China for a second study tour. Most meetings were held in Beijing on the campus of Tsinghua University, where the group met with representatives from the Chinese government, NGO, and water research communities. The group also took a one-day trip to the nearby city of Tianjin to meet with the Hai River Basin Commission and the Tianjin Environmental Protection Bureau. Below is a short overview of key issues raised in the study tour sessions.



MINISTRY OF WATER RESOURCES

Ministry of Water Resources (MWR) officials met with the group to discuss the new Water Law and some of the major legal and bureaucratic obstacles to better river management in China. In terms of improving river basin governance, the new Water Law—passed in 2002—provides the seven major river basin commissions with more authority to allocate water. Thus far only the Yellow River Conservancy Commission (YRCC) has successfully exercised this authority to halt the serious flow cuts that began in 1998 when the river did not reach the sea for over 200 days. Today the YRCC not only divides the Yellow River among the basin's 9 thirsty provinces, but also allocates some water to environmental flows—an issue rarely considered in other major Chinese rivers.

Many rivers in China's arid north have suffered from considerable overdrafts—particularly during the past 20 years of rapid economic growth in China. One of the key institutional causes of water wastage in China has been the water rights regime that deems water the property of the state and all citizens—water is thus an open access resource. Since the late 1980s the MWR and its lower level agencies have struggled to create an effective water withdrawal permit system and increase water fees. Local governments have often undermined or ignored both of these policies out of fears that limiting water use will hurt the local economy. In recent years, however, a number of major cities have begun to increase water fees and install more water meters, which are key changes needed to slow the dangerous overdrawing of river resources. However, overall, when cities lack water they opt to tap new supplies rather than enforce conservation policies.

HAI RIVER BASIN COMMISSION

A day visiting the Hai River Basin Commission (HRBC) highlighted the great differences between Chinese river basin commissions and those in the U.S., Europe, and Japan. Chinese river basin commissions are merely extensions of the MWR and take a very top-down and narrow approach to manage the river basin (e.g., they have authority for water quantity management issues, but not for water quality or for convening stakeholders in the basin). Despite having the word “commission” in their title, HRBC officials noted that they do not have a commission made up of provincial or county stakeholders. In contrast, the Delaware River Basin Commission in the United States is governed by a commission made up of state and federal government members and contains many consultative mechanisms to bring in voices of communities and nongovernmental organizations (NGOs).

INTERNATIONAL RIVER BASIN INITIATIVES IN CHINA

Since strengthening river basin commissions has become a major goal of MWR, many commissions are working with international organizations to improve their capacity to manage their basin resources. For example: (1) HRBC is currently working with the World Bank on strengthening its management capabilities; (2) the Asia Development Bank (ADB) is currently collaborating with the YRCC and the National People's Congress to study institutional obstacles to inter-provincial and interagency cooperation in the Yellow River Basin; and (3) WWF-China, an international NGO with an extensive presence in China, has been working with basin

authorities, provincial and local governments, and communities to improve the management and restoration of lakes and wetlands in the middle reaches of the Yangtze River. This growing number of international river basin activities led the China Environmental Forum (CEF) and Institute of Developing Economies (IDE) to set up what became one of the liveliest sessions of the study tour—a roundtable with nearly 20 international donor and NGO representatives who are active in implementing river basin projects in China. The variety of international river initiatives in China offers insights into potential options for U.S.-Japan collaboration on river basin governance in China. Some of the key international initiatives are outlined below.

World Bank¹ In China the World Bank has been involved in two projects aimed at improving the capacity of river basin governance institutions:

- 1) In Xinjiang the World Bank undertook a challenging project to create a new river basin commission for the Tarim River. This project has established China's first truly "participatory" river basin management commission.
- 2) With \$17 million in Global Environment Facility grant money, the World Bank also has just begun a project on the Hai River Basin that aims to speed up integrated water and environmental management in the basin. The main challenge of this project is bringing together China's State Environmental Protection Administration (SEPA) and MWR to jointly undertake the institutional reforms necessary to establish mechanisms for water and environment departments to truly work together. The project also aims to improve the technologies to undertake integrated water planning (e.g., establishing a shared database, river coding stream, and remote sensing).

