China, People's Republic of: Nanjing Qinhuai River Environmental Improvement Project

Project Name: Nanjing Qinhuai River Environmental Improvement Project
Project Number: 37603-013
Country: China, People's Republic of
Project Status: Closed
Project Type / Modality of Assistance: Loan

<table>
<thead>
<tr>
<th>Source of Funding / Amount</th>
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<tbody>
<tr>
<td>Loan 2297-PRC: Nanjing Qinhuai River Environmental Improvement Project</td>
</tr>
<tr>
<td>Ordinary capital resources</td>
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</table>

Strategic Agendas:
- Environmentally sustainable growth
- Inclusive economic growth

Drivers of Change:
- Governance and capacity development

Sector / Subsector:
- Water and other urban infrastructure and services
- Urban flood protection
- Urban policy, institutional and capacity development
- Urban sewerage

Gender Equity and Mainstreaming

Description:
The Project will help Nanjing, the capital city of Jiangsu Province, in (i) reducing water pollution; (ii) protecting water resources; (iii) reducing economic losses and disruption to livelihoods from frequent localized flooding; (iv) promoting sustainable economic development; (v) improving the environment, living conditions, and public health standards; (vi) developing an integrated wastewater and sludge management system; and (vii) improving service efficiency through increased competition and private sector participation.

The Project includes 10 major activities grouped into six components: (i) Inner Qinhuai River sewerage and water replenishment; (ii) City East wastewater treatment plant (WWTP) and sewerage system; (iii) North HeXi District sewerage, river improvement, and water replenishment; (iv) stormwater drainage, and sludge treatment and disposal component; and (vi) institutional development. All components of the Project contribute to significantly improving water quality of the Qinhuai River, which empties into the Yangtze River. The Project supports the Government's 11th Five-Year Plan, which includes goals of improving living conditions and health in cities and promoting their sustainable economic development.

Project Rationale and Linkage to Country/Regional Strategy:
Nanjing comprises 11 districts and two counties and is strategically located at the confluence of the Qinhuai and Changjiang rivers or Yangtze River basin (YRB), in eastern PRC. Nanjing municipality has a population of 6.4 million, and an urban center population of 4.5 million. Rapid economic growth in Nanjing over the past 20 years has placed increased pressure on the environment and city infrastructure. The Qinhuai River is 110 kilometers (km) long and flows through the urban districts of Nanjing before joining the YRB. Water quality in the lower 34 km of the Qinhuai River has deteriorated significantly in the past 10 years mainly due to wastewater discharge from the city; it currently fails to achieve class V of the PRC water quality standards.

The lack of sufficient wastewater collection and treatment facilities and the increasingly severe problems related to water pollution and urban drainage have resulted in serious water quality problems in the Qinhuai River. This has resulted in significant deterioration of water quality in the Nanjing section of the YRB. NMG is implementing the city's strategic wastewater master plan to meet national environmental targets and achieve a wastewater treatment rate of 85% by 2010. The proposed Project is an integrated part of the basin-wide Yangtze water resources management initiative, the Nanjing city urban development plan, the Nanjing municipal wastewater master plan, and the Nanjing stormwater drainage master plan. The Project will provide the 10% additional capacity critical to achieving the city's target for 2010 of treating 85% of the wastewater generated compared with the current rate of 75%.

The high intensity of rainfall in Nanjing places the urban drainage system under stress; sewers overflow and become major sources of water pollution. Flooding in urban areas is often serious because of the inadequately maintained drainage network and pumping stations with insufficient capacity. Nanjing does not have a consistent sludge treatment and disposal scheme. Historically, the Qinhuai River's tributaries were interconnected with sufficient flow capacity, but siltation has greatly reduced flows from these waterways. At some locations flow is completely blocked, aggravating flooding and water pollution. Augmentation of river flow, and improved flood control and water quality are urgently needed through (i) river dredging, (ii) river bank stabilization and erosion control, (iii) river water diversion and replenishment, and (iv) restoration of the degraded urban wetland area. By significantly improving the water quality in the Qinhuai River from the current class V to class IV by 2011, the Project will complement the Wuhan Wastewater Management Project, Wuhan Wastewater and Stormwater Management Project, and Suzhou Creek Rehabilitation Project, which all contribute to reducing pollution in the YRB. Since the drinking water intakes of Nanjing and other major cities downstream are from the Yangtze River, the Project will also contribute to protecting the drinking water source.

Impact:
Improved urban environment, public health the quality of life for urban residents and businesses in Nanjing City.

Project Outcome

Description of Outcome:
Improved management of surface water resources in Nanjing city (contributing to the achievement of Millennium Development Goal 7, target 10)

Progress Toward Outcome:
Inner Qinhuai River, North HeXi, City East and stormwater drainage components are completed. Sludge treatment and disposal component cancelled. Institutional capacity building completed.

