# China, People's Republic of: Hubei Huangshi Urban Pollution Control and Environmental Management Project

<table>
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<tr>
<th>Project Name</th>
<th>Hubei Huangshi Urban Pollution Control and Environmental Management Project</th>
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<tbody>
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<td>Project Number</td>
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<tr>
<td>Country</td>
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<td>Project Status</td>
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<td>Project Type / Modality of Assistance</td>
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## Strategic Agendas
- Environmentally sustainable growth
- Inclusive economic growth

## Drivers of Change
- Governance and capacity development

## Sector / Subsector
- Agriculture, natural resources and rural development - Water-based natural resources management
- Water and other urban infrastructure and services - Urban policy, institutional and capacity development - Urban sewerage - Urban solid waste management

## Gender Equity and Mainstreaming
- Effective gender mainstreaming

## Description
The project aims to promote environmentally sustainable and socioeconomically inclusive urban development in Huangshi, Hubei Province, by upgrading urban environmental infrastructure and services. The project will support wastewater management, lake rehabilitation, sludge treatment, solid waste management, and related urban environmental services.

The project is located in Huangshi, southeastern Hubei Province, 80 kilometers (km) southeast of Wuhan, the provincial capital. The city is spread over floodplain on the south bank of the Yangtze River, having developed around three lakes: Chu, Qingshan, and Qinggang. In 2010, the population of the municipality was 2.43 million, with 765,000 living in the urban area. Huangshi's initial development was based on mining, and its associated secondary industries have driven the city's economic development. Resource depletion and the need for more balanced and sustainable development prompted the Huangshi municipal government (HMG) to renew the city by upgrading its industry, relocating polluting industries outside of the central urban area, and developing tertiary industries and an enabling investment environment. This will help Huangshi strengthen its development potential as a core secondary city in Hubei Province, supporting balanced regional development in the province. Huangshi is a part of the "Wuhan+8 megacity cluster," which the government promotes as a pilot administrative zone for balanced, environment-friendly economic development within the cluster.
Huangshi faces environmental and urban development challenges reflecting its historical reliance on heavy industry and inadequate investment in urban infrastructure. General neglect of urban pollution allowed untreated industrial and domestic wastewater to flow into urban lakes. The city's solid waste management is inadequate and the sludge from wastewater treatment plants is untreated. Urban channels and lakes are blocked by polluted sediments and accumulated solid waste. The three lakes in the city became polluted and degraded, endangering public health and safety, particularly for the poor who often live near polluted inland waterways and in areas with deficient urban services. Inadequate urban infrastructure constrains sustainable urban development and limits Huangshi's ability to promote investment and support balanced regional development in Hubei.

Wastewater. An estimated 131,000 cubic meters (m3) of untreated urban wastewater is discharged daily into the city's three lakes and the Yangtze River. The project will support the rehabilitation and extension of the existing wastewater network system to remove misconnections and intercept urban wastewater more effectively, thereby improving collection efficiency and mitigating pollution loads into water bodies downstream. The project will also support the construction of a new wastewater collection and treatment system to serve the newly developed urban area of Hexi. Lake. Water quality in Huangshi's three lakes is severely polluted, to class V or worse. The lakes are affected by organic pollution, nutrients, and heavy metals. Sediments are highly contaminated with heavy metals, particularly near discharge points into lakes. The project will support an integrated multifunctional approach to lake improvement that removes contaminated sediments, constructs engineered wetlands and lake embankments, and interconnects urban water bodies. These interventions are designed to (i) improve water quality, (ii) restore lake ecology and healthy hydraulic circulation, (iii) improve the lakes' retention capacity and resilience under climate change, and (iv) enhance public amenity. Sludge. The project will tackle the emerging environmental challenge of handling the sludge generated in greater quantities as wastewater collection and treatment expands. At present, untreated sludge is dumped directly to the municipal landfill. While supporting the treatment system for contaminated sludge in the short term, the project will help the HMG develop a mid- and long-term strategic plan to reduce sludge production, stabilize its content, and find beneficial uses for it.

