Wuhan Urban Environmental Improvement Project
Project Preparatory Technical Assistance Concept Paper

Date: 17 November 2008

   - Year included in CPS/RCS/COBP/ROBP/CPS or RCS Midterm Review Report: 2008
   - Reference number and date approved: SEC.M15-08, 25 April 2008
   - In case of change in the PPTA title, type, or amount, please state reason:

2. Coverage
   - Country ☒ Subregional ☐ Interregional

3. Assistance Focus
   a. MTS Sector Group
      - Group I ☒ Group II ☐ Group III ☐
   b. Sector:
      - Agriculture and Natural Resources ☐ Industry and Trade ☐
      - Education ☐ Law, Economic Management and Public Policy ☐
      - Energy ☐ Transport and Communications ☐
      - Finance ☐ Water Supply, Sanitation, and Waste Management ☒
      - Health, Nutrition and Social Protection ☐ Multisector ☐
   c. Targeting Classification
      - Targeted Intervention (TI) ☐
      - Household (TI-H) ☐
      - Geographic (TI-G): ☒ MDG TI (M1-M7):
      - General Intervention (GI) ☐
   d. Key thematic areas
      - Themes:
        - Sustainable economic growth ☒ Environmental sustainability ☐
        - Inclusive social development ☐ Regional cooperation ☐
        - Governance ☐ Private sector development ☐
        - Gender and development ☐ Capacity development ☐
      - Subthemes: Developing urban areas, human development, urban environmental improvement, and organizational development.

4. Name of the Project Officer: Sangay Penjor
   - Local Number: 6148
   - Email Address: spenjor@adb.org
   - Name of the Alternate Officer: Jingmin Huang
   - Local Number: 6181
   - Email Address: jhuang@adb.org

5. Department/Division: EARD/EASS

6. Project Description: Wuhan, located in the central region of the PRC, is the capital of Hubei Province. It lies in the Jianghan Plain where the Han River joins the Yangtze River. It is strategically located approximately halfway along the length of the Yangtze River and is a center of communications, education, culture, economy, trade, transportation, and industry. Wuhan covers an area of 8,467 square kilometers (km²), which includes an urban built up area of 211 km². As of 2007, the municipality had a population of approximately 8.5 million. Wuhan’s urban area is divided into three parts (Hankou, Hanyang, and Wuchang) by the Yangtze River and the Han River.

Water quality in the Wuhan section of the Yangtze River has decreased significantly over the last 15–20 years due to wastewater discharge from the city. This situation is worse for lakes in urban areas than it is for rural lakes and rivers. To address Wuhan’s lack of adequate wastewater management and water resources protection, the Wuhan Municipal Government is working on implementing the municipality’s strategic wastewater master plan for longer term compliance with national environmental targets. Specifically, it aims to achieve a wastewater treatment rate of 80% by 2010 in accordance with state guidelines.

---

1 Mr. Penjor, former Principal Financial Analysis Specialist, EASS and currently Principal Evaluation Specialist, OED2, is the task manager for the TA until approval.
2 Ms. Huang will be the project task manager after TA approval.
The wastewater master plan includes the phased and well coordinated construction of wastewater treatment plants (WWTPs) and sewer networks using local funds and assistance from Asian Development Bank (ADB), World Bank, and bilateral sources including Finland and Poland. The ADB-funded Wuhan Wastewater Management Project approved in 2003 and the Wuhan Wastewater and Stormwater Management (WWSM) Project approved in 2006, along with ongoing World Bank and bilateral-assisted wastewater treatment projects, will increase Wuhan’s wastewater treatment rate to 80% of the wastewater generated by 2010.

While the construction of several WWTPs in Wuhan has reduced pollution in some of the local rivers and lakes and contributed to pollution control of the Yangtze River Basin, the amount of sludge generated has also increased significantly, thereby posing an environmental challenge to Wuhan. There is, therefore, an urgent need for a comprehensive and efficient approach to sludge treatment in Wuhan.

The lakes in Wuhan’s Hanyang District, namely, Moshuihu, Longyanghu, and Nantaizihu are polluted from the discharge of municipal waste effluents. The pollution levels are further increased due to blockages and poor water flow among inland rivers and lakes. The lakes of Mosshuihu, Longyanghu, and Nantaizihu surround the Sixin area of Wuhan New Area which comprises the modern industrial base and a new residential township. There is a need for proper connection among these lakes and inland rivers to improve water quality through flushing and ensure ecological restoration in the Wuhan New Area.

As a result of many years of silting and the construction of the Wuhan railway station, the water body of the Yangchun Lake in Wuhan’s Wuchang District has declined significantly from 60 to 10 hectares. Consequently, the flood storage capacity of the Yangchun Lake has been significantly reduced while water pollution levels have increased. This would also constrain the sound development of Yangchun Lake’s associate urban center’s construction.

The proposed Project is an integral part of the basin-wide Yangtze water resources management initiative, Wuhan city urban development plan, and Wuhan wastewater master plan. This will be the third ADB project that will contribute significantly to the environmental improvement efforts in Wuhan. The proposed Project will strongly complement the ongoing Wuhan Wastewater Management Project, the WWSM Project, and the wastewater treatment facilities constructed with World Bank and bilateral assistance.

Under the ongoing WWSM Project, (i) a comprehensive sludge management strategy was developed for Wuhan which strongly recommended the formulation of a sludge management project, the first such ADB project in the PRC; and (ii) a water quality modeling approach was developed for the local rivers and lakes in Wuhan and its impact on the Yangtze River Basin. The proposed Project, which fits well within the Wuhan sludge management strategy, would help in disseminating the innovative approaches to sludge treatment and also the benefits of water quality modeling. Such an approach would have a good demonstration impact in the PRC.

The proposed Wuhan Urban Environmental Improvement Project will improve the urban environment of Wuhan municipality by properly treating and disposing the sludge from wastewater treatment plants, and by rehabilitating the lakes and channels in two newly developed areas, thereby enhancing the quality of life and health condition of 8.5 million urban residents. The proposed Project will contribute to poverty reduction through improved quality of life by reducing the incidence of waterborne diseases and flood risk in Wuhan, providing employment opportunities during the construction and operation of project facilities, and facilitating economic development.

**Link to Country Partnership Strategy/Regional Cooperation Strategy:**
The proposed Project is consistent with the ADB Country Partnership Strategy for the PRC which has identified water supply and sanitation as one of the priority sectors. It also emphasizes environmental sustainability as one of its key themes. Further, the proposed Project is consistent with ADB’s water policy3 and will help the PRC achieve Millennium Development Goal (MDG) 7, target 10. It also supports the PRC’s 3Rs (reduce, reuse, recycle) initiative.

**Impact:**
The impact will be improved management of surface water sources and sludge treatment in Wuhan municipality. The design and monitoring framework is in Appendix 1.