Implementation Progress
### Description of Project Outputs

1. Improved sewerage and water replenishment in the Inner Qinhuai River in urban areas of Nanjing
2. Improved and expanded wastewater services in East City urban area of Nanjing
3. Improved sewerage, river improvement and water replenishment in the North He Xi District, in urban Nanjing
4. Reduced flooding in the storm water drainage areas of the districts of Baixia, Gulou, Qinhuai, Xiaguan, and Xuanwu in urban Nanjing
5. Comprehensive improvement in sludge treatment and disposal.
6. Institutional capacity building for project management

### Status of Implementation Progress (Outputs, Activities, and Issues)

Completed.
Completed.
Completed.
Completed.
Completed.
18 km of river widening completed
WWTP commercial operation started in Nov 2010; 200,000 m³/day treatment capacity achieved
9.8 km of South River completed
14,000 m³ silt dredged.
9.2 km completed;
1,514 km pipeline completed;
South River PS capacity is 5 m³/s
To be assessed at project completion
16 stormwater drain outlets completed
34 km of stormwater pipelines completed
Cancelled.

Consultants provided support to NMG, PMO and IAs through trainings on financial management, environment, resettlement, PPMG and other aspects of project implementation.

### Geographical Location

Baixia Qu, Changxiang, Dazhong Qiao, Feng Huang Shan, Gulou Qu, Hexi District, Hu Cheng He, Jiangxinzhou, Liwei, Ma'qun, Ming Yu He, Nanjing, Ningnan, Qi Qiao Weng, Qing Jiang, Qinhuai Qu, Tiexinqiao, Wuxi Shi, Xiaguan Qu, Xiangfangcun, Xibeicun, Xuanwu Qu, Yudai River, Yueya Hu, Yunliang He

### Safeguard Categories

<table>
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<th>Environment</th>
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<tbody>
<tr>
<td>Involuntary Resettlement</td>
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<tr>
<td>Indigenous Peoples</td>
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### Summary of Environmental and Social Aspects

**Environmental Aspects**

A summary of the environmental impact assessment was circulated to the Asian Development Bank (ADB) Board along with the environmental management plan on 2 August 2006, and uploaded onto the ADB website on 3 August 2006.

**Involuntary Resettlement**

A

**Indigenous Peoples**

C

### Stakeholder Communication, Participation, and Consultation

**During Project Design**

The poverty and social assessment utilized a number of participation processes to solicit the input of a cross section of stakeholders. In addition to the socioeconomic survey of 655 households, a range of community meetings were held with both women and men in different parts of the city to discuss, in an open-ended manner, topics related to the Project but not specifically covered in the socioeconomic survey. A number of key informant interviews were held with various bureaus, nongovernment organizations, women's federation, past and ongoing projects in complementary areas, etc. to inform project design. Formulation of resettlement plans used separate socioeconomic surveys, community meetings, opinion surveys, and impact studies from April to June 2006, involving more than 500 people.

**During Project Implementation**

### Business Opportunities

**Consulting Services**

About 31 person-months of international and consultants and 100 person-months of national consultants, to be funded under the Project, will be required to support the NPMO and IAs in project implementation and capacity building. Consulting services will be provided in the following specific areas: (i) development of a sludge management strategy for Nanjing; (ii) investigation and control of inflow and infiltration into the wastewater collection network, (iii) construction supervision, quality control, and related monitoring of progress during project implementation, (iv) monitoring of resettlement, (v) improvement of stormwater and sewerage management, (vi) improvement of flood protection systems, (vii) assistance with PSP initiatives, (viii) financial management, and (ix) operation and maintenance improvements. The consulting firm will be recruited in accordance with Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers using the quality and cost-based selection method and requesting full technical proposals.

**Procurement**

ADB-financed equipment, materials and goods, civil works and services will be procured in accordance with ADB’s Procurement Guidelines. Procurement will be conducted through international competitive bidding, national competitive bidding, or shopping procedures as determined by the particular circumstances of each contract package. In accordance with ADB’s Procurement Guidelines, foreign contractors may participate in bidding for national competitive bidding contracts.

### Responsible ADB Officer

Ressano Garcia, Antonio

### Responsible ADB Department

East Asia Department

### Responsible ADB Division

Urban and Social Sectors Division, EARD

### Executing Agencies

Nanjing Municipal Government

No.41 Eastern Beijing Road, Nanjing 210008

Jiangsu Province, PRC

### Timetable

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## Loan 2297-PRC

### Milestones

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### Status of Covenants

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**Project Page**
https://www.adb.org/projects/37603-013/main

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http://www.adb.org/forms/request-information-form?subject=37603-013

**Date Generated**
28 January 2020

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