1. Project Data

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>P087224</td>
<td>CN-Han River Urban Environment</td>
</tr>
<tr>
<td>Country</td>
<td>Practice Area(Lead)</td>
</tr>
<tr>
<td></td>
<td>Water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L/C/TF Number(s)</th>
<th>Closing Date (Original)</th>
<th>Total Project Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBRD-75170</td>
<td>30-Jun-2014</td>
<td>172,426,340.87</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bank Approval Date</th>
<th>Closing Date (Actual)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>29-Apr-2008</td>
<td>30-Jun-2015</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IBRD/IDA (USD)</th>
<th>Grants (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Commitment</td>
<td>84,000,000.00</td>
</tr>
<tr>
<td>Revised Commitment</td>
<td>69,947,545.35</td>
</tr>
<tr>
<td>Actual</td>
<td>69,947,545.35</td>
</tr>
</tbody>
</table>

**Sector(s)**
Sanitation(59%):Waste Management(37%):Sub National Government (Central Agencies)(4%)

**Theme(s)**
Pollution management and environmental health(50%):Municipal governance and institution building(25%):City-wide Infrastructure and Service Delivery(25%)

**Prepared by**
Ebru Karamete

**Reviewed by**
John R. Eriksson

**ICR Review Coordinator**
Christopher David Nelson

**Group**
IEGSD (Unit 4)

2. Project Objectives and Components

a. Objectives

The project development objective as stated in the Loan Agreement (p. 5) is:
"to assist Hubei Province in reducing wastewater and solid waste pollution in urban areas of selected counties and cities, located primarily in the Han River area, through high priority investments in wastewater collection and treatment systems and solid waste management systems, institutional reforms in and capacity development of municipal utilities, and water pollution control".

The Project Appraisal Document statement of objectives is (p. 3):
"reduce urban pollution generated from wastewater and solid waste through proper collection, treatment and disposal in selected
second-tier cities, mainly located in the Han River area of Hubei”.

This Review uses the Loan Agreement version of the objectives.

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Components

The project had four components:


This component was implemented in seven cities/counties (namely, Hanchuan, Honghu, Shayang, Tianmen, Xiangfan, Xiaochang and Yunmeng) and included seven new wastewater collection systems and five new wastewater treatment plants in all the cities except Honghu and Xiangfan. In April 2014, as part of the restructuring, Tianmen and Xiaochang counties were dropped, as they used their own funds for the investments in order to meet the deadline of the Hubei provincial government.


This component was implemented in seven cities/counties (namely, Danjiangkou, Dawu, Hanchuan, Honghu, Shayang, Xiaochang and Yunmeng) and included the building new sanitary landfills and solid waste collection stations, collection fleets and closures of existing dumps. In April 2014, as part of the restructuring, five leachate treatment facilities were added to the project in four municipalities. In addition, Danjiangkou city and Yunmeng county were dropped as they decided to use other funds to make the investments.

3. Industrial Pollution Control (Appraisal Estimate: US$2.46 million, Actual: US$2.00 million).

The component supported Hubei Province and the project cities that implemented industrial wastewater pollution control programs with their own funds. The activities included (a) provincial level program for installation of on-line monitoring (OLM) data receiving platforms at municipal Environmental Protection Bureaus (EPBs), and installation of OLM facilities under local Environmental Protection Bureau supervision at major pollution sources; and (b) the implementation of specific industrial wastewater pollution control action plans for major polluting enterprises. This component also included the development of the Han River Water Modeling System, with a study on non-point source (NPS) pollution.


This component included: (i) Project Management and Implementation; (ii) Technical Assistance (TA) for design review, advisory services and construction supervision; (iii) Monitoring of Safeguards Implementation and external monitoring of the Environmental Management Plans and Resettlement Action Plans and (iv) Institutional Development and Capacity Building of Wastewater and Solid Waste Management Utilities and Project Cities as well as financial, technical, operational and human resources management.

d. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost: Total project cost at appraisal was estimated at US$ 172.6 million and actual costs were US$ 137.5 million, 80 % of the appraisal estimate. The underspending was mainly due to some reduction in project scope, i.e. four municipalities dropped (ICR p. 4) due to project delays, and these municipalities opted to build these schemes using their own or other funds.