---

### Outcome:
The outcome of the TA is a project design and feasibility study improved to a level suitable for ADB financing and agreed by the Government and ADB.

### Output, Key Activities, and Time Frame:
The expected outputs of the TA are: (i) an inception report outlining the overall implementation plan of the TA within 1 month of consultant mobilization; (ii) an interim report with a detailed assessment of the proposed Project at the midpoint stage along with key policy and specific project-related issues within 3 months of consultant mobilization; (iii) a draft final report with a detailed assessment of the technical, financial, economic, environmental, social, and institutional aspects of the Project within 5 months of consultant mobilization; (iv) the environmental and social safeguard requirements within 5 months of consultant mobilization; and (v) a final report within 6 months of consultant mobilization.

A TA fact-finding mission was undertaken to firm up agreements on the scope and design of the project preparatory TA (PPTA) and the ensuing loan project, implementation arrangements, and the components to be financed. During implementation of the PPTA, as part of the detailed social and resettlement impact and environmental assessments, extensive stakeholder consultations will be undertaken through workshops, meetings, seminars, focus group discussions, and key informant interviews. The initial poverty and social analysis is in Appendix 2.

### Potential Issues and Risks:
The Project is expected to have a significant positive environmental impact. Social and environmental aspects of the Project will be thoroughly assessed during PPTA implementation.

### Expected Year of Ensuing Loan/Grant:
2010

### Expected Amount of Ensuing Loan/Grant:
$100 million

### Expected Benefits from the Project:
The ensuing Project is expected to benefit more than 3 million urban residents of Wuhan whose living conditions and public health standards will improve as a result of (i) reduced pollution of the lakes and rivers in Wuhan, (ii) protection from flooding and elimination of hazards associated with poor drainage, and (iii) increasing the efficiency and management capacity of the implementing agency. Project benefits will be assessed in detail during implementation of the PPTA.

### Implementation Arrangements

- **Proposed executing/implementing agency:**
  - Executing Agency: Wuhan Municipal Government
  - Implementing Agency: Wuhan Municipal Government Construction Foundation Management Office

- **Institutional/organizational assessment on the executing/implementing agency previously conducted:**
  - [ ] Yes
  - [ ] No
  
  The Wuhan project management office (PMO) with 30 full time staff has significant experience in implementing ADB and World Bank projects. Capacity of the executing and implementing agencies was undertaken for the two ongoing projects. This will be the third ADB project that the Wuhan PMO is preparing.

- **Nature/extent of government/beneficiary involvement in identifying or conceptualizing the assistance:**
  
  During implementation of the ongoing Wuhan Wastewater and Stormwater Management Project, the WMG and Wuhan PMO consulted extensively with the beneficiaries, village associations, the Ministry of Finance, the National Development and Reform Commission, and ADB, and planned the proposed Project which would mainly focus on sludge treatment.
Complementary inputs to be provided by Government and/or other TA providing agencies:
The TA will be implemented over a 6-month period. It is expected to start in mid-February 2009 and be completed by mid-August 2009. Total consultants’ inputs are estimated at 46.5 person-months, 15.5 international and 31 national. The consultants will be engaged through a firm in accordance with ADB’s Guidelines on the Use of Consultants (2007, as amended from time to time). ADB will select and engage consultants on the basis of the quality of the proposal (80%) and the cost (20%) of the services to be provided (the quality- and cost-based selection method) using the full simplified technical proposal procedures. The consultants will have expertise in wastewater treatment, sludge treatment and management, river hydrology and flood control and river improvement, financial and economic analyses, institutional and regulatory development, social analysis, resettlement, and environment. The outline terms of reference for the consultants are in Appendix 3. TA equipment will be procured by the consultants in accordance with ADB’s Procurement Guidelines (2007, as amended from time to time), and will be retained by the executing agency upon completion of the TA.

The consultants will submit to ADB, Hubei Provincial Government (HPG), WMG, and WPMO, in English and in Chinese, the inception, interim, draft final, and final reports; the summary environmental impact assessment report; and an English translation of the Government’s resettlement plan and its summary. The consultants will maintain close working relations with ADB, HPG, WMG, and WPMO, and will regularly discuss progress and findings. Tripartite meetings involving HPG, WMG, WPMO, ADB staff and consultants will be held in Wuhan to provide guidance to the consultants and to review their reports. Study findings on the project objectives and scope, components, cost and financing plan, implementation arrangements, and main issues will be presented in three workshops.

The total cost of the TA is estimated at $900,000 equivalent. The Government has requested ADB to finance $700,000 equivalent. The TA will be financed on a grant basis by ADB’s TA funding program. The Government has agreed to provide the balance of $200,000 in kind to cover counterpart staff, office space, furniture, administrative support services, and local transport and logistics. Details of the cost estimates and financing plan are in Appendix 4.

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB Financing</td>
<td>700,000</td>
</tr>
<tr>
<td>Government Financing</td>
<td>200,000</td>
</tr>
<tr>
<td>Other Financing</td>
<td></td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>900,000</td>
</tr>
</tbody>
</table>

Source: Asian Development Bank estimates.

13. JSF Amount Requested
Not Applicable

Elements that Justify JSF Financing:
- Coordination with local Japanese Embassy or any other embassy when external funding is involved
  Name of the staff of the local Japanese Embassy / external partner embassy whom you have briefed:
  Date of the discussion:
  Results of the discussion:

14. Monitoring and Evaluation
The TA will be monitored and evaluated through at least three ADB review missions and workshops at the inception, interim, and draft final report stages. Lessons learned from the ongoing Wuhan Wastewater Management Project, the WWSM Project, and other relevant ADB projects will be assessed and incorporated into the design of the proposed Project.
## PRELIMINARY DESIGN AND MONITORING FRAMEWORK

<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets/Indicators</th>
<th>Data Sources/Reporting Mechanism</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
<td>Improved management of surface water sources and sludge treatment in Wuhan municipality</td>
<td>Municipal sludge treatment rate and disposal significantly improved from ___% in 2008 to ___% in 2015&lt;br&gt;Ecological environment of local rivers and canals improved through river water replenishment by 2015</td>
<td>Municipal sludge disposal records&lt;br&gt;Wastewater effluent quality monitoring data</td>
</tr>
<tr>
<td>Outcome</td>
<td>Project design and feasibility study improved to a level suitable for ADB financing and agreed by the Government and ADB</td>
<td>Project design is agreed upon by Government and ADB and represents an investment project that is suitable for ADB financing&lt;br&gt;MOU is signed by the Government and ADB during the Appraisal Mission&lt;br&gt;The loan is approved and signed</td>
<td>PPTA report and RRP&lt;br&gt;MOU of loan Appraisal Mission&lt;br&gt;Loan documents</td>
</tr>
<tr>
<td>Outputs</td>
<td>1. Analysis of Yangtze River Basin Water Pollution Prevention and Control Plan, Wuhan urban development master plans, and policies and overall justification of the Project&lt;br&gt;2. Technical peer review of</td>
<td>Sector analysis is completed&lt;br&gt;Technical review and redesign are</td>
<td>Inception report and first tripartite review meeting (2nd month)&lt;br&gt;MTR (3rd month)&lt;br&gt;MTR (3rd month)</td>
</tr>
</tbody>
</table>

