

1. Project Data:		Date Posted : 09/12/2013	
Country:	China		
Project ID:	P040599	Appraisal	Actual
Project Name :	Second Tianjin Urban Development And Environment Project	Project Costs (US\$M):	335.50 314.40
L/C Number:	L4695	Loan/Credit (US\$M):	150 147.25
Sector Board :	Urban Development	Cofinancing (US\$M):	0 0
Cofinanciers :		Board Approval Date :	05/20/2003
		Closing Date :	06/30/2010 06/30/2012
Sector(s):	Sewerage (45%); Sub-national government administration (25%); General transportation sector (20%); Flood protection (10%)		
Theme(s):	Pollution management and environmental health (29% - P); Urban services and housing for the poor (29% - P); Infrastructure services for private sector development (14% - S); Municipal governance and institution building (14% - S); Water resource management (14% - S)		
Prepared by :	Reviewed by :	ICR Review Coordinator :	Group:
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2. Project Objectives and Components:

a. Objectives:

Objectives as in the Loan Agreement (Schedule 2) were "to assist Tianjin in enhancing the efficiency and equity of wastewater management and transportation system aimed at the sustainable development of Tianjin".

Objectives as in the Project Appraisal Document (PAD, p.2) were "help develop and carry out physical and institutional measures that would enhance the efficiency and equity of urban wastewater management and transportation systems, and thus facilitate the sustainable development of Tianjin and serve as models for other cities in China"

This review assesses the objectives formulated in the Loan Agreement .

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

No

c. Components:

1) Stormwater and wastewater Networks in Tianjin City (estimated cost US\$ 77.60 million, actual cost US\$165.92 million). This component comprised construction of storm water drains, sanitary sewers and pumping stations in Nanbeicang and Fukangnanlu areas, complementing the wastewater treatment plant (WWTP) being financed by Japan Bank for International Cooperation (JBIC) and Asia Development Bank (ADB); and, construction of drains and sewers in the South Suburb (Nanjiaowai) district of Tianjin. These activities will complete the drainage system envisioned in the Tianjin Drainage Master Plan.

- 2) Shuanglin Wastewater Treatment Plant (estimated cost US\$55.36 million, actual cost US\$ 0). This component was to construct a WWTP of a 200,000 m³/day capacity in Shuanglin, serving Nanjiaowai area which has many small industries and lower-income residents.
- 3) Urban Wastewater Reuse (estimated cost US\$16.7 million, actual cost US\$0 million). This included construction of water reclamation plants of 12,500-15,000 m³/day capacity each, attached to the Dongjiao and Shuanglin WWTPs; and reclaimed water distribution systems mainly for industrial and landscape uses .
- 4) Dagu Canal Rehabilitation (estimated cost US\$55.15 million, actual cost US\$ 72.07 million). This component included dredging of sediment and rehabilitation of cross -sections, bridges and culverts and three pump stations for Dagu Canal and its associated tributaries .
- 5) Suburban Sewerage (estimated cost US\$ 43.1 million, actual cost US\$26.95 million). This component included creation of municipal wastewater collection and treatment systems in about two suburban towns of Tianjin Municipality on a programmatic basis, to initiate and set models for wastewater management in suburban areas .
- 6) Urban Roads (estimated cost US\$ 62.3 million, actual cost US\$36.84 million). This component included construction of interchanges at two major intersections of the Middle Ring Road (MRR) and low cost traffic engineering improvements on selected locations along the Inner Ring Road and the Eastern and Southwestern parts of the MRR.
- 7) Traffic Management (estimated cost US\$4.1 million, actual cost US\$0). This component included extension of the existing Area Traffic Control System to 300 new intersections with channelization and in connection with bus priority measures.
- 8) Bus Priority Measures (estimated cost US\$15.16 million, actual cost US\$6.95 million). This component included preparation and implementation of bus priority measures on selected corridors, including bus ways and traffic engineering measures, to increase the efficiency of bus operations and to contribute to increasing the modal share of the bus system.
- 9) Technical Assistance and Training (estimated cost US\$ 4.63 million, actual cost US\$4.17 million). This component included (i) development of infrastructure information systems; (ii) reform and development of sewerage institutions and finance; (iii) improvement of traffic forecast model; and (iv) bus routes restructuring and design of bus priority measures.

The project was restructured twice : on May 11, 2007 and on April 14, 2011.