Financing: The IBRD loan of US$ 84.00 million disbursed US$69.95 million and the undisbursed balance of US$14.05 million was cancelled after closing.

Borrower Contribution: At appraisal, the Borrower planned to contribute US$ 88.43 million; the actual contribution was lower, with US$67.33 million. The Borrower contribution was reduced by US$12.8 million during project restructuring in April 2014. The ICR did not provide a reason for approximately 25 percent reduction in Borrower contribution.

Dates: The closing date of the operation was extended in April 2014 for one year to June 30, 2015. This extension was necessary to enable the completion of the activities as there were significant delays due to slow start, some legal covenants had not been fulfilled, as well as staffing issues in the Provincial Project Management Office affecting disbursements, procurement and overall project management and coordination.

Restructuring:

The project went through a level II restructuring on April 25th, 2014, in order to:

(i) revise project scope by dropping four sub-projects in three Municipalities
(ii) reduce Borrower contribution and reallocating loan proceeds among project cities/counties;
(iii) revise two outcome indicators to clarify and to better link them with project achievements and revise some intermediate outcome
targets to better reflect project progress.

3. Relevance of Objectives & Design

a. Relevance of Objectives

High
The project development objectives were highly relevant to the country and sector strategies and needs. During the time of project
preparation, rapid urbanization (approximately 3.3 percent annually during 1987-2007, ICR p. 1) led to difficulties in coping with the
deteriorating environmental conditions and living standards particularly in second tier cities. Located in Central China, Hubei Province was fed
by two major rivers, namely Yangtze and Han Rivers. In 2003 only 4 percent of the population had access to wastewater treatment facilities in
Hubei (with treatment capacity 880,000 tons/day, whereas generated waste-water amounted to 4 million tons/day, ICR p. 1). Untreated
wastewater contaminated both groundwater and river systems, creating serious environmental and health hazards. In addition capacity of
sanitary landfills were not sufficient, with only 46.3 percent of the solid waste being handled in the existing landfills in Hubei. No sanitary landfill
existed in the Han River area and therefore solid waste was being collected in open dumps without protection from leachate contamination of
water resources and with no collection or flaring of landfill gas. These areas were clearly major potential sources of disease.

The project development objectives were relevant to the strategies. The previous Hubei Urban Environment Project had supported large cities
in Hubei Province, and this particular project aimed to support investments in the second-tier cities. The project was also relevant to China’s
12th five year plan covering 2011-2015 that aimed to address environmental and social imbalances through services measured by reduction in
pollution.

Objectives were also compatible with the Bank’s China Country Assistance Strategy (CAS) during design and continued to be relevant at
completion. The CAS for the period (FY 2006-2010) that supported Government efforts to improve competitiveness of various regions in
China, addressed the needs of disadvantaged groups and underdeveloped areas through infrastructure. The Project’s objective continued to
be highly relevant at project closing; the latest Country Partnership Strategy FY2013-2016 emphasized the high level of pollution in water
bodies in China that required better environmental management and also highlighted the need for high-quality public services; better water
resources management; expanding safe water supplies to smaller cities; supporting private sector investment in water and sanitation;
improving sanitation, solid waste and other basic urban services in selected second-tier cities; enhancing opportunities in rural areas and small
towns.

Rating
High

b. Relevance of Design

Modest
The project design logic - project activities closely linked to the project development objectives- presented some issues. Although, the PDO was
clear and realistic, components’ design had some weaknesses. Components 1 and 2 included wastewater treatment and solid waste
management investments and through these investments it was intended that there would be a reduction in pollution from wastewater and solid
waste. Components 3 and 4 included some technical assistance for pollution control and for design, construction and management of the
investments. However, the institutional capacity building activities particularly for financial management of the project were limited. As reported
by the ICR (p. 14), the financial and institutional sustainability of the investments was not the focus of the Borrower, and the project design did
not include sufficient elements to tackle this issue. Specifically, policy dialogue to address broader reform issues such as tariff increase were
missing from the project. Furthermore, the design did not take into account the rapidly changing infrastructure development environment funded
by various other sources and the project lacked flexibility as a sufficient number of pre-screened projects were not planned.