Besides the above "direct" river basin projects, for many years the World Bank has been creating water user associations to help manage major irrigation projects in China. Greater public participation in managing irrigation water could significantly improve water conservation in the agricultural sector, which is a major cause of depletion of river water. The World Bank teamed up with the UK's Department for International Development (DFID) and began a new water user association pilot project in the summer of 2004 in Gansu province. The World Bank is managing the

project, which will be steered by a committee that includes members from the major river conservancy commissions in China.

UK's Department for International Development (DFID)² Worldwide, DFID only works on poverty alleviation in partnership with developing country governments. In China, DFID's water work therefore has a strong poverty alleviation component and most of its work is primarily done through environmental education. DFID, together with the World Bank, is implementing a project aimed at supporting the reforms proposed in the 2002 revision of the Chinese Water Law. One of the key reforms in the new law is to empower river basin commissions. In addition, within the China watershed management project DFID and the World Bank are supporting the government in developing and implementing new approaches to soil and water conservation. Two other DFID/World Bank projects include: (1) Pro-Poor Rural Water Reform Project and (2) Lhasa Valley Water and Sanitation.

China Council on International Cooperation for Environment and Development³ The China Council for International Cooperation on Environment and Development (CCICED) is a high-level consultative body providing strategic consultation to China's State Council concerning environment and development issues. A CCICED task force on integrated river basin management (IRBM), focusing on the Yellow River, was officially launched in Beijing in March 2003. The overall objective of this task force, which includes considerable NGO participation, is to promote healthy river basins in China through better governance of water resources, biodiversity conservation, and ecosystem management by increasing information sharing, demonstration, and public participation. In addition to undertaking studies of IRBM in Canada, Germany, and the United States, the CCICED IRBM task force staff also worked with WWF-China on various case studies in the Yangtze River Basin.⁴ The research the IRBM team and WWF have conducted is being used to create a river basin conservation plan for the Yangtze. The plan includes a ten-year target for conservation on the river, which focuses on protecting animal species and habitats. The ideas in this plan will be shared with local and central government agencies, as well as community groups to solicit input for the final version they will present to the CCICED (The report in English is available on-line at: www.harbour.sfu.ca/dlam).

*The European Union*⁵ Poor regulation of heavy industries and agricultural runoff has made the Liao one of the most polluted rivers in China. Over-extraction of Liao and other rivers by industry and agriculture has meant 70 percent of the province's water needs must be met by groundwater. The low flow of the Liao and other water shortages has meant Liaoning province has 603 m² of water per person compared with the national average of 2,292 m². For over five years the European Union office in Beijing—with

work with the YRCC and environmental protection bureaus to create an action plan to resolve severe pollution problems upstream. In the Yangtze River the EU team will join with the World Bank to facilitate loans to poorer local governments to improve flood management mechanisms (e.g., control of soil erosion).

*Japan International Cooperation Agency (JICA)*⁶ In China, JICA's work is based in four priority areas: environment, policy reform, mutual understanding,

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support from the EU, Japan, and the World Bank—has been working with the Liaoning provincial government to create and implement a broad range of projects promoting sustainable river basin management in this highly stressed Liao River Basin. The EU and their Chinese partners are working to create an integrated framework for pollution control and water resource management by: (1) setting up pilot catchment water quality protection plans for one of the main reservoirs (Dahuofang Reservoir), (2) undertaking investigations of industrial water conservation and pollution, and (3) developing water quality models for the entire basin using GIS and decision analysis software. These project activities already have enabled the EU team to make basin plan recommendations on reforming water sector institutions and tariffs, which were adopted into the province's Tenth Five-Year Plan.

The EU office in China also has begun carrying out an interagency policy dialogue on creating plans and projects to protect the upper reaches of the Yellow and Yangtze rivers. In collaboration with China's Ministry of Commerce, MWR, SEPA, YRCC, and the provinces of Henan, Shanxi, and Shaanxi, the EU team will first set up dialogues, studies and exchanges on models for inter-provincial cooperation along major rivers in China. One potential model for Chinese provinces that will be studied is the EU water framework directive that brings countries in Europe together to coordinate river basin management issues. The EU team will work with central and provincial government agencies not only to design master plans and realistic action plans for protecting the upper reaches of the Yellow and Yangtze rivers, but also later implement them with community and NGO involvement. In the Yellow River the EU team will