1 Indicators will be specified following assessment during PPTA implementation.
<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets/Indicators</th>
<th>Data Sources/Reporting Mechanism</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>subproject selection, design, costs, etc. Subprojects revised and refined as necessary</td>
<td>completed. Least-cost analysis is completed. FSRs are finalized and approved</td>
<td>Second tripartite review meeting (5th month)</td>
<td>translated and available early in the PPTA</td>
</tr>
<tr>
<td>3. Analysis of financing needs, financial management, and institutional capacities in the WMG</td>
<td>Financial management assessment, financial sustainability assessment, and institutional assessment are completed</td>
<td>DFR (5th month)</td>
<td>• Required data is made available and social surveys are successfully conducted</td>
</tr>
<tr>
<td>4. Assessment of social and economic impacts of subprojects on beneficiaries, affected persons, poor, and vulnerable persons</td>
<td>Household surveys and other social impact analyses are completed</td>
<td>MTR (3rd month)</td>
<td></td>
</tr>
<tr>
<td>5. Assessment of involuntary resettlement impacts and preparation of RP</td>
<td>Surveys in resettlement areas are completed (4th month)</td>
<td>Second tripartite review meeting (5th month)</td>
<td></td>
</tr>
<tr>
<td>6. EIAs, SEIA, and EMP</td>
<td>Draft SEIA and EMP are submitted for review (4th month)</td>
<td>DFR (5th month)</td>
<td></td>
</tr>
<tr>
<td>7. Institutional capacity building plan and corporate development plan</td>
<td>HPG and WMG agree to include the capacity building component in the project design and to improve corporate governance in relevant agencies</td>
<td>Capacity building plan documented in the DFR</td>
<td></td>
</tr>
<tr>
<td>8. Participatory planning process developed and implemented</td>
<td>Stakeholder workshops are conducted at inception, midterm, and final tripartite meetings</td>
<td>Stakeholders’ workshops completed as planned</td>
<td></td>
</tr>
<tr>
<td>9. Investment project proposal for ADB financing</td>
<td>Participatory methods are used in environmental, social, and resettlement work</td>
<td>Survey findings, public meetings, and other participatory methods documented in the DFR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete financing plan is in place</td>
<td>DFR documentation of project costs and financing plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Terms, conditions, and covenants of the ADB loan are agreed upon. Draft RRP is submitted as part of the final report submitted to ADB (6th month)</td>
<td>Draft RRP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final report approved by ADB, HPG, and WMG</td>
<td></td>
</tr>
</tbody>
</table>
### Activities with Milestones

1. **Inception**
   1.1 Inception report completed (month 1)
   1.2 Urban sector review completed (month 2)
   1.3 First tripartite meeting for the inception report and first stakeholder workshop (month 1)

2. **Interim**
   2.1 Assessment of subprojects in terms of their technical, financial, and economic performance and sustainability (month 2–4)
   2.2 Analysis of the subprojects for environment impact, poverty reduction, social impact, and involuntary resettlement (month 2–4)
   2.3 Estimation of detailed costs and financing plan and institutional arrangements for different subproject/policy options (month 2–4)
   2.4 Development of the project design and monitoring framework, and monitoring and evaluation system for the project (month 3)
   2.5 Development of the capacity building component and corporate development plan (month 4)
   2.6 Conduct of the stakeholder workshop and second tripartite and review meeting (month 4)

3. **Final**
   3.1 Fine-tuning of the technical, financial, economic, environmental, and social assessments based on tripartite discussions (month 5)
   3.2 Conduct of the final stakeholder workshop (month 5)
   3.3 DFR and third tripartite meeting (month 5)
   3.4 Final report (month 6)

### Inputs

| International consultants: | 15.5 person-months |
| National consultants:      | 31 person-months   |
| **ADB**: $700,000          |                   |
| **Government**: $200,000   |                   |

I. POVERTY ISSUES

A. Linkages to the National Poverty Reduction Strategy and Country Partnership Strategy

1. Based on the country poverty assessment, the country partnership strategy and the sector analysis describe how the project would directly or indirectly contribute to poverty reduction and how it is linked to the poverty reduction strategy of the partner country.

The Wuhan Urban Environmental Improvement Project will improve the urban environment of Wuhan municipality by properly treating and disposing sludge from wastewater treatment plants, and by rehabilitating lakes and channels in two newly developed areas, enhancing the quality of life and health conditions of 8.5 million urban residents. The proposed Project will contribute to poverty reduction through improved quality of life by reducing the incidence of waterborne diseases and flood risk in urban Wuhan, providing employment opportunities during the construction and operation of project facilities, and facilitating economic development.

B. Targeting Classification

1. Select the targeting classification of the project:

- [ ] General Intervention
- [ ] Individual or Household (TI-H)
- [ ] Geographic (TI-G)
- [x] Non-Income MDGs (TI-M1, M2, etc.)

2. Explain the basis for the targeting classification: The Project will support the achievement of the Millennium Development Goal (MDG) for environmental sustainability (MDG 7), to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 (MDG target 10).

C. Poverty Analysis

1. If the project is classified as TI-H, or if it is policy-based, what type of poverty impact analysis is needed?

A poverty and social analysis for the Project will be carried out during implementation of the technical assistance (TA) to summarize the causes of poverty, identify the poor in the project areas, quantify how the Project will help reduce poverty, and incorporate other social measures into the Project. The social dimensions will address the following issues: assessment of the demands and needs of the targeted population, gender analysis, affordability, core labor standards, social risks, and social safeguards. Poverty analysis will be carried out to develop a pro-poor design and quantify how the Project will help reduce poverty, and incorporate other social dimensions within the scope of project implementation. The poverty and social analysis will be conducted in accordance with the Asian Development Bank’s (ADB’s) *Handbook on Poverty and Social Analysis* (2001).

2. What resources are allocated in the PPTA/due diligence?

The PPTA provides for 3 person-months of international and 5 person-months of national consulting inputs for the social and poverty analysis and resettlement assessment.

3. If GI, is there any opportunity for pro-poor design (e.g., social inclusion subcomponents, cross subsidy, pro-poor governance, and pro-poor growth)?

II. SOCIAL DEVELOPMENT ISSUES

A. Initial Social Analysis

Based on existing information:

1. Who are the potential primary beneficiaries of the project? How do the poor and the socially excluded benefit from the project?