The results framework was in general sufficient with linked indicators to measure the achievement of the PDO with one exception. No indicator
was designed to monitor reduction in pollution levels due to project investments. Such an indicator would have served as a key measure of
achieving the PDO. The outcome indicators monitored proportion of wastewater treated and proportion of solid waste collected and transferred
to sanitary landfills. This would have required an estimate of the total amount of waste water and solid waste created in the region, but this was
Independent Evaluation Group (IEG)
CN-Han River Urban Environment (P087224)

found to be difficult due to insufficient data.

Rating
Modest

4. Achievement of Objectives (Efficacy)

Objective 1

Objective
This Review considers the following objective: " to assist Hubei Province in reducing wastewater and solid waste pollution in urban areas of selected counties and cities, located primarily in the Han River area"; and the part "high priority investments in wastewater collection and treatment systems and solid waste management systems" are outputs and "institutional reforms in and capacity development of municipal utilities, and water pollution control" are intermediate outcomes.

Assisting Hubei Province in reducing wastewater and solid waste pollution in urban areas of selected counties and cities, located primarily in the Han River area, is rated Modest.

Rationale

Outputs:
• In terms of number of new household sewer connections constructed under the project, all the municipalities achieved their targets, achievements are:
  • Hanchuan 600
  • Honghu 600
  • Shayang 700
  • Xiangyang 1000
  • Yunmeng 700
• Original targets for sewers constructed under the project (cumulative, in km), the original targets were not met in any Municipality and revised targets were not met in two Municipalities due to technical difficulties with constructing some sections of sewers. The actual results were:
  • Hanchuan 23 km (original target 25km, revised target 35.5 km),
  • Honghu 22 km (original target 33 km, revised target 22 km),
  • Shayang 10 km (original target 45 km, revised target 10 km),
  • Xiangyang 6.3 km (original target 12 km, revised target 11 km),
  • Yunmeng 24.3 km (original target 50 km, revised target 23) km.
• All targeted dump sites in five municipalities were closed (two sites were closed in August 2015, after the project closed).
• 28 major industrial polluters installed waste-water treatment facilities that are adequate to treat all waste-water to applicable discharge standards (did not meet the original target of 36 polluters but met the revised target of 28).
• 50 major industrial polluters installed effective online monitoring systems (OLM) (did not meet the original target of 62 but met the revised target of 50).
• 6 Municipal Environmental Protection Bureaus within the project area installed OLM data capture & processing facilities, and trained staff (achieved the original target).

Intermediate Outcomes:
In terms of “proportion of municipal wastewater treated”, all project Municipalities exceeded the target of 70 percent, reported actual achievements were (ICR p. vii):
• Hanchuan 72 percent,
• Xiangyang 95 percent,
• Honghu 80 percent,
Independent Evaluation Group (IEG)
CN-Han River Urban Environment (P087224)

*Shayang 82 percent,*
*Yunmeng 80 percent.*

In terms of “proportion of domestic solid waste (SW) collected & transferred to sanitary landfills”, all Municipalities except Dawu achieved or exceeded the target of 95 percent.

- **Dawu 75 percent,**
- **Hanchuan 98 percent,**
- **Honghu 98 percent,**
- **Shayang 95 percent,**
- **Xiaochang 90 percent.**

- 100 percent O&M cost recovery ratio of solid waste management entities was reached in all project municipalities.
- Fee collection rates for residential customers of solid waste management entities (all achieved rates were above original targets).

- **Dawu 60 percent**
- **Hanchuan 80 percent**
- **Honghu 80 percent**
- **Shayang 80 percent**
- **Xiaochang 75 percent**

In terms of fee collection rate of waste-water treatment entities, based on water supplied from Water Supply Co., all municipalities except two did not meet the target of 95 percent.