and poverty alleviation. Among JICA's six environmental goals sustainable water resource use is one. Ongoing JICA projects related to water include a technical cooperation project in which Japanese experts are dispatched to train counterparts from China on issues such as: (1) human resource development for water resources projects, in which JICA aims to train more than 2,000 central and local government water bureau personnel; (2) model planning project for water saving measures in large-scale irrigation schemes; and (3) a water environment restoration pilot project in Lake Tai. In Xinjiang JICA is undertaking a development study of sustainable underground water in the Tulufan Basin. Moreover, JICA is working with the Chinese Ministry of Construction, MWR, as well as local and provincial governments to develop an instruction manual for promoting water saving in irrigation. JICA and its partners are beginning irrigation water savings pilot projects in Gansu, Shaanxi, and Hunan provinces. JICA is also undertaking two water studies: one for the prevention of landslide disaster in the Xinjiang River Basin in Yunnan province and another study on the development of a new water rights system.

*Japan's Bank for International Cooperation (JBIC)*⁷ In China, JBIC focuses on three target areas: environment, human resource development, and poverty alleviation in the western region. Since 1979, JBIC has made significant loan commitments to China. Over the last five years JBIC loans have averaged \$15 billion a year. JBIC does not have specific initiatives to support river basin management, but is involved in many water-related projects such as: (1) water supply projects in more than 20 large cities in China; (2) water pollution control projects supporting sewage plant

construction and expansion on three major river basins; (3) water saving irrigation in Xinjiang and Gansu; (4) deforestation on the Loess Plateau (in Shaanxi and Shanxi, and Inner Mongolia), in which one central project goal is to greatly reduce siltation of the Yellow River; and (5) multipurpose dams for flood control and water supply in Sichuan, Henan, and other provinces.

*Asia Development Bank and the People's University Environmental Financing Initiative*⁸ A team of environmental economics researchers from the People's University, led by Ma Zhong, has been working on various multilateral and national government funded projects investigating the public finance and management of Chinese river basins. They are engaged in projects looking at the environmental consequences and water management challenges from the construction of the eastern route of the South-North water transfer project and the Three Gorges Dam, as well as undertaking a project aimed at improving the financing of river protection in the Yellow River Basin. This latter project, which focuses on the Wei River, a tributary of the Yellow, is part of the Trans-jurisdictional Environmental Management project, funded by ADB (begun in 2003). This financing study is but one of four components studying transboundary problems on the Yellow River.

The People's University Environmental Financing Initiative aims to prepare legislation for China's State Council on these water control projects and issues. Ma Zhong noted that central government's environmental legislation is often too broad and general. Therefore, this research initiative aims to provide a more detailed technical background to better prepare SEPA and other agencies implementing financial reforms in the environmental protection sector. Ma Zhong discussed three issues from his team's river basin project work: (1) Wei River protection, (2) funding challenges, and (3) green taxes.

Wei River Project

The Wei River is the largest tributary flowing into the Yellow River from Gansu to Shaanxi provinces. In 2003 the Wei River experienced serious flooding, which in part stemmed from the downstream reservoir—Sanmenxia—that blocks the flow of the Wei. To resolve the flooding and sediment problems at the Sanmenxia dam, the government decided to invest 20 billion Yuan—the largest investment ever made in China for water protection efforts in a tributary.

When the Wei River area is not stressed with flooding problems, the water flow is quite low due to excessive withdrawals. The low water flow combined with few wastewater treatment facilities has made the Wei highly polluted—classified at the lowest grade five. In fact, the Wei River is the number one pollution source of the Yellow River.⁹ In examining the government's plans for the Wei, Ma Zhong's team discovered that money was not being earmarked for pollution control; instead the government is hoping to use money for infrastructure projects aimed at increasing the flow of the river by transferring water from the Hui River into the Wei River, thereby increasing the flows of both the Wei and Yellow rivers.

Thus, instead of addressing excess pollution in the Wei, government planners are just creating another problem, and potentially conflict, in a different river basin—the Hui, which is the water source for the central route of the south-north water transfer project. If the water is drained from Hui to Wei the amount of water for the north will be reduced. This funding priority also underlines the Chinese government's continued preference for water supply projects over the more complex water demand and conservation management measures.

In China, water pollution control has faced many institutional and financing problems. In industrial pollution control, many local governments hesitate to deal with pollution issues because they rely on revenue from the polluting industries. Moreover, Chinese municipalities lack a strong financing system to cover the cost of wastewater treatment plants.