Direct beneficiaries living within the project service areas number about 3 million. Direct beneficiaries include about 5% poor persons (those earning less than the official poverty line of CNY210 per capita per month). The initial poverty and social analysis identified that Wuhan’s poor, defined as those living at or only just above the poverty line are more than 98% Han Chinese and have an average age of 46. Most are retired, casual laborers, own their own business, or unemployed.
2. What are the potential needs of beneficiaries in relation to the proposed project?

Improved wastewater management, construction of the sludge treatment plant, and rehabilitation of the lakes and rivers in Wuhan will improve the quality of life of poor and vulnerable people by reducing their risk of waterborne diseases and associated expenditures on medical treatment. The number of school days and workdays lost because of flooding and sickness will be reduced. The Project will thus be a key intervention in the poverty cycle.

3. What are the potential constraints in accessing the proposed benefits and services, and how will the project address them?

The potential constraints or risks include failure of the Wuhan Municipal Government to (i) implement institutional strengthening for effective project management, (ii) implement minimum living standard schemes and lifeline tariffs for the poor, and (iii) meet the equity funding requirements to implement the Project. The proposed Project will address the above constraints by (i) obtaining assurance from the Hubei Provincial Government and Wuhan Municipal Government on the financial and management autonomy of the IA and institutional strengthening of the IA, (ii) periodic review of the tariffs following the national guidelines, and (iii) provision of counterpart funding.

B. Consultation and Participation

1. Indicate the potential initial stakeholders.

A stakeholder analysis and public consultation will be an integral part of the poverty, social, environmental, and resettlement assessments. The main stakeholders include national, provincial, municipal governments; drainage company, water bureau, water conservancy bureau; and project beneficiaries including utility service customers, residents near impacted lakes/channels, and neighborhoods.

2. What type of consultation and participation (C&P) is required during the PPTA or project processing (e.g., workshops, community mobilization, involvement of nongovernment organizations and community-based organizations, etc.)?

Three stakeholder workshops will be conducted during TA implementation. Findings from the household survey will be used as inputs. Public consultation will be carried out by the Executing Agency, local government officials, design institutes, and others during preparation of the feasibility study, poverty and social assessment, environmental impact assessment, and resettlement plan.

3. What level of participation is envisaged for project design?

Information sharing ☐ Consultation ☑ Collaborative decision making ☐ Empowerment

4. Will a C&P plan be prepared? ☐ Yes ☑ No Please explain. Only if required a separate C & P will be prepared.

C. Gender and Development

1. What are the key gender issues in the sector/subsector that are likely to be relevant to this project/program?

ADB Policy on Gender and Development (1998) will be followed by the Executing Agency during project preparation and implementation. Gender aspects will be incorporated into the design and implementation of some project components, particularly in relation to employment opportunities and the resettlement plan. The poverty and social assessment during project design will identify strategies, mechanisms, and components for addressing gender concerns. It is envisaged that improvements in the lakes and river side areas would greatly benefit women, providing safe, clean, well-lit areas for them to walk and meet friends. It is also expected that older women would use the improved urban areas in their neighborhood for exercise and recreation.

2. Does the proposed project/program have the potential to promote gender equality and/or women’s empowerment by improving women’s access to and use of opportunities, services, resources, assets, and participation in decision making?

Yes ☐ No ☑ Please explain.

The Project is not specifically targeting gender issues and therefore preparation of a gender action plan is not envisaged.

3. Could the proposed project have an adverse impact on women and/or girls or to widen gender inequality?

Yes ☐ No ☑ Please explain.

The proposed Project will include an assurance that men and women will have equal employment opportunity in the operation and maintenance of the project infrastructure, and so it is not expected to widen gender inequality.
### III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS

<table>
<thead>
<tr>
<th>Issue</th>
<th>Nature of Social Issue</th>
<th>Significant/Limited/ No Impact/Not Known</th>
<th>Plan or Other Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involuntary Resettlement</td>
<td>Involuntary resettlement category A.</td>
<td>Significant</td>
<td>XX Full Plan</td>
</tr>
<tr>
<td></td>
<td>The Project is expected to require significant permanent and temporary land acquisition from the construction of the sludge treatment plant and the lakes and river improvement components. The resettlement plans will be prepared following the PRC Land Administration Law and ADB’s <em>Involuntary Resettlement Policy</em> (1995). The resettlement plan will be disclosed to the public and affected people in accordance with the ADB <em>Public Communications Policy</em> (2005).</td>
<td></td>
<td>XX Short Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>XX Resettlement Framework</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Uncertain</td>
</tr>
<tr>
<td>Indigenous Peoples</td>
<td>Indigenous peoples category C.</td>
<td>No impact</td>
<td>Plan</td>
</tr>
<tr>
<td></td>
<td>The population in Wuhan is over 99% Han Chinese. The Project is assigned category C, to be confirmed during TA implementation</td>
<td></td>
<td>Other Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indigenous Peoples Framework</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Uncertain</td>
</tr>
<tr>
<td>Labor</td>
<td>Employment Opportunities</td>
<td>None</td>
<td>Plan</td>
</tr>
<tr>
<td></td>
<td>Labor Retrenchment</td>
<td></td>
<td>Other Action</td>
</tr>
<tr>
<td></td>
<td>Core Labor Standards</td>
<td></td>
<td>No Action</td>
</tr>
<tr>
<td></td>
<td>The Project will be designed to generate employment during its implementation and operating phases.</td>
<td></td>
<td>Uncertain</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordability</td>
<td>The sludge treatment and river improvement components will be a government responsibility and is not directly chargeable to the population. Economic and financial analysis will be conducted to assess affordability issues for all the components during TA implementation.</td>
<td>Not significant</td>
<td>Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Uncertain</td>
</tr>
<tr>
<td>Other Risks and/or</td>
<td>No other social risks are anticipated as a result of the Project.</td>
<td>None</td>
<td>Plan</td>
</tr>
<tr>
<td>Vulnerabilities</td>
<td></td>
<td></td>
<td>Other Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Uncertain</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Trafficking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (conflict, political instability, etc.), please specify</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### IV. PPTA/DUE DILIGENCE RESOURCE REQUIREMENT

1. Do the TOR for the PPTA (or other due diligence) include poverty, social and gender analysis and the relevant specialist(s)?
   - Yes   
   - No   
   If no, please explain why.

2. Are resources (consultants, survey budget, and workshop) allocated for conducting poverty, social and/or gender analysis, and C&P during the PPTA/due diligence?
   - Yes   
   - No   
   If no, please explain why.
OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. The assignment is to prepare an investment project suitable for Asian Development Bank (ADB) financing. The Project will help Wuhan City in Hubei Province improve its urban environment and achieve long-term sustainable development through investments in sludge treatment and improvement in the water quality of the lakes and rivers.