- **Hanchuan 92 percent**
- **Honghu 96 percent**
- **Shayang 95**
- **Xiangyang 90**
- **Yunmeng 95**

**Outcomes:**
The reported outcomes in the ICR provide indirect evidence on “reduced wastewater and solid waste pollution”. Appropriate indicators would aim to monitor and report on the extent of reduced annual pollution and nutrient loads to the Han river as a result of project investments. No beneficiary assessment was made on the perceived levels of pollution reduction, although ICR reported on the feedback from citizens on reduced odor levels (ICR p. 15). The ICR argues (pp. 15, 16, 18) that the intermediate level outcomes provide evidence that the project investments in institutional reform and capacity building investments contributed to an increase in the proportion of treated wastewater and solid waste collected and transferred to sanitary land-fills. However, due to lack of evidence on reduction in pollution levels, achievement of the PDO is rated **Modest.**

**Rating**
**Modest**

### 5. Efficiency

**Economic and Financial Efficiency:**
No economic rate-of-return analysis was conducted at appraisal or after completion of the project. The ICR stated (p. 17) the following reasons for not conducting an economic analysis: “(i) wastewater and solid waste treatment investments were driven by Chinese national standards and (ii) a significant portion of the wastewater investments consisted of renovation of existing pipeline assets”. However, it was not clear why these points made it impossible to conduct an economic analysis.

The ICR noted that (p. 16), all the projects used a standard least-cost approach and an open competitive bidding was used to ensure that. According to waste water treatment plant unit cost comparisons reported by the ICR (p.17) the project unit costs were less than other comparators: Project unit cost of RMB 915.02/unit (unit=1.0 m3/day) against

- Comparable size waste water treatment plant (30,000m3/day) Liuzhou Environment Project – Phase 2: RMB 921.72/unit
- Smaller capacity (20,000m3/day) LEP-2 plants cost RMB1,562.17/unit, and
- Yunnan Urban Environment Project facilities cost RMB2.976/unit, project. These three projects were implemented largely during the same time period.

No unit cost comparison was presented for solid waste and capacity building investments.

**Operational/Administrative Efficiency:**
There were some operational and administrative inefficiencies. The closing date was extended for 1 year due to slow implementation
particularly in initial years as a result of delays in staffing for the project management office that affected procurement, overall project management and coordination. In addition, the government took very long to comply with some of the legal covenants, such as completion of action plans for wastewater and for solid waste management and transfer of wastewater fees to the companies, resulting in withdrawal of some sub-project proposals and thereby reduced scope for the project. Furthermore, US$ 14 million of loan got cancelled after project closing.

Project efficiency is rated **Modest**, due to lack of economic/financial analysis of efficiency of project investments, as well as administrative and operational inefficiencies.

### Efficiency Rating
**Modest**

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

<table>
<thead>
<tr>
<th>Rate Available?</th>
<th>Point value (%)</th>
<th>*Coverage/Scope (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ICR Estimate</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Refers to percent of total project cost for which ERR/FRR was calculated.

### 6. Outcome

The project has significant shortcomings. The Relevance of Objectives is rated High and Design is rated Modest due to limited institutional sustainability development activities and project design lacked flexibility as sufficient number of pre-screened projects were not planned. The efficacy of the objective, "assisting Hubei Province in reducing wastewater and solid waste pollution in urban areas of selected counties and cities, located primarily in the Han River area, rated Modest due to lack of direct evidence on the extent of reduced annual pollution and nutrient loads to the Han river as a result of project investments. Efficiency is rated Modest due to lack of economic analysis of investments and administrative and operational inefficiencies.

a. **Outcome Rating**
   Moderately Unsatisfactory

### 7. Rationale for Risk to Development Outcome Rating

The main risk relates to the financial sustainability and institutional sustainability of the utilities, and they are assessed by the ICR as Significant. Although the Project results met targets on fee collection rates, the ICR also noted that (p.6) wastewater utilities were still not run as businesses as tariff rates, collection rates and debt service coverage ratios were still lagging. In addition the proposed aggregation of urban infrastructure services did not materialize under the project. However, the ICR’s report on institutional and financial sustainability risk was contradictory as it also portrayed an optimistic picture, stating that (p. 20) local governments were committed and national policies were likely to change to increase tariffs sufficiently to cover operations and debt service coverage (p. 20).