Lack of Proactive Funding for River Protection

A general trend Ma Zhong and his team have observed in their research was that the Chinese government tends to be fairly reactive in its spending for environmental and other crises in China rather than proactively investing to prevent problems. For example, in 1998, China experienced severe flooding on the Yangtze due in great part to deforestation in the upper reaches of the river. Therefore Zhu Rongji decided to make huge allocations to support a major reforestation and flood control campaign. In 2003 the SARS outbreak led the government to funnel massive amounts of investment into the health sector. In 2004 fears of unrest in rural China due to the increasing wealth gap between cities and countryside led the government to appropriate massive amounts of resources to rural development. In short, there is no long-term view in the central government's expenditures because they are

constantly responding to disasters. Although industrial and municipal wastewater is severely degrading many rivers in China, the central government does not have any formal policy to cover even part of the costs for wastewater treatment plants. And local governments are unwilling to make the investment into wastewater treatment for it is viewed as a hindrance to local economic development. River basin protection in China thus suffers from lack of consistent government financing for wastewater.

While systems for downstream regions to compensate upstream areas for protecting watersheds are more common in Japan and the United States, some examples of payments for environmental services do exist in China. Specifically, the rich and thirsty province of Shandong in the downstream region of the Yellow River has offered to pay Inner Mongolia 6 billion Yuan for extra water. However, this deal will be hard to implement since three provinces separate Shandong and Inner Mongolia. Moreover, such water purchases are not officially legal in China.

Green Taxes

The team has been investigating how China might introduce green taxes to help promote water conservation. In October 2005 the team will be reporting their results of their environmental fiscal reform research to the State Council. The research initiative on environmental fiscal reform has been divided into three components: (1) policy review—summarizing existing body of domestic and international experience in green taxes, concentrating on two types of case studies: financing for pollution reduction and for protected areas; (2) poverty-environment study, focusing on irrigation water pricing, land conversion policies, and compensation for environmental services; and (3) health effects of air pollution.

ENVIRONMENTAL ACTIVISTS AND JOURNALISTS CHALLENGES DAM-BUILDING

A roundtable with Chinese journalists and NGO activists illustrated how these two groups are collaborating to promote stronger public participation in river protection. Specifically, in early 2004 some environmental activists learned about the Yunnan provincial government plans to build 13 dams on one of China's last wild rivers—the Nu River (*Nujiang*). NGO activists invited journalists to tour the area and gather information on the planned dams, which led to nationwide reporting on the potential damage these

dams could have on the environment and the livelihoods of local communities. Notably the journalists discovered these dams had not undergone the required environmental impact assessments. Key Chinese environmental activists joined together to hold meetings with government leaders in Yunnan and Beijing, as well as contribute to the public awareness campaign on the negative impacts of the dams. In the end China's Premier Wen Jiabao called a halt to the dams, which marks the first time a national environmental campaign has stopped a major infrastructure project. This growing openness for such activism indicates considerable potential for international organizations working with Chinese NGO in river basin protection and conservation.

ENDNOTES

¹ The information in this section draws from a conversation with Liping Jiang, a senior irrigation specialist who met with project participants at the World Bank Office Beijing on 17 June 2004.

² The presentation "DFID Water Sector Partnership in China" by DFID China Water Team on June 16, 2004 at Tsinghua University, Beijing, China.

³ The presentation "CCICED IRBM Task Force—a high level advisory body on IRBM in China" by Yu Xiubo & Li Lifen, IRBM Task Force Secretariat on June 16, 2004 at Tsinghua University, Beijing, China.

⁴ Case studies the IRBM and WWF have carried out in the Yangtze Basin include: (1) Xianghexi River Basin; (2) Lake Zhangdu River Basin to examine wetland and river basin management; (3) Minshan Mountain System to draw lessons from a landscape restoration project; (4) Lake Poyang where WWF has been working with local stakeholders (government, NGOs, and community groups) to devise an IRBM Action Plan; and (5) Danjiangkou Reservoir (upper Han River)

⁵ Drawn from presentation "Sustainable River Basin Management in the Liao River Basin" by Alan Edwards and Wang Yongli on June 16, 2004 at Tsinghua University, Beijing, China.