Under the May 11, 2007 restructuring, the following revisions were made :

- Component 1) was expanded to include upgrading of road surfaces as well as underground infrastructure including storm drainage and wastewater networks;
- Component 3) was dropped altogether as feasibility studies and survey showed that there was insufficient demand for reusing wastewater;
- The scope of component 5) was reduced to exclude Tangu District, which used its own funds for building a wastewater Treatment Plant;
- Under component 6), the construction of the Daganlu interchange was canceled when a study determined that a lower cost improvement such as a set of simple road modification and traffic management measures would suffice. Another road expansion investment under this component was canceled when road capacity was increased as a result of investment outside the project;
- Component 8) was expanded to include the Lingbin Bus Parking Depot, located near to planned bus priority corridors;
- Four key project performance indicators were simplified into just two mainly to ease data collection . They were "Percentage of wastewater collected and treated : 2010 target 75%"; and, "Modal share of passenger traffic for public transportation (bus and metro): 18% in 2010".

Under the April 14, 2011 restructuring, the following revisions were made :

- The scope of Component 1) was further increased to include additional roads (incorporating sanitation infrastructure) in the rapidly developing north western and south eastern parts of Tianjin city to improve storm water and wastewater collections networks as well as improve traffic flow and pedestrian safety .
- Component 2) was cancelled due to changes in the regional master plan which made the Shuanglin Wastewater Treatment Plant superfluous;
- Four contract packages under component 4) were funded by the Borrower so as to coordinate with the development of the District where Component Four activities located . All remaining contracts were financed by

the loan.

- The scope of component 5) was revised to construct a 100,000 m³/d wastewater treatment plant in the Binhai New area serving Hangu and the new "ECO City."
- The scope of component 6) was reduced because many road sections were completed as part of the city drainage component under component 1).
- Component 7) was withdrawn from the project but completed with the Borrower's own funds after the winning bidder was disqualified by the Bank for corrupt practices elsewhere .
- Engineering and traffic management measures on selected bus corridors under component 8) were no longer financed by the Loan, instead funded by the Borrower .
- The scope of component 9) was reduced. The development of a management information system was canceled, but some elements were merged into other parts of the same component .

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

Project Cost :

The actual project cost at completion was US\$21.1 million less than the total costs estimated at appraisal, principally because of the net downsizing of some project components as a result of restructuring noted above .

Financing :

At completion 98% of the Bank Loan had been disbursed with an amount of US\$ 2.75 million being cancelled. (information source: Project portal).

Borrower Contribution :

The original appraisal estimate of Borrower counterpart funding was for US\$ 185.50 million. This commitment was reduced to US\$153.1 million under the first project restructuring and then raised back up to \$ 221.4 million under the second project restructuring (Project Second Restructuring Paper Table 1). At completion, the actual Borrower contribution was \$167.15 million, about 90% of the original appraisal commitment.

Dates: the project's closing date was extended twice, each time by 12 months. The actual closing date was June 30, 2012. The reason for the extensions was to allow sufficient time for the completion of all project activities, the scope of several of which had changed through restructuring .

3. Relevance of Objectives & Design:

a. Relevance of Objectives:

Rated: **Substantial**

At project preparation, the project development objectives were consistent with the Bank's Country Assistance Strategy (CAS FY2003-2006), the overarching theme of which was "facilitating rural-urban transition and sustainable development" and the four specific goals listed under the CAS's overarching theme were : (i) improving public sector management and public service provision; (ii) assisting the less advantaged population and areas; (iii) strengthening environmental protection, and (iv) improving natural resource management (CAS, p23). At project completion, the project development objectives were still consistent with the Country Partnership Strategy (CPS) for China (FY2013-2016), which listed "addressing the country's environmental deficit" as an ongoing challenge and called for "enhancing urban environmental services" as one of the outcomes under Strategic Theme I : Supporting Greener Growth. (CPS pp. 5 and12). The project development objectives were fully in line with the Country's strategic priorities at project completion, one of which was to "Intensify environmental protection" (China's 12th Five Year Plan, section (25)).

b. Relevance of Design:

Rated: **Substantial**

The causal chain of project design was logical . In order to achieve the stated project objectives of enhancing efficiency and equity of wastewater management system and transport system, the project activities were twofold : infrastructure investments on the one hand and institution enhancement on the other . The investments on wastewater management system included the construction of a wastewater collection network to enable full and efficient utilization of the new capacity of the Waste Water Treatment Plant under the Government's program, and the establishment of wastewater management systems in less developed areas to give them more equitable access to these services. Project institutional enhancement would help improve the management and operation of wastewater management systems in Tianjing City (PAD p4-5), which would consequently bring about more effective and efficient wastewater management systems.