a. **Risk to Development Outcome Rating**
   Substantial
8. Assessment of Bank Performance

a. Quality-at-Entry
Design reflected lessons from the Hubei Urban Environment Project, as well as the sector study “Stepping Up – Improving the Performance of China’s Urban Water Supply Utilities” which was published in 2007. Although the ICR listed the lessons below, as reflected in project design, it was not clear how this was done, particularly lessons (i) and (ii) below:

(i) adopt realistic reform targets and timelines, taking into account the readiness of governmental decision-making bodies; (ii) institutional development/capacity building TA component to include the recruitment and training of professional and operational staff in a timely manner; (iii) develop well-integrated municipal utilities, including collection, transfer and treatment/disposal; and avoid overinvestments by allocating resources only to wastewater treatment and construction of sanitary landfills; (iv) engage with key stakeholders in order to build their ownership and commitment to the industrial pollution control action plans.

The risk of tariff increases lagging, which was rated as high, did materialize; however the proposed mitigation measures were not adequate, as the government’s reluctance to raise any fees due to the social and political concerns had not been fully taken into consideration. In addition, the risk of the project management office lacking sufficient capacities was to be mitigated by the recruitment of a project management consultant. However this measure was not sufficient as the project management agencies lacked adequate financial management capacities that led to prolonged delays in implementation.

In terms of project design, the institutional capacity building activities particularly for financial management of the project were limited or not timely. Policy dialogue to address broader reform issues, such as tariff increases, was missing at project entry. Furthermore, the design did not take into account the rapidly changing infrastructure development environment with some other available resources and the project lacked flexibility as a sufficient number of pre-screened projects were not planned. The implementation arrangements were not adequately designed as the Environmental Protection Bureau, which did not have experience in construction projects, was given the lead role for project coordination and management rather than the Construction Department to which many project implementing agencies report.

The M&E framework was in general sufficient with linked indicators to measure the achievement of the PDO with one exception. No indicator was designed to monitor reduction in pollution levels, which would have been a significant measure of achievement of the PDO. The outcome indicators monitored proportion of wastewater treated and proportion of solid waste collected and transferred to sanitary landfills.

Quality-at-Entry Rating
Moderately Unsatisfactory

b. Quality of supervision
Bank supervision had some shortcomings evidenced mainly by the slow restructuring, supervision showing less attention to the institutional sustainability of the project and not considering cancellation of excess loan funds (US$14 million were left as undisbursed loan funds and cancelled after project closing). Other aspects of Bank supervision were effective, though at times slow to resolve serious concerns over deficient contract management and construction supervision (for example, by advising the project management office to involve the international project management consultant in construction supervision). Safeguard supervision was diligent and close, facilitated by the external monitoring consultants, resulting in compliant implementation of Bank safeguard policies.

Quality of Supervision Rating
Moderately Unsatisfactory

Overall Bank Performance Rating
Moderately Unsatisfactory

9. Assessment of Borrower Performance

a. Government Performance
The ICR for noted that (p. 21) the Borrower had different expectations from the project, with priority given to the development of urban infrastructure rather than support for institutional development and sustainable utilities. National policy delaying increases in the utility tariff affected project sustainability negatively. In addition, the Borrower was not proactive in accelerating the official request for restructuring which was issued very late. Moreover, the Borrower also was not able to resolve the slow disbursements near the closing of the project.
b. Implementing Agency Performance

There were significant shortcomings in the performance of the main implementing agency, the Provincial Project Management Office (PPMO): (i) during the initial years the PPMO had serious staffing issues that were eventually resolved through the appointments of new key staff; there was still a lack competent financial specialists and construction supervision engineers but, at the Bank’s urging, the PPMO eventually used some of the TA consultants’ staff for supervision; (ii) PPMO submitted the restructuring proposal late although the need for changes had been identified and agreed much earlier; (iii) some of the legal covenants- financial projections for wastewater and solid waste management companies were very late in being complied with, (iv) a large amount (USD 14 million, i.e. more than 16% of the loan) remained undisbursed because the Implementing Agencies (Project Implementation Units – PIUs) waited for the internal annual audits before submitting their disbursement requests. On the positive side, some of the dropped subprojects were completed, using non-Bank funds and public sector participation, and still providing the expected environmental benefits.

