



Community-Driven Development in Nantai Island's River System Management

The People's Republic of China (PRC) has experienced rapid urbanization and dramatic economic growth since its reform process started in late 1978.

Its urban population also surged by 21% from 1978 and 2002. By the end of 2002, the country boasted 660 cities and 20,600 administrative towns, with a total population of 502 million. The Chinese Academy of Science projects that PRC's urban population will more than double by 2050, to 1.1 billion.¹

As in many cases, urbanization and fast economic growth has come at the expense of the environment. Fuzhou, the provincial capital of Fujian, is a major commercial, industrial, and financial center and one of PRC's high-growth cities. Economic growth in Fuzhou has averaged about 16% annually over the past decade. The urban population has increased from 1.06 million in 1980 to 1.85 million in 2003. This has created serious shortfalls in urban service and infrastructure, especially in wastewater treatment. With the acceleration of the city's economy, industrialization

and urbanization have led to serious pollution of inland rivers and deterioration of the water quality in the rivers.²

River systems are usually the first to suffer from increased urbanization and economic growth. Nantai Island's rivers have suffered the same fate. With more than 40 inland rivers, a population of 480,000 packed in only 142 square kilometers of land, and with no centralized wastewater treatment facilities, it is of little wonder that the island's river system became the dumping site of domestic and industrial wastewaters, and household solid waste. The rivers that ran through urban communities carried urban waste before emptying into the Min River that surrounds the island—until the rivers reeked, turned black, and no longer flowed.

The Fuzhou Environmental Improvement Project,³ approved in July 2005, aims to improve the urban environment of Fuzhou by constructing and rehabilitating sewer networks, rehabilitating the system of inland creeks, and strengthening governance in water resource management. By reducing water pollution and protecting Fuzhou's water resources, the project hopes to improve the living condition and public health of about 1.85 million urban residents of the city, 7% of whom are urban poor.

The rehabilitation of Nantai Island's inland rivers is expected to bring about tremendous environmental and socioeconomic benefits by improving the natural environment of the Nantai Island, protecting people's lives and properties from flooding, and improving the local investment environment.

Rehabilitating Nantai Island's Inland River System

The third component of the Fuzhou Environmental Improvement Project is the rehabilitation of Nantai Island's inland river system. Nantai Island divides Min River into southern and northern branches in Fuzhou. Nantai Island plays an important role in the development of Fuzhou. The island's total

area is 142 square kilometers with a population of 480,000. It has more than 40 inland rivers and these inland rivers have played major roles as drainage systems for sewerage and rainstorms and all discharge to the Min River. Nantai Island used to be mostly agricultural land with no centralized wastewater treatment facilities. Many of the Nantai Island inland rivers suffer from serious siltation.

The rehabilitation of Nantai Island's inland rivers is expected to bring about tremendous environmental and socioeconomic benefits by improving the natural environment of Nantai Island, protecting people's lives and properties from flooding, and improving the local investment environment. The protection of farmland from flooding disaster will reduce the loss of agricultural production and the income of local farmers.

To support the project's initiatives, the Clean River Program for Urban Poor in Nantai Island (the Clean River Program)⁴ was undertaken in 2006 covering 42 villages (about 2,000 households) along 13 selected inland rivers. The program was meant to improve public hygiene awareness of the covered villages and provide the inhabitants with skills in public hygiene management. The program emphasized the active participation of the urban poor and women in managing and maintaining clean river programs.

The Clean River Program involved complementary activities directly involving communities that led to increasing change in people's knowledge, attitudes, and behavior. Among the key activities conducted were assessment and consultations with the urban poor on their needs, constraints, and awareness of hygiene and sanitation practices; development of plans for public awareness programs; training-of-trainers for community leaders; and assessment of the impacts of community's participation in water resource and public hygiene management on the water quality of rivers, quality of household hygiene, and public sanitation.

Training workshops tackling public health and the environment, inland river protection, social mobilization, and the concept of community-driven development⁵ (CDD) interventions were attended by 75 community leaders coming from 29 village committees⁶ in the project areas. The community leaders led various awareness-raising and river clean-up activities, passing on the knowledge they have learned to their constituents.

Apart from the workshops, community awareness campaigns through various media, bazaars, household

visitations, preparation of audio-visual materials, and surveys—including the conduct of the campaign in primary and middle schools—were conducted.

Piloting Community-Drive Development in the Management of Clean River Programs

Changing community behavior was already a difficult objective. Getting the communities to fund and be involved in actual river clean up activities was even more grueling. After all, Nantai Island's inland river system had served as the communities' garbage and wastewater collector for years without financial outlay to them.