Solid waste. Challenges facing solid waste management in Huangshi are (i) inefficient collection and transfer facilities, (ii) excessive waste generated without sorting or recycling, and (iii) inadequate disposal capacity for the volume. While the HMG will expand the capacity of disposal facilities to meet future demand, the project will upgrade the existing collection and transfer system to enhance collection efficiency to comply with environmental standards, build new collection and transfer stations to serve an expanded urban area, and pilot a sorting and recycling scheme with community participation to reduce, reuse, and recycle waste.

Strategic fit and lessons learned. The project will help Huangshi (i) promote environmentally sustainable urban development; (ii) improve living conditions by providing better urban services and a cleaner environment to urban residents, including the poor; and (iii) enhance inclusive socioeconomic growth with expanded tertiary industries, an attractive investment environment, and more employment. By promoting sustainable and environment-friendly urban development, the project aligns with the PRC's Twelfth Five-Year Plan, 2011-2015 and ADB's country partnership strategy for the PRC. It promotes economic growth that is environmentally sustainable and inclusive, in line with ADB's Strategy 2020. It contributes to Millennium Development Goal 7 by improving sanitation. It conforms with ADB's Water Operational Plan, which encourages expanded wastewater management and integrated water resource management. It builds on ADB's experience and lessons from previous projects in Hubei and other projects for urban development, water resource management, and development in small and medium-sized cities, as well as from knowledge generated in policy-oriented studies on lake rehabilitation and sludge treatment.

Demonstration features. The project will (i) demonstrate an integrated approach to urban pollution control and environmental management that combines reducing upstream pollution loads by rehabilitating and extending wastewater and solid waste systems with improving downstream water quality by rehabilitating lake ecology and hydraulic circulation, which will significantly improve water quality in the three lakes; (ii) analyze the cumulative impact of pollution loads and modeling of surface water circulation to support the design of the project; and (iii) pilot a scheme for solid waste sorting and recycling with community participation that will show, albeit on a small scale, the reduce-reuse-recycle approach. The pilot scheme will be replicated in other communities in Huangshi. The project also has great potential to become a model of integrated pollution control and ecological rehabilitation applicable to polluted and blocked urban lakes in other small and medium-sized cities along the Yangtze and elsewhere in the PRC.

Impact

Environmentally sustainable and socioeconomically inclusive urban development in Huangshi

Project Outcome

Description of Outcome Improved urban environmental infrastructure and management services in Huangshi

Progress Toward Outcome the project is ongoing and the outcome is still to be assessed as valid. the mid-term review mission was conducted in April 2017 and the scope change and two-year extension was approved in October 2017. A two-year extension was approved in October 2017 with project closing date on 30 June 2020.

Implementation Progress

Description of Project Outputs Wastewater collection and treatment system operating Lakes rehabilitated and hydraulic circulation restored Sludge treatment system operating Solid waste collection and transfer facilities operating Capacity developed and institutions strengthened

Status of Implementation Progress (Outputs, Activities, and Issues) Up to 19 September 2019, the total contract awards of the project reached to $96.10 million and total disbursements reached to $74.17 million. 23 works contracts have been awarded: six for wastewater collection and treatment, 13 for lake rehabilitation and hydraulic circulation, one for sludge treatment, and three for solid waste management; 6 equipment contracts have been awarded: three for wastewater collection and treatment; and three for solid waste management; 8 consulting services have been awarded. Construction of awarded civil works are ongoing. Safeguard issues are being monitored by consultants.

