1. Key development issues and rationale for Bank involvement

Guangdong Province’s Pearl River Delta (PRD) region has achieved economic growth rates among the highest in China over the past decade. But, this growth has come at a heavy environmental cost, especially in terms of water pollution. The PRD region is one of the most complex urban systems in Asia. It has a total population of over 30 million in 25 municipalities, 3 counties and 450 towns in Guangdong province and the two special administrative regions of Hong Kong and Macau. The Pearl River system is China’s second largest in terms of flow, and is a major source for drinking water supply and irrigation. But, water quality has deteriorated in most stretches of the PRD Rivers to worse than the lowest national standard (Class V) due to the direct discharge of domestic and industrial waste, and the run-offs from urban and agricultural areas.

In 2003, Guangdong provincial government announced a major plan to clean-up the PRD Rivers. This is an eight-year campaign which will invest more than US$5 billion in the construction of about 160 wastewater treatment plants in cities and towns in the PRD region. The World Bank is providing support for this plan by financing wastewater treatment facilities and other investments in the provincial capital of Guangzhou, which is the biggest single source of pollution (34% of organic pollution load), through the first PRD urban environment project, approved in 2004. Under this project, the Bank is also funding an updating of the PRD clean-up campaign to help optimize the number and size of wastewater treatment facilities to be built. This is urgently needed, as the original plan was prepared without benefits of inter-municipal coordination or focus on options and least cost solutions. This updating work, now underway, is scheduled for completion by mid-2006. In addition, the Bank is preparing a second PRD urban environment project with Shenzhen municipality, the second largest source of pollution in the PRD region (24% of the total). Expert studies estimate that the municipalities of Foshan and Jiangmen are contributing 9% and 6%, respectively, of the pollution flowing into the PRD river network.
Foshan municipality is located in south-central Guangdong province, adjacent to Guangzhou city. It has a population of 5.6 million, and has a long history as a cultural and industrial center in south China. Its economic growth has been particularly impressive recently, with GDP expanding 16.3% in 2004. Foshan’s political leadership wants urgently to improve environmental conditions in the city. Currently, only 32% of the wastewater in Foshan is treated, and the lack of adequate wastewater collection and treatment systems is increasing pollution to PRD rivers and creating public health concerns. The highly-polluted waters running through the city, especially in the Foshan river, are smelly and foul, discouraging investments in upgrading along river banks.

Jiangmen municipality is located west of Foshan. It has a population of 1.3 million, with 62% of the population engaged in agricultural activities. While Jiangmen’s economic development is somewhat behind other cities in the PRD region, its economy has started to grow rapidly (11% GDP increase last year). Jiangmen ranked high in the Bank's recent survey of investment climate competitiveness of Chinese cities, in part because of its attractive environmental conditions. But, continuous efforts will be needed to protect the environment, as several rivers passing through the municipality have become highly polluted. At present, about 50% of the wastewater in Jiangmen’s town center is treated, and there is no viable utility company established to manage services.

Both Foshan and Jiangmen are eager to establish a long-term partnership with the Bank. As a first step, they have requested assistance in reducing river water pollution, and improving living conditions in areas along the river banks. Both municipalities have had their project proposals reviewed and endorsed by Central Government (NDRC). Each municipality has hired local consultants to prepare engineering feasibility studies, resettlement plans, and environmental assessments. This work is being overseen by two different international consulting firms funded by donors (France and USA.

At a broad strategic level, Bank involvement will facilitate work started under PRD 1 on inter-municipal cooperation and improvements in wastewater management planning and financing. At the project level, the Bank's role will be to ensure that the lessons learned from previous experiences in the PRD region and elsewhere are reflected in the design, planning and management of the proposed investments. Attention would be paid to selecting least-cost solutions and appropriate technologies and practices in wastewater and sludge management. The Bank would also give emphasis to improving the sustainability of the wastewater services through the introduction of improved institutional arrangements and tariff policies. And, the Bank would look for ways to enhance the municipal planning and management, and economic competitiveness of the two cities, and strengthen the regulatory frameworks for public-private partnership. All of these aims are consistent with key objectives of the China Country Assistance Strategy related to environmental protection and infrastructure and urban development.
2. Proposed objective(s)

The development objective is to reduce domestic and industrial source pollution in the PRD network originating from Foshan and Jiangmen municipalities through a package of key initiatives, including river bank clean-up and restoration, wastewater treatment and sludge disposal, and hazardous sediment removal from waterways. Key outcome indicators would include: (a) reductions in domestic and industrial source pollution entering the PRD river network from Foshan and Jiangmen; (b) improved effectiveness in operations, management and finances of wastewater utility services; (c) improved river water quality at measurement stations in Foshan and Jiangmen; and (d) increases in property values, taxes and urban service revenues in the areas upgraded under the project.

3. Preliminary description

Foshan and Jiangmen have presented the Bank with the project proposals already cleared by NDRC. These proposals include only the physical investments. However, both municipalities have agreed that additional activities for institutional strengthening, training and studies should be added during project preparation. Below is a brief description of each investment component. The estimated cost of the project components is US$250 million, with a Bank loan of US$100 million endorsed by NDRC and MOF.

**Foshan Components:**

- **a)** *Zhen’an Wastewater System*: construction of up to 100,000 m³/d treatment plant and 38 km. of sewer collection networks.
- **b)** *Central Sludge Disposal Center*: construction of a 400 ton/d centralized sludge disposal facility to treat sewage from five wastewater treatment plants.
- **c)** *Foshan Waterway Sediment Removal and Disposal*: dredging of about 1.18 million m³ of sediment over a length of 34 km from two rivers, and the transfer, treatment and disposal of the sediment.
- **d)** *Fengjiang River North Bank Rehabilitation*: rehabilitation of 6.7 km of river bank for improved flood control and environmental conditions in the areas along the river bank.

**Jiangmen Components:**

- **a)** *Wen Chan Sha Wastewater System*: construction of a 150,000 m³/d treatment plant and 24 km of interceptor pipes, four new pumping stations and extension of one existing pumping station.
- **b)** *He Nan Pian Wastewater and Drainage System*: construction of a 50,000 m³/d treatment plant, 54.7 km of trunk sewers, two pumping stations, and 10.4 km of drainage.
- **c)** *Tian Sha River Water Quality Improvements*: rehabilitation of river bank, widening and dredging of river, enhancement of water flows, disposal of sediment, and construction of sluice gates and pumping stations.
4. Safeguard policies that might apply

Environment Impact Action Plan and Resettlement Action Plan will be prepared during project preparation.

5. Tentative financing

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<td><strong>Total</strong></td>
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6. Contact point

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