2. The final output of the consultants is a report and associated appendixes, prepared in accordance with the policies and guidelines of ADB, which will serve as the basis for formulating an investment project to improve the urban infrastructure and environment in Wuhan City. The terms of reference for the consultants are described in the following sections.

B. Overview of Requirements

1. **Review of Medium- and Long-Term Plans**

3. The consultants will review and analyze the medium- and long-term sector plans for water supply and wastewater, stormwater management, solid waste management, sludge treatment, and lakes and river systems rehabilitation within Wuhan municipality.

4. The consultants should also review the progress reports of the ongoing Loan 1996-PRC: Wuhan Wastewater Management Project and Loan 2240-PRC: Wuhan Wastewater and Stormwater Management Project.

5. On the basis of the review of these plans and background materials, the consultants will carry out a situation analysis of the urban environment improvement program of Wuhan City to ensure that least-cost options have been considered in selecting the project components. The situation analysis will also serve as the basis for recommending a strategic policy and program improvements for Wuhan City to achieve sustainable development through the implementation of the various sector plans. In evaluating the selected project components in the context of these plans, the consultants will undertake technical, environmental, social, financial, economic, and institutional studies following relevant ADB guidelines. The consultants should identify other externally assisted projects dealing with public infrastructure or the environment and those that have been proposed for funding by other external agencies, with the view of promoting coordination with agencies such as the World Bank.

2. **Policy Discussion and Related Activities**

6. The People’s Republic of China (PRC) and ADB have closely collaborated on several policy-oriented studies and investment projects aimed at promoting sustainable urban development and environmental protection. This partnership has grown substantially and is expected to continue as urbanization accelerates in the PRC. To strengthen the policy content of the Project, the consultants will prepare notes on policy issues such as (i) wastewater management and sludge treatment and disposal, cost recovery, and tariff reforms; (ii) corporate governance and enterprise reform; (iii) integrated water resources management and water conservation; (iv) environmental regulatory enforcement and monitoring; (v) private sector participation; and (vi) urban poverty reduction and social protection. The consultants will review
material prepared under related technical assistance (TA) projects. The consultants will closely coordinate and cooperate with the consulting team implementing the ADB advisory TA to the PRC for the Urban Wastewater Reuse and Sludge Utilization Policy Study. The Executing Agency (EA) for this TA is the Ministry of Construction. The advisory TA will strengthen the wastewater reuse and sewage sludge utilization management system in the PRC and make it more effective and efficient. The outcome of this advisory TA is the adoption of a set of policies and tariff guidelines to promote the reuse of wastewater, and technical and market-based approaches to encourage sustainable sludge disposal, including material and or energy recovery, by municipalities in the PRC.

3. Review of Domestic Feasibility Studies

7. The consultants will review the domestic feasibility study report (FSR), environmental impact assessments (EIAs), resettlement plans (RPs) for the components, and other related reports used to substantiate the analyses of the FSR.

8. The findings of the domestic FSR will be confirmed, as required, on the basis of the consultants’ review involving the following points:

   (i) Review of the design, including cost estimates and civil works packages, and project implementation schedule.

   (ii) Assessment to determine whether identified component alternatives adequately represent possible options including, as appropriate, alternative facility routes and sites, alternative levels of capacity development, alternative process technologies, alternative facility designs, alternative management policies and practices, etc.

   (iii) Confirmation that the proposed components (a) are a defensible least-cost option, (b) are compliant with environmental and social requirements, and (c) will meet specified goals and objectives.

   (iv) Based on the review, the consultants will provide guidance and support to responsible specialists in finalizing the FSR in line with ADB’s policies and guidelines. Where details are lacking or analyses are inadequate, the consultants will collaborate with the reports’ authors to make the necessary changes so as to satisfy ADB’s requirements for appraising projects. In this collaboration, the domestic authors will assume primary responsibility for providing missing information, including information describing project alternatives for the least-cost analysis. The domestic authors will also assume primary responsibility for revisions and new analyses.

   (v) In conjunction with the review of the FSR, the consultants will review and comment on component EIA reports and land acquisition and resettlement plans and assist the domestic authors in preparing EIAs and RPs that comply with ADB guidelines and requirements. The domestic authors will assume primary responsibility for revisions and new analyses for these documents.

---

4. Design and Monitoring Framework

9. The consultants will develop a project design and monitoring framework (DMF) in consultation with the Wuhan Municipal Government (WMG), the EA, the Wuhan project management office (PMO), the implementing agencies (IAs), and ADB. Relevant ADB staff will provide a sample framework that will include performance targets or measurable benefits for the monitoring and evaluation analysis. The consultants will work closely with the Hubei Provincial Government (HPG), WMG, Wuhan PMO, and IAs where the components are located, in collecting existing information to serve as baseline indicators including data on public health, such as incidence of waterborne and respiratory diseases that can be attributed to environmental pollution.

5. Reporting

10. The consultants will submit (i) an inception report within 1 month from the start of the TA, which will describe work completed to date as well as methodologies to be used in the project preparatory TA analysis; (ii) an interim report within 3 months from the start of the TA, which will describe work completed to date, identify key issues to be resolved, and provide a preliminary analysis of the main areas for analysis (e.g., technical peer review, environment, costing, finance, economics, social, etc.); (iii) a draft final report within 5 months from the start of the TA; and (iv) a final report, 1 month after receiving comments on the draft final report from the Government and ADB. All reports should address all aspects of the terms of reference, as outlined in this section and Section C, to the level of detail appropriate for the given stage of the TA. Each of the four reports should provide a progressively refined DMF.

11. The consultants will submit to ADB, HPG, WMG, and Wuhan PMO, in English and in Chinese, the inception, interim, draft final, and final reports, the summary EIA (SEIA) report, and an English translation of the Government’s resettlement plan and its summary. Study findings will be presented in workshops.

C. Detailed Tasks by Area of Expertise

1. Wastewater Management and Sludge Treatment Specialists/Team Leader
   (international specialist, 5.0 person-months; national specialist, 6.5 person-months)

12. The specialist/team leader will undertake the following tasks:

   (i) Prepare a detailed work plan and formulate a DMF for the proposed Project that outlines the impact, outcomes, outputs, and inputs or activities. Develop baseline urban infrastructure and services provision, environmental, and social indicators (including health and other relevant data) necessary to effectively monitor project performance.
   (ii) Review the detailed water quality model prepared under the ongoing Loan 1996-PRC: Wuhan Wastewater Management Project and recommend how the proposed Project could further contribute to strengthening this model.
   (iii) Review and assess all relevant government urban and sector development plans, environmental policies, and the FSR.
   (iv) Oversee the detailed peer review of the FSR.
   (v) Prepare the project implementation schedule and detailed implementation arrangements.
(vi) Ensure that crosscutting concerns (resettlement, environment, poverty, social issues, gender, private sector development, and anticorruption) are rigorously addressed in the Project.