Implementing Agency Performance Rating
Moderately Unsatisfactory

Overall Borrower Performance Rating
Moderately Unsatisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The results framework has two shortcomings: (i) No indicator was designed to monitor/report on the reduction in pollution levels. (ii) The outcome indicators monitored proportion of wastewater treated and proportion of solid waste collected and transferred to sanitary landfill, which required estimating the “total volume of wastewater”, and “total amount of solid waste”, generated in a particular city – a difficult task with potentially varying assumptions. In view of these difficulties, some indicators were clarified, i.e. slightly redefined, as part of the restructuring. In addition the M&E framework did not include beneficiary level assessment to assess impact on the population.

b. M&E Implementation

There were initially issues gathering and compiling all the M&E data in 5 different Municipalities. Most active M&E work was mainly done by the external environmental monitoring consultants, who devised and monitored indicators on air and water pollution, as well as important pollutants for construction, and for operational activities. Starting in mid-2012, the outcome and results indicators were reported twice a year in the semi-annual progress reports. They were also used as part of the M&E system, especially in terms of measuring progress – or lack thereof – towards the set targets of key outputs.

c. M&E Utilization

The quarterly monitoring results were used to improve the contractors’ performance and adjust the operations of wastewater treatment plants (WWTPs), respectively; as a result, citizens’ complaints were minimized. Even though some aspects of M&E were satisfactory, overall M&E Quality is rated Modest in view of the lack of an indicator to monitor pollution levels, a key element of the PDO.
11. Other Issues

a. Safeguards

The project was categorized as Category ‘A’ project under OP/BP 4.01 Environmental Assessment (EA), and OP 4.12 Involuntary Resettlement safeguard policy was triggered.

Environmental Safeguards.

An Environmental Impact Assessment (EIA) was carried out for each sub-project component, and an associated Environmental Management Plan (EMP) was also developed. ICR reported that (p. 10-11) external environmental monitoring consultants were hired, however with delays. When finally the consultants were recruited in November 2011, they commenced the monitoring of the environmental management plans (EMPs), including relevant environmental standards and indicators during the construction of the new landfill sites. However, the consultants were mobilized too late to monitor the construction of the WWTPs. With the mid-term review, sludge tests for WWTPs were introduced to make sure sewage sludge disposal was done without any environmental hazard. The external consultants regularly monitored and reported on the environmental operating parameters, such as effluent quality from the WWTPs, and leachate, dust, flying debris and odors from the new sanitary landfills. Where standards were not being met, corrective actions were recommended and their implementation was checked. For the completed facilities, the consultant provided detailed environmental advice for the continuing operation and maintenance of the built facilities. They also proposed procedures for the future monitoring of landfill operations and of the closed dumpsites. ICR noted that (p. 11) overall, there was sound compliance with the Bank’s policy on EA and no serious implementation issues arose during project implementation.

Social Safeguards.

The ICR reported that (p.11), in terms of OP 4.12, Involuntary Resettlement, an external resettlement monitoring consultants’ group was contracted to supervise the implementation of the resettlement action plans (RAPs). A review was conducted on the status, progress and compliance of the various land acquisitions required for implementing the project, including temporary land occupation and compensation for the purposes of construction. The adequacy of information provided and public consultations was monitored. Displaced families were invited to participate in the monitoring of the civil works on the resettlement sites, and reportedly, most complaints were dealt with and resolved satisfactorily. The PPMO organized a resettlement workshop in Honghu to allow the various PIUs to share their experiences. It was reported that (p. 11) overall, the resettlement safeguard policy was adequately complied with and there were no serious issues that arose.

b. Fiduciary Compliance

Financial management.