Geographical Location Gulhuawan, Hekou, Huangshi, Huangshi Mining Bureau, Huangshi Shi, Huangshigang, Hujapeng, Qingsang, Qingshan Lake, Shiji, Sike, Tiefe, Tonghui, Tuanchengshan, Wang Tai Lu, Wangren, Xi, Xia, Ye'er Lake, Yinhu Yunes, Yu Jia Shan Xiang

Safeguard Categories

Environment A
Involuntary Resettlement A
Indigenous Peoples C

Summary of Environmental and Social Aspects
Environmental Aspects

The project is classified as environment category A, mainly triggered by the lake rehabilitation and hydraulic circulation component. An environmental impact assessment (EIA) was prepared in compliance with ADB’s Safeguard Policy Statement (2009), and was circulated to ADB’s Board of Directors and posted on the ADB website. The EIA concludes that the project will have substantial environmental benefits and that its potential environmental impacts can be mitigated through implementation of the environmental management plan (EMP). Expected significant environmental benefits include (i) improved water quality of the three lakes in terms of both organic pollutants and nutrient levels through well-integrated project components, (ii) ecological restoration of polluted and blocked urban lakes, and (iii) improved sanitary conditions and public health through expanded urban services for wastewater, sludge and solid waste. Major potential environmental safeguards issues relate to: (i) lake sediment dredging, noise and air pollution, surface water pollution, and occupational and community health and safety during construction; (ii) noise and air quality impacts from solid waste transfer stations, wastewater and sludge treatment facilities, and pumping stations all along the river area during operation; (iii) possible impacts on the Yangtze River from the charge of effluent from the wastewater treatment plant; and (iv) health and safety concerns during the operation of the wastewater and sludge treatment plants and the solid waste transfer stations. To reduce these impacts to acceptable levels, mitigation measures such as reducing and controlling the exposure of contaminated sediments to the aquatic ecosystem; adopting performance standards for dredging operations, and regular monitoring of the project’s environmental performance during construction and operation have been defined in the EMP. The Huangshi environmental protection bureau will guide and monitor the PMO, HUCIDC and contractors in implementing the EMP. Environmental management is supported by loan covenants and capacity development activities under the project. The executing agency disclosed relevant environment information to the affected people, and the results and findings of the consultation process were used to modify the EIA and the project design. Consultation and public participation will continue throughout project implementation and any environmental complaints or disputes will be handled in accordance with the grievance redress mechanism established for the project. An addendum to EIA was prepared by EA and approved by ADB and disclosed on ADB website in July 2017 for the proposed scope change.

Involuntary Resettlement

The project is classified as resettlement category A. In total, the project will affect 5 districts, 11 towns, and 26 villages and communities of Huangshi city. A total of 898 mu20 of land will be permanently acquired, including 309 mu collective land and 589 mu state-owned land; also, 1,450 mu of land will be temporarily occupied during project implementation. Land acquisition will affect 193 households with 766 persons. A total of 44,050 m2 residential houses and 8,208 m2 non-residential houses will be demolished, affecting 228 households with 853 persons, 3 enterprises and 26 employees. A resettlement plan was prepared according to ADB’s Safeguard Policy Statement (2009).21 The resettlement plan was endorsed by HMG and disclosed to the affected persons in local language. The resettlement plan will be finalized based on the detailed engineering design and detailed measurement survey, disclosed to affected persons in local language, and submitted to ADB for approval prior to awarding of civil works contracts. The compensation for lost assets and resettlement allowance will be paid to affected persons and the livelihood rehabilitation will be arranged in accordance with the resettlement plan prior to commencement of the related civil works. The PMO and HUCIDC will assume the overall responsibility of planning, implementation, financing, and reporting on land acquisition and resettlement activities. A grievance redress mechanism has been established for affected persons.

Indigenous Peoples

The project is classified as indigenous peoples category C. In Huangshi, ethnic minorities represent about 0.1% of the total population. They are socially and economically well integrated and do not form any concentrated residential area. No ethnic minorities are affected by land acquisition and resettlement.