(vii) Liaise and coordinate with the EA, steering committee, and ADB on project-related matters, such as reporting, TA administration, and counterpart funding.

(viii) Ensure the timely preparation of the inception, interim, draft final, and final TA reports and their submission to the Government and ADB. Analyze the current situation of wastewater management, solid waste management, and sludge treatment including its implications and impact on the components.

(ix) Conduct a peer review of domestic FSR dealing with wastewater management and sludge treatment. The scope of the peer review with respect to the components includes alternative treatment plant designs and sites, alternative levels of capacity development, and alternative designs for the components. Confirm the least-cost solution for each component.

(x) Review component costs considering the costing approach, phasing of project costs, and where applicable, unit costs and related physical quantities; prepare a listing of contract packages by type and budget value.

(xi) Review and evaluate projections of water sales and production, and wastewater generation (volume and strength). Comment on the reasonableness and suitability of projections for planning purposes and develop alternative projections as appropriate for the TA analysis. Consider industrial effluents and pretreatment requirements in assessing wastewater strength.

(xii) Evaluate arrangements and plans for managing, operating, and maintaining the components.

(xiii) Review the experience and lessons learned from past ADB and other projects with reference to the lessons compiled in the Operations Evaluation Department’s evaluation information system at the following website: http://evis.adb.org/oed001p.nsf/index?OpenForm.

(xiv) Review and evaluate Wuhan’s current municipal solid waste management status and its future master planning.

(xv) Identify feasible sludge management alternatives through exploring a wide range of alternatives which is in line with the 3R principles (reduce, reuse, and recycle) under WMG’s master plan;

(xvi) Review, confirm, or advise on changes to the options for cost-effective sludge treatment and disposal alternatives.

(xvii) Evaluate the potential for incorporating clean development mechanism measures in the context of land fill management.

(xviii) Review and make appropriate recommendations on the method of field investigation on sludge quality and quantity, and the extent of dredging requirements.

(xix) Formulate work plans for dredging, bank stabilization, and erosion control, pumping station control center, and wetland construction.

(xx) Identify the current status of branch sewer connections and determine the targets of sewer construction. Review and confirm population equivalents and growth rates up to 2020, and per capita generation rates to determine a planning horizon. Review and evaluate the standards or targets for surface water quality and effluent discharge.

(xxi) Prepare the detailed procurement plan for the Project following ADB’s Procurement Guidelines (2007, as amended from time to time).

(xxii) Based on detailed engineering review, provide recommendations to optimize the design of the components and the Project to reduce land acquisition and
Review the sludge management strategy prepared under the ongoing Wuhan Wastewater and Stormwater Management Project and assess if proposed Project adheres to the strategy. Assess and apply the water quality model developed under the ongoing Wuhan Wastewater Management Project to optimize the two lake environment improvement components' technical issues under the proposed Project.

2. **Environmental Analysis Specialists** (international, 1.5 person-months; national, 5 person-months)

13. The specialists will undertake the following tasks:

(i) Conduct rapid environmental assessment(s) to propose or justify the Project’s environmental categorization, and list environmental issues and approaches to be mitigated or addressed in the EIA analysis.

(ii) Undertake all aspects of the environmental work in coordination with the work of other technical experts.

(iii) Identify the cumulative project environmental benefits.

(iv) Summarize resettlement issues and key social economic conditions for the project areas and compare with PRC-wide conditions.

(v) Review SEIAs, EMPs, and environmental monitoring reports for the ongoing Wuhan Wastewater Management Project and the Wuhan Wastewater and Stormwater Management Project, and the water quality model prepared under the Wuhan Wastewater Management Project. Assess the progress and status in implementing the incremental environmental management recommendations under the two ongoing Wuhan projects.

(vi) Review EIAs of each component, suggest improvements, and assist the IA to revise the EIAs and prepare an SEIA, in accordance with ADB’s *Environmental Guidelines* (2003) and *Environment Policy* (2002).

(vii) Assist the IA to carry out the necessary EIA and SEIA investigations and analyses.

(viii) Assist the IA to revise EIA and SEIA reports in response to comments from ADB, the environmental protection bureaus at all levels, and other project preparatory TA stakeholders.

(ix) Assist the EA and IA to plan and implement two rounds of stakeholder participation and consultation and other public involvement activities deemed appropriate during EIA and SEIA preparation. Ensure that appropriate methods that promote broad-based acceptance of the Project are used. Ensure full disclosure and documentation of methods and results in the EIA and SEIA reports as required by ADB.

(x) Help the IA to develop environmental management plans at the project and component levels in conformity with ADB’s guidelines. The environmental management plans must address the costs of environmental monitoring and mitigation, responsibilities of stakeholders, and institutional strengthening and capacity building.

(xi) Identify risks and recommend mitigating measures, where appropriate, and provide inputs in the write-up for the EIAs and relevant sections of the FSR.

(xii) Provide the necessary environment analyses and justification inputs for the economic and social development analyses of each component.
(xiii) Assist in preparing the DMF, including establishing environmental baseline indicators and performance targets such as the quality of water and air.
(xiv) Prepare policy notes for the discussion of urban air and water quality, water resources management, and sludge management.
(xv) Prepare the terms of reference and budgetary requirements for independent environment monitoring and evaluation during project implementation.

3. **Financial Specialist/Least-Cost Analyst** (international, 3.0 person-months; national, 6.0 person-months)

14. The specialists will undertake the following tasks:

(i) Evaluate the historical financial performance of the IAs. The analysis will include calculation of standard financial performance indicators, cost recovery, borrowing capacity, billing and collection, accounts receivable, reliance on subsidies, etc.
(ii) Conduct a financial management assessment of all entities involved in project implementation and operation. This assessment will follow ADB's *Guidelines for Financial Management and Analysis of Projects* (2005).
(iii) Complete a pro forma financial analysis of the components as appropriate. The analysis will be based on standard accounting relationships, will cover a period of at least 20 years of operations, and will account for all costs and revenues including investments and financing costs and revenues. Make clear and explicit assumptions related to costs, revenues, payables, receivables, financing, capital plans, etc. On the basis of this analysis,
   (a) prepare pro forma financial statements in nominal terms (income and expenses, balance sheet, cash flow) for entities that will operate revenue-generating components;
   (b) forecast standard financial performance indicators for entities that will operate revenue-generating components;
   (c) estimate the financial internal rate of return and perform sensitivity and risk analysis including switching value calculation and calculation of the real weighted average cost of capital for each revenue-generating component; and
   (d) estimate a time-bound profile of future tariff adjustments leading to establishment of full financial cost tariffs.
(iv) Assess the financial sustainability of the Project.
(v) Review existing levels, structures, and policies for tariffs; and charges for water, wastewater, and solid waste. Determine their adequacy in terms of financial cost recovery, and recommend reforms taking into account state and lower level regulations, full financial cost recovery over the life of the Project, cross subsidies, and affordability.
(vi) Assist in the economic review of all component tariffs and charges.
(vii) Assist in preparing a corporate development plan and the associated training program for the IAs in line with ADB’s *Guidelines for Financial Management and Analysis of Projects*. This task includes identifying areas for capacity development and training with respect to accounting, financial management, and project management.
(viii) Assist in reviewing component and subcomponent costs.
(ix) Analyze and summarize project costs, using required ADB reporting formats and incorporating ADB’s requirements for physical and price contingencies and
financial charges during construction; and prepare a financing plan and project cost estimates.