The ICR noted that (p. 12) during the life of the project, the financial management performance was mostly rated as moderately satisfactory. The annual project audits of all project and sub-project accounts were carried out by the Hubei Provincial Government auditors, and audit reports were generally submitted in a timely manner. Deficiencies of subproject accounting and financial management identified in the 2011, 2012 and 2013 audit reports included as informal and wrong accounting registries, accounting inconsistencies, and inadequate cash management. Since these issues were not significant, they did not affect the auditors’ unqualified opinions throughout implementation. However, there were some deficiencies in financial management control and frequently delayed interim financial reports. Appropriate corrective actions were proposed by the Bank to address these issues, including complete recording of project costs, reconciling Bank loan balances, meeting commitments to provide counterpart funds, timely follow-up by the PPMO and PIUs of audit report issues, and separation of project accounts from non-project activities. Some of the issues were due to lack of full-time qualified and trained staff at the PPMO and PIUs, and these were subsequently addressed. By the time of ICR preparation the results of the last audit report were not clear.

Procurement

The ICR noted that (p.12) no major procurement issues arose during implementation but there were some delays in turnaround time in Bank procurement reviews and approvals partly due to the low quality of bidding documents and / or bid evaluation reports, which delayed some contracts negatively affecting implementation progress. However, some implementing Agencies on the other hand observed that the Bank’s procurement rules had led to fair contract awards and helped to avoid complaints and controversy.
c. Unintended impacts (Positive or Negative)
   No unintended impacts were reported by the ICR.

d. Other
   The ICR did not report on gender specific indicators.

### 12. Ratings

<table>
<thead>
<tr>
<th>Ratings</th>
<th>ICR</th>
<th>IEG</th>
<th>Reason for Disagreements/Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td>Moderately Unsatisfactory</td>
<td>Moderately Unsatisfactory</td>
<td>---</td>
</tr>
<tr>
<td>Risk to Development Outcome</td>
<td>Modest</td>
<td>Substantial</td>
<td>Substantial risk on institutional sustainability</td>
</tr>
<tr>
<td>Bank Performance</td>
<td>Moderately Unsatisfactory</td>
<td>Moderately Unsatisfactory</td>
<td>---</td>
</tr>
<tr>
<td>Borrower Performance</td>
<td>Moderately Unsatisfactory</td>
<td>Moderately Unsatisfactory</td>
<td>---</td>
</tr>
<tr>
<td>Quality of ICR</td>
<td>Substantial</td>
<td></td>
<td>---</td>
</tr>
</tbody>
</table>

**Note**

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

### 13. Lessons

The ICR provided a series of lessons. The most important two are as follows with some modification of language:

- **Aligning Bank and Borrower expectations on specific project objectives and instruments to achieve them leads to better implemented projects and better results.** In this project, the Borrower considered the infrastructure investments the main focus of the project, while the Bank saw these physical works as a way to achieve the capacity building and institutional development objectives of the project. Therefore, the required institutional and policy improvements were not completely undertaken.

- **It is important to select the most appropriate Borrower agency to assume leadership for project management and implementation for effective and efficient project implementation.** Implementation of this project was hampered by PPMO leadership that lacked experience in infrastructure investments and was not the most appropriate agency to manage implementation of a multi-sector project.

- **Building flexibility into a project design that supports changing local demands also expedite projects implementation.** The experience this project showed that when faced with changing needs and new regulatory and policy requirements, a number of scope revisions and some subcomponents had to be dropped; however no substitutes were ready to replace them. If detailed designs for subprojects are ready by the start of implementation as well as some extra pre-screened subprojects are considered, the revisions in subprojects can be achieved quickly.

### 14. Assessment Recommended?

No

### 15. Comments on Quality of ICR
The ICR was comprehensive with candid articulation of implementation challenges as well as good formulation of lessons. However, the following points needed attention: (i) the ICR did not provide information on the achievement of key financial and dated covenants; (ii) the ICR did not provide an economic analysis/cost benefit analysis to measure project's economic efficiency; (iii) There were some issues with the quality of evidence, i.e. direct evidence on the achievement of outcomes, and on reduction in pollution levels, which was not reported by the ICR. (iv) The ICR’s justification on outcome rating is partially based on reduced Borrower contribution and cancellation of project loans after project closing; however these factors cannot be counted in outcome rating. Project's economic efficiency.

a. Quality of ICR Rating
   Substantial