The Clean River Program experimented on the use of CDD to institutionalize sustained village-level river system management. The program initiated the establishment and implementation of a model for CDD in Cangshan town in partnership with its district government. Pilot villages were Xiannong and Xianfeng. Participatory situational analyses were conducted and community clean water supply and public hygiene plans were designed in the pilot villages. Tasks and activities were planned, organized, and undertaken using local funding from village committees. Participatory mechanisms were established to monitor and evaluate community initiative and water quality. Policy dialogues were held with the relevant government departments on public affairs that villagers were concerned with. Daily sweeping of village roads, maintenance of inland rivers, and village centralized rubbish disposal points were established. Mechanisms for community clean water supply and solid waste collection and transportation were set up. All these were done with the local government providing half the necessary funds and the village folks raising the other half.

Soon, the CDD concept was promoted in the other communities of the island. They established a specialized cleaning group responsible for each village's cleanliness. Community-based rubbish disposal points were set up, catering to over 21,000 households in 30 villages. Solid wastes were regularly transported to landfills.

Central to the CDD modeling in Cangshan was the role of the local village committee in developing guidelines and forming work groups. A special group composed of professional cleaners was set up, tasked with regularly collecting and transporting garbage and conducting public campaigns in the village. The group's salary came from the income of the village community. A volunteer group mainly composed of members of old people's organizations without any fixed income was organized as a special hygiene monitoring and patrol group. The village committee and the work groups conducted regular public campaigns on clean water supply and public hygiene, and organized public sweeping events in the village. The village committee was also in charge of selecting rubbish disposal points and arranging transportation to the land fill.

Changing community behavior was already a difficult objective; getting the communities to fund and be involved in actual river clean up activities was more grueling.

Community-Driven Development Works in Nantai Island

Communities covered by the program now have better hygiene practices. The change in people's mindsets was remarkable. In a matter of months, people's attitudes towards the river have made a 180-degree turn. From randomly throwing garbage and discharging wastewater into the rivers, communities have become more proactive in the project's awareness-raising and river clean-up activities. Some people even openly criticize those who still carelessly dump trash in the rivers.⁷

The use of CDD in Nantai Island demonstrated that communities have concrete roles in maintaining the water quality of Nantai Island's rivers—caring for their rivers and working towards restoring them to the clean, clear, flowing rivers they once were. It is anticipated that the gains achieved in the CDD modeling would provide similar initiatives, hopefully in scaled-up versions, in the implementation of the Fuzhou Environmental Improvement Project and related environmental projects in the future.

The Clean River Program for Urban Poor in Nantai Island experimented on the use of CDD to institutionalize sustained village-level river system management.

Endnotes

- ¹ Li, Zijun. 2005. *Rapid Urbanization Catching Experts' Attention*. Available: www.worldwatch.org/node/64
- ² ADB. 2005. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the People's Republic of China for the Fuzhou Environmental Improvement Project*. Manila (Loan 2176-PRC. Approval date: July 2005. Expected completion date: June 2010. Project cost: \$185.5 million [\$55.8 million from ADB]. Executing agency: Fuzhou Municipal Government).
- ³ ADB. 2005. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the People's Republic of China for the Fuzhou Environmental Improvement Project*. Manila (Loan 2176-PRC. Approval date: July 2005. Expected completion date: June 2010. Project cost: \$185.5 million [\$55.8 million from ADB]. Executing agency: Fuzhou Municipal Government).
- ⁴ The program costing \$50,000 was funded from the Cooperation Fund for the Water Sector as a pilot demonstration activity. It was approved in December 2004 and completed in September 2006.
- ⁵ CDDCDD is defined as "an approach that gives control over planning decisions and investment resources of local development projects to community groups." It gives communities effective authority over decisions and resources in designing, procuring and implementing, usually small, community subprojects.
- ⁶ A village committee is an organization whose members are elected by the villagers to manage village affairs.
- ⁷ Tigno, Cezar. 2007. *Changing Community Mindsets to Clean Rivers*. Available: www.adb.org/Water/Actions/prc/changing-community-mindsets.asp

Disclaimer

This case study was written by Mario Randolph Dacanay (RETA Consultant) under the Regional TA 6400: Supporting Community-Driven Development (CDD) in Developing Member Countries with inputs from Maria Theresa Villareal, Project Officer of Loan 2176 PRC; Clifford Burkley, Social Development Specialist; and Sri Wening Handayani, Senior Social Development Specialist; ADB. The views and assessments contained herein do not necessarily reflect the views of ADB or its Board of Directors or the governments they represent. ADB does not guarantee the accuracy of the data and accepts no responsibility for any consequence of their use.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor. Nearly 1.7 billion people in the region live on \$2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved \$10.1 billion of loans, \$673 million of grant projects, and technical assistance amounting to \$243 million.

Contact Information

Clifford Burkley
Social Development Specialist
Gender, Social Development, and
Civil Society Division
Regional and Sustainable Development
Department
Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel +63 2 632 4444
Fax +63 2 636 2444
www.adb.org