(x) Assist in preparing the detailed procurement plan for the Project.

(xi) Prepare the least-cost analysis for the Project, and recommend in consultation with the team leader how the project design can be optimized to reduce land acquisition and resettlement requirements.

(xii) Assist in preparing the DMF.

(xiii) Assess and design the funds flow mechanism and identify appropriate ADB disbursement procedures, based on the project needs and the capacity of the EA/IA to manage funds flow and disbursement.

4. Economic Analysis Specialists (international, 2.5 person-months; national, 3.5 person-months)

15. The specialists will undertake the following tasks:

(i) Conduct an economic analysis of the Project in accordance with ADB’s Guidelines for the Economic Analysis of Projects (1997) and other relevant guidelines and technical notes.

(ii) Review government goals, objectives, policies, and plans relating to general social and economic development and to development within each component. On the basis of the review, evaluate the social and economic justification for the Project and the components. This evaluation will include an assessment of (a) public attitudes and opinions with respect to the components, and (b) public priorities with respect to the provision and improvement of public services.

(iii) Review and evaluate existing levels, structures, and policies for tariffs and charges for wastewater, solid waste, and sludge treatment from the perspective of their economic performance.

(iv) Evaluate, as appropriate, and in consultation with the TA social development specialist, the beneficiaries’ willingness to pay for the component benefits.

(v) Forecast the demand for component services, taking into account, as appropriate, the response of the demand to population and economic growth, changes in the efficiency of service delivery, and changes in tariffs and charges. Evaluation of the demand will be completed in consultation with TA sector and financial specialists.

(vi) Identify all quantifiable and nonquantifiable economic benefits and costs of each component based on with- and without-component scenarios. Quantify, as appropriate and feasible, incremental and non-incremental economic benefits and costs. This task will include an assessment of the impacts on health.


(viii) Assist the TA sector specialists in identifying and assessing component alternatives, and complete the economic least-cost calculations to determine the net present values of costs and, as appropriate, the average incremental economic costs for component alternatives.

(ix) Assist the TA financial specialist and the authors of domestic FSR in preparing project cost reports to ensure that financial cost estimates will support the
estimation of economic costs based on standard conversion factors and shadow prices.

(x) Estimate the economic internal rate of return of the Project and perform sensitivity and risk analysis including calculation of switching values.

(xi) Assess the financial sustainability of the Project, taking into account cost recovery options, the fiscal capacity of governments responsible for debt servicing of nonrevenue-generating components, the financial performance of entities responsible for debt servicing of revenue-generating components, and the willingness and ability of project beneficiaries to pay for the components.

(xii) Assess and justify, from an economic perspective, the proposed component subsidies.

(xiii) Evaluate opportunities for private sector delivery of component services. Assess and justify, from an economic perspective, the delivery of component services by the Government rather than by the private sector.

(xiv) Review and assess the feasibility of market-based policy instruments for controlling pollution.

5. Social Development and Resettlement Specialists (international, 2 person-months; national, 5 person-months)

The specialists will undertake the following tasks:

(i) Prepare a community participation and public awareness action plan on wastewater management, sludge treatment, and lake and river improvement. Assist Wuhan PMO to establish consultation and participatory processes that will be used during project preparation and will continue throughout project design, construction, and operation. The participatory processes will include an assessment of stakeholders, stakeholder consultations, and formulation of recommendations to incorporate stakeholder needs in the Project.

(ii) Undertake a socioeconomic analysis of the project area and beneficiaries to assess household and business characteristics of interest, public perceptions of the environment and the proposed components, estimates of willingness to pay, socioeconomic and health benefits, etc. The analysis is to include a study of published statistics; surveys of beneficiaries by component, gender, and income group; and other methods as appropriate.

(iii) Conduct an assessment of poverty in accordance with ADB’s *Guidelines for Incorporation of Social Dimensions in ADB Operations* (1997) and ADB’s *Handbook on Poverty and Social Analysis* (2001). The assessment will include an estimation of the number of project beneficiaries with income below the official poverty line, identification and characterization of vulnerable groups (e.g., ethnic minorities, single-parent households, illegal residents, disabled persons, women and children, etc.); assessment of project impacts on the poor and vulnerable groups; and an affordability analysis.

(iv) Using the outcome of the socioeconomic and poverty analysis, assist the project economist to carry out a distribution analysis of project benefits and costs.

(v) Using as basis the poverty assessment, prepare a poverty reduction and social development strategy in accordance with ADB’s *Handbook on Poverty and Social Analysis*. The strategy should recommend measures to mitigate adverse impacts and enhance beneficial impacts on the poor and vulnerable groups.

(vi) Using as basis the characterization of women as a vulnerable group, prepare a gender action/intervention plan.
(vii) Identify ethnic minorities in the project areas and examine the nature of their vulnerabilities.
(viii) Analyze the ethnic minorities’ current access to social and economic services and institutions.
(ix) Identify key constraints including inter- and intra-ethnic groups’ conflicts in their mobilization.
(x) Provide adequate coverage for investigations and consultations with ethnic minorities, in relation to the detailed assessment, and if needed, prepare an ethnic minority development plan or specific action for ethnic minorities in accordance with ADB’s *Policy on Indigenous Peoples* (1998).
(xi) Collect and analyze health data, including morbidity and mortality rates due to diseases associated with poor water supply and sanitation, and help the project economist prepare a health impact/benefit analysis of the Project.
(xii) Analyze the project impacts with respect to Millennium Development Goal 7, targets 10 and 11.
(xiii) Develop a project performance monitoring system to estimate benefits and impacts, including the relevant benchmark for health indicators.
(xiv) Assess the policy and legal framework for resettlement, identify any gaps in relation to ADB policies, and propose measures to bridge the gap between ADB and PRC policies.
(xv) Review the draft RPs for each component to ensure compliance with ADB’s *Involuntary Resettlement Policy* (1995) and requirements of the *Operations Manual/F2 on Involuntary Resettlement* (2003), ADB’s *Handbook on Resettlement* (1998) and *Policy on Indigenous Peoples*. The RPs should address all project components and must
(a) include village-level impact assessment of project-affected people, land, assets, and occupations;
(b) identify potential impoverishment risks\(^2\) and vulnerable groups, including those severely affected through loss of land, those with low income, and others (e.g., disabled, aged, unemployed, illiterate);
(c) provide special mitigation measures, if required; and
(d) document the extent to which the project design has avoided or minimized land acquisition and displacement of people and businesses.
(xvi) In collaboration with the EA and local government officials, define categories for impact and compensation eligibility of affected people, and prepare an entitlements matrix based on the PRC Land Administration Law, recent policy documents, local government regulations, and ADB’s *Policy on Involuntary Resettlement*. The entitlements matrix will cover compensation and other assistance for all types of impacts.
(xvii) Assess and justify that the compensation standards in the entitlements matrix are designed to achieve full replacement for lost assets, income, and livelihood.
(xviii) Prepare a consultation plan for the EA and assist the EA and local government officials to consult with affected communities, local leaders, proponents, and stakeholders who may oppose the Project. Assess their concerns and consider possible changes in the project design to minimize land acquisition and resettlement effects. The consultation plan should include a format for documenting consultation with affected persons, listing events and summarizing the outcomes and improvements resulting from consultation.