A transport system is considered to be more efficient if such system would allow traffic and passengers moving in a

quicker and lower cost manner. The Project investment in the transport system targeted the two most congested intersections in the Middle Ring Road (MRR) of the city. The project intervention included the expansion of some congested road sections, the construction of a flyover, the installation of a traffic management system and the improvement of urban transport management. All would contribute to the alleviation of traffic congestion in the urban area generally and enable more smooth traffic flow through project road areas in particular. Consequently, the vehicle transport cost and passenger transport cost is reduced and travel time shortened. The measures of promoting bus transportation would also enable the poor urban population who could not afford a private car to take urban transport service, therefore increasing the equity aspect of urban transport system.

Given that the project design was very complex with 9 components covering two sectors (transport and wastewater) with many uncertainties, the more appropriate instrument under such circumstance would have been Adaptable Program Loan (APL) than the selected Special Investment Lending (SIL), so as to allow more flexibility to the project implementation given the fast urbanization in Tianjin. However, the SIL did not affect the achievement of the project development outcomes

4. Achievement of Objectives (Efficacy):

Outputs: the major project outputs at project completion were as follows :

1. 52km of storm water drains and 52km of wastewater sewers were improved;
2. Dagu Canal was dredged and sediment was safely disposed;
3. One Wastewater treatment plant was constructed in Binhai New Area;
3. Jinzhonghe Interchange was constructed;
4. One bus garage was built;
5. 7 technical assistance were conducted.

There are four objectives under this evaluation, the achievement of each was assessed below :

1. Enhancing efficiency of the urban wastewater management system ; The ICR reported that at project completion, the wastewater treatment coverage in Tianjin City increased to 85% from initial 49%, however, it was noted by this assessment that increased coverage of wastewater treatment is not necessary equivalent to enhanced efficiency. The ICR did not provide information other than the increased wastewater treatment coverage as evidence for the enhanced efficiency of urban wastewater management system. From the discussion with the TTL and the Information acquired from other sources (a list of performance indicators on International Benchmarking Network Water and Sanitation Utilities Website), this assessment considered using the following indicators to measure the efficiency of the wastewater treatment system: BOD (Biochemical Oxygen Demand (before and after wastewater treatment); unit cost of wastewater treatment; and number of employees /number per wastewater treatment connection. The information provided by TTL indicated that:

Before the project, the BOD in the Dagu canal wastewater was 13mg/L. after the project, BOD reduced to 2 mg/L.

In 2011, 3,577 tons of BOD loading was removed by Hangu Sewage Treatment Plant which started the operation in 2011, the amount of BOD loading rose to 5,585 tons in 2012. The amount of BOD loading being removed will continue increasing as the plant gradually reaches its full design capacity of 100,000 m³ per day;

The unit cost of wastewater treatment at Hangu Sewage Treatment Plant is around RMB 1.70 per ton, the unit cost of wastewater treatment is expected to decrease further as the plant reaches its full design capacity.

Hangu Sewage Treatment Plant employs 30 works in charge of the services around 50,000 wastewater treatment connections, translating to about 1,667 connections per employee. As the plant gradually reaches its planned capacity, labor productivity is going to increase given that the number of employees is not going to increase proportionally.

The achievement of this objective is rated as **Substantial**.

2. Enhancing the equity of the urban wastewater management system; As informed by the project documents and the project team that prior to the project, there was not a Wastewater Treatment Plant outside the urban core area except one in the Tianjin Economic Development Area, meaning that wastewater in the lower income areas outside of the urban core area was not being collected, taken away or treated. Evidence of enhanced equity of urban wastewater management system would be that wastewater management services are also provided in those lower income areas. As stated in the ICR, 58% of project investment (both on wastewater treatment and transport) focused on lower income areas in Tianjin to benefit the low-income population. Additional information provided by the project team indicated that 168,400 people in Hexi District and Beichen District now have access to wastewater management services such as wastewater being collected and taken away, which did not happen prior to the project. In addition, a cleaner Dagu Canal after being dredged and a more beautiful environment around Dangu Canal also bring benefits to the local lower-income population as the canal flows over some lower income areas. Therefore, the achievement of this objective is assessed as **Substantial**.