Stakeholder Communication, Participation, and Consultation

During Project Design

Several rounds and modes of consultations were undertaken with a number of stakeholders in the project area during project preparation. The major stakeholders were (i) groups directly affected by the project in a positive or negative way, including men, women, the poor, sanitation workers, and business owners; and (ii) related organizations including the project management office (PMO), the executing agency, implementing agency, Urban Sanitation Bureau, Health Bureau, Water Resources Bureau, Civil Affairs Bureau, Women’s Federation, Finance Bureau, and Labor and Social Security Bureau. A socioeconomic survey was undertaken for 402 households. In addition, 21 focus group discussions were held with women and men, the poor, sanitation workers, and small business owners from the community of the project area. A number of key informant interviews and stakeholder workshops were also held with various organizations. Through the consultation and participation process during project preparation, stakeholders came to know more about the project. Their opinions and concerns were analyzed and incorporated into the project design.

During Project Implementation

A C&L plan, covering project design, implementation, and operation stages, was prepared to ensure community involvement throughout the project life and that they benefit from the project activities. The main contents of C&L include: (i) disclosure of all project documents on the PMO and ADB websites, including the project data sheet, design and monitoring framework, resettlement plan, environmental framework, environmental management plan, and social and environmental monitoring reports; booklets outlining the resettlement plan were distributed to affected households and disclosure meetings were held; (ii) establishment of a community environmental management group in Yaquang pilot community to self-manage the solid waste sorting and protect the community sanitation environment; and help implement solid waste sorting, formulate relevant incentive measures, select labor for construction, conduct environmental protection awareness, coordinate all stakeholders, integrate opinions of residents, and monitor the social development action plan; and (iii) a public education and awareness program to promote lake ecosystems, environmental protection, public health and hygiene education, solid waste sorting and recycling, social acceptance for tariffs increase, and overall project benefits.

Business Opportunities

Consulting Services

All consultants will be recruited according to ADB’s Guidelines on the Use of Consultants (2010, as amended from time to time). An estimated 268 person-months (46.5 international, 221.5 national) of consulting services are required for (i) project management support; (ii) institutional capacity development; (iii) external resettlement monitoring; (iv) external environmental monitoring; (v) individual implementation startup consultants; (vi) sewer network survey and geographic information system (GIS) establishment; and (vii) pilot solid waste sorting and recycling scheme. Consulting firm for project management, institutional strengthening, and sewer network survey will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality-cost ratio of 80:20 using full technical proposal procedure. Two consulting services for external resettlement and environmental monitors and a consulting service for pilot solid waste sorting and recycling scheme will be engaged through consultants’ qualifications selection method (CQSM) for firm, and individual consultant selection method (ICSM) for individual consultants.

Procurement

All procurement of goods and works will be undertaken in accordance with ADB’s Procurement Guidelines (2010, as amended from time to time). International competitive bidding (ICB) procedures will be used for civil works contracts estimated to cost $10 million equivalent or more, while National Competitive Bidding (NCB) procedures will be used for civil works contracts estimated to cost less than $10 million equivalent in accordance with the PRC’s Tendering and Bidding Law (1999), subject to modifications agreed upon with ADB. Major contracts for goods valued at $1 million equivalent or more will be awarded through ICB procedures, while smaller packages for goods valued at less than $1 million equivalent will be procured following NCB procedures. The shopping method will be allowed for contracts valued at $100,000 equivalent or less for civil works and $100,000 equivalent or less for goods. The relevant sections of ADB’s Anticorruption Policy (1998, as amended to date) will be included in procurement documents and contracts.

Responsibility ADB Officer: Zheng Baschang
Responsibility ADB Department: East Asia Department
Responsibility ADB Division: PRC Resident Mission
Executing Agencies: Huangshi Municipal Government
Tuanchengshan Development District
No. Te 1, Hangzhou Road

Timetable

Concept Clearance: 23 Sep 2010
MRR: 19 Jun 2012
Approval: 15 Nov 2012
Last Review Mission: -
Last POS Update: 19 Sep 2019
## Loan 2940-PRC

### Milestones

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### Financing Plan

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**Project Page**

https://www.adb.org/projects/44019-013/main

**Request for Information**

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**Date Generated**

01 November 2019

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