\(^2\) Refer to ADB draft paper on impoverishment risks.
(xix) Assist the EA to prepare a resettlement information booklet\(^3\) containing measurement of losses, detailed asset valuations, entitlements and special provisions, grievance procedures, timing of payments, and displacement schedule. Ensure that Chinese versions of the RP will be distributed to all affected villages and households, all relevant local government offices, and affected village leaders.

(xx) Conduct due diligence for resettlement completed in the past 5 years for closely related projects and associated project components that are not financed by ADB.

(xxi) Review the organizational structure and capacity for resettlement implementation, and recommend improvements and actions required before the start of land acquisition. As required, provide Wuhan PMO and local government officials with training on ADB’s *Involuntary Resettlement Policy* requirements and procedures.

(xxii) Assess and justify that the overall resettlement budget is sufficient to acquire land and implement the RP.

(xxiii) Assist the component areas to prepare a detailed resettlement implementation schedule that is linked to the overall project schedule. A summary of milestones for resettlement supervision should be developed and agreed to with the EA and ADB before the RP is finalized.

(xxiv) Assist Wuhan PMO in revising individual component RPs as required.

(xxv) Using individual component RPs, prepare a summary RP for the Project. The summary RP should be based on preliminary design data. The summary RP should include a plan for continuous internal monitoring and supervision by the EA, and a plan for periodic external monitoring and evaluation by an independent agency, including a minimum of annual updates during resettlement implementation, on completion, and 2 years thereafter. Include a 3- to 5-page executive summary in the summary RP. Using an assessment of the socioeconomic condition of affected persons, prepare livelihood/income restoration programs in consultation with the affected persons.

6. **Institutional Development Specialist** (international, 1.5 person-months; national, 5 person-months\(^4\))

17. The specialists will undertake the following tasks:

(i) Review in detail the capacity building measures that are being implemented through the ongoing Wuhan Wastewater Management Project and the Wuhan Wastewater and Stormwater Management Project. Also, review the capacity building measures being implemented under the ongoing World Bank projects. This review is critical to ensure that the capacity building measures recommended under the proposed Project would strongly complement and not duplicate the earlier and ongoing capacity building efforts.

(ii) Assess the technical and managerial capacity of the IA to implement, operate, maintain, and manage component facilities.

---

\(^3\) ADB has sample formats available.

\(^4\) Of the 5 person-months, 2 person-months of national consultant will be used for assisting Wuhan in strengthening project management through provision of appropriate training on the application of the project management plan developed during PPTA implementation.
(iii) Prepare an institutional capacity-building program for Wuhan PMO and the IA. The capacity-building program may include consulting services, training, etc.

(iv) Assess the organizational structure, staffing, etc., of Wuhan PMO to determine its capacity to implement the Project given that it is implementing the Wuhan I and Wuhan II Projects. Recommend appropriate measures to strengthen the capacity of Wuhan PMO.

(v) Prepare a corporate development plan and associated training program for the relevant IA in line with ADB’s Guidelines for Financial Management and Analysis of Projects.

(vi) Assist in evaluating opportunities for private sector delivery of component services.
# COST ESTIMATES AND FINANCING PLAN
($'000)

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Asian Development Bank Financing</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>700.0</td>
</tr>
<tr>
<td>1. Consultants</td>
<td></td>
</tr>
<tr>
<td>a. Remuneration and Per Diem</td>
<td></td>
</tr>
<tr>
<td>i. International Consultants</td>
<td>327.1</td>
</tr>
<tr>
<td>Number of Person-months</td>
<td>15.5</td>
</tr>
<tr>
<td>ii. Domestic Consultants</td>
<td>136.4</td>
</tr>
<tr>
<td>Number of Person-months</td>
<td>31.0</td>
</tr>
<tr>
<td>b. International and Local Travel</td>
<td>41.0</td>
</tr>
<tr>
<td>c. Reports and Communications</td>
<td>10.0</td>
</tr>
<tr>
<td>2. Equipment and Software&lt;sup&gt;b&lt;/sup&gt;</td>
<td>26.0</td>
</tr>
<tr>
<td>3. Survey</td>
<td>25.0</td>
</tr>
<tr>
<td>4. Translation&lt;sup&gt;c&lt;/sup&gt;</td>
<td>23.0</td>
</tr>
<tr>
<td>5. Workshops and Trainings&lt;sup&gt;d&lt;/sup&gt;</td>
<td>26.0</td>
</tr>
<tr>
<td>6. Representative for Contract Negotiations</td>
<td>5.0</td>
</tr>
<tr>
<td>7. Contingencies</td>
<td>80.5</td>
</tr>
<tr>
<td><strong>Subtotal (A)</strong></td>
<td><strong>700.0</strong></td>
</tr>
<tr>
<td><strong>B. Government Financing</strong></td>
<td></td>
</tr>
<tr>
<td>1. Office Accommodation and Transport</td>
<td>70.0</td>
</tr>
<tr>
<td>2. Remuneration and Per Diem of Counterpart Staff</td>
<td>60.0</td>
</tr>
<tr>
<td>3. Contingencies</td>
<td>70.0</td>
</tr>
<tr>
<td><strong>Subtotal (C)</strong></td>
<td><strong>200.0</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>900.0</strong></td>
</tr>
</tbody>
</table>

<sup>a</sup> Full proposal: 60 days/simplified proposal: 45–35 days. The funding source is the TA Special Funds.

<sup>b</sup> Includes desktop computers, photocopier, facsimile machine, and software.

<sup>c</sup> Translation refers to miscellaneous documents into English.

<sup>d</sup> Includes training workshops.

Source: Asian Development Bank estimates.