3. Enhancing the efficiency of the urban transportation system ; As stated in section 3, enhanced efficiency of urban transport could be evidenced by more smooth traffic and passengers flows through urban transport system at lower cost and reduced time. The ICR did not provide information on travel time to cross selected points due to the difficulty of data collection. However, the project team informed that traffic is now flowing more smoothly through project road sections as a result of relieved traffic congestion :

Traffic volume per hour through improved Nanjing Road Section increased by 74% from 3,180 passenger car unit (pcu) in 2001 to 5,435 pcu in 2012;

Traffic volume per hour through improved Jinzhonghe Road Section (with flyover constructed above this road section) increased by 78% from 5,075 pcu in 2001 to 9,042 pcu in 2012;

Traffic volume per hour through improved Beicang Street Section increased by 251% from estimated 764 pcu before the project to 2,681 pcu in 2012;

It is noted that increased traffic volume per hour through project road sections could not be solely attributed to the efficiency gained under the project. Overall increased car ownership in Tianjin also contributed to the result.

However, it was confirmed by the project team that traffic through project sections did move more smoothly as a result of project intervention as both Nanjing and Beicang road sections were highly congested before. The achievement of this objective is rated as **Substantial**.

4. Enhancing the equity of the urban transportation system ; increased share of public transportation is a good proxy of increased equity of urban transportation system as low-income groups tend to comprise a larger percentage of the ridership of public transport. In this specific project, as reported by the ICR, at project completion, the bus system accounted for 21% of traffic mode as compared with the target of 18% and the baseline of 6%. Yet, it is not clear how much of the public transport share increase should be attributed to the project because the Government also invested heavily in public transport during the project period. In addition, it will be good to supplement the information with the number of low-income population having access to public transport service, which was not provided by the ICR. The achievement of this objective is rated as **Modest**.

5. Efficiency:

At project appraisal, a cost-benefit analysis was carried out to assess the economic return of several project subcomponents at transport sector: construction of Jinzhonghe interchange and DaguNan interchange, reconstruction of NanjingLu and Beicang Street improvement. Sensitivity analysis was carried out on two scenarios: 20% increase in costs and 50% reductions in travel time savings. The analysis showed Economic Internal Rates of Return in the range of 17.4%-302%, and the Benefit-Cost Ratios (BCR) in the range of 1.6-64.7.

The same methodology was applied at project completion to reassess the economic return of three project subcomponents, the reassessment of DaguNan interchange activity could not be done because this activity was dropped from the project. The range of the Economic Internal Rate of Returns at project closure for the three activities reassessed is 13.5%-243% and Benefit-Cost Ratios are in the range of 3.4-58.2.

As reported by ICR, the main reasons for the differences of Economic Internal Rate of Returns and Benefit -Cost Ratios at project completion were: 1) higher than estimated investment costs; 2) higher than projected traffic growth and consequently, traffic did not flow as fast as expected, hence the time saving is lower than the projected.

It was noted during the review that the project closing date was extended by two years so as to allow the full completion of project activities. Such extension was counted in the economic analysis at project completion and reflected in the final economic internal rate of return; therefore, the project efficiency should not be double discounted due to the extension.

The economic analysis of the investment in transport sector shows that the efficiency is substantial. However, the analysis is limited to three subcomponents in the transport sector, the total investments for these subcomponents were about 18.6 % of total project cost at appraisal and 11.7% of total project cost at completion (this is rough estimation based on the information in the ICR, given there is no detailed updated project activities costs provided), as there was no other evidence on efficiency has been provided on the other more than 80% project investment, the overall project efficiency is rated as **Modest**.

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

Rate Available?

Point Value

Coverage/Scope*

Appraisal	%	18.6%
ICR estimate	%	11.7%

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

6. Outcome:

The project objectives were relevant both at appraisal and at completion because they responded to both the Bank and China's priority of protecting environment and seeking sustainable and inclusive development . The design was substantially relevant as the result chain of the project inputs to the outputs and the expected outcome was clear . Although there was substantial revision of project components during project implementation, they still targeted the same objectives. The project efficacy was substantial, albeit with shortcomings in enhancing the equity of the transport systems. In addition, not all four project development objectives were fully achieved or the achievement of some project objectives could not be solely attributed to the project . Project efficiency was modest as no project efficiency information was provided on the project activities other than the transport sector investment, which calculated with the HDM4 model by factoring in all the parameters including the two year delay of project completion, was higher than the threshold of 12%. Overall outcome is rated is Moderately Satisfactory .

a. Outcome Rating : Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating:

The risk to development outcome is rated as moderate, based on the following considerations :

1. For the efficiency and equity of the wastewater treatment system, there are two risks :

- The capacity of the system is not sufficient for the growing demand . This risk is considered as low because even under the Government's program, the newly expanded WWTP turned out to have excess capacity as the wastewater volume of the city had grown less than projected (ICR p8). In addition, the Government also put into place the policy to control discharge through high water -sewerage tariffs (ICR 16).
- The maintenance of the system is at risk . While the shortcoming in maintenance is often an issue in developing countries, and hence affect the sustainability of PDO achievement, it is not the case with this project . In addition to the increased revenue from the high water -sewage tariffs, ICR indicated that the budget allocation for environmental protection and improvement also increased during the course of 2001-2010, the funding for maintaining the system is therefore not an issue (ICR 11).

Therefore, it is expected that the efficiency and equity of the wastewater treatment system will be maintained, However, as reported by ICR, the achievement under the rehabilitation of Dagu Canal and tributaries may be reversed as a result of possible recontamination risk by surface runoff and potential illegal effluent overflows from the new development around Dagu Canal. The risk could be moderate to high without better coordination between the Environmental Protection Bureau and Water Business Bureau .

2. For the efficiency and equity of the transportation system . the big risk to the efficiency of the system is the fast growth of vehicle population and consequently more congested traffic that will undermine efficiency, the expanding of public transport system will diversify the ridership and therefore, alleviate the situation . (ICR p16). Better urban planning, traffic management and specific measures of promoting public transport and curbing private vehicles will also contribute to the sustainability of the achieved PDOs . However, these measures were not specified in the ICR .

a. Risk to Development Outcome Rating : Moderate

8. Assessment of Bank Performance:

a. Quality at entry:

Quality at entry is Moderately Satisfactory .

This project was built on the achievement of its predecessor, (First) Tianjin Urban Development and Environment Project. As reported by the Project Appraisal Document of the first project, the Project helped introduce a market-based resettlement system, competitive public bus services, an industrial pollution control funds and a large-scale sanitary landfill, all of which became national models (p4). The second Tianjin Urban Development and Environment Project focused on transport and wastewater management sectors, emphasizing innovation of which there were few successful experiences in China, e.g., polluted/toxic sediment disposal (in Dagu Canal), small town urban sewerage construction using Design -Build-Operation method, wastewater reuse and bus priority corridors. The project objective was relevant to the Country's priority and the Bank's CPS for China . The

project scope was the outcome of extensive discussions with the Borrower, and for individual component and activity, various alternatives were identified and evaluated . (PAD p11). When the project was prepared, the Government was already undertaking a big program to improve both systems, the Bank's team was aware that the Bank's intervention was supplemental but nevertheless, could be strategic and important (Project Appraisal Document, p4-5), therefore the project design was selective and targeting critical areas so as to contribute to enhancing efficiency and equity of the urban wastewater management and transportation systems .

However, the following issues at project preparation lead to dramatic adjustment of project components during implementation:

1. Proposing investments options such as flyover in Dangananlu junction, the water reuse component and Shuanglin WWTP with few preliminary studies supporting those options, left project implementation with a lot of uncertainties and changes .
2. The choice of the lending instrument . As already mentioned in the Relevance of Design section, the more appropriate instrument would have been Adaptable Program Loan (APL).
3. The M&E framework is a weak point of the project design . A detailed assessment of M&E framework is contained in section 10 below.

Given the above mentioned issues, quality of entry is rated as Moderately Satisfactory .

Quality-at-Entry Rating : Moderately Satisfactory

b. Quality of supervision:

Project implementation experienced some delays due to the change of project implementation agency from Municipal Engineering Bureau (MEB) to Tianjin Urban Development Investment Group Corporation (TUDIG) and the fact that some planned activities became infeasible . As reported by the ICR, the Bank supervision team, with limited budget and time, successfully managed the following : (i) adjustment of project components subsequent to the cancellation of several project activities; (ii) working with a new implementation agency which was not that familiar with Bank's operations; and (iii) project restructuring .

Quality of Supervision Rating : Satisfactory

Overall Bank Performance Rating : Moderately Satisfactory

9. Assessment of Borrower Performance:

a. Government Performance:

The Government refers to TianJin Municipal Government (TMG) (ICR p19). As reported by the ICR, The Government maintained strong commitment to the project development objectives and forged a strong and genuine partnership with the Bank valuing its intellectual input (p19). In addition, the Government also put into place its own program in the transport and wastewater sector and when certain activities in the project could not be implemented as planned, the Government picked up those activities and financed them with its own funds, (e.g., improvement of 300 intersections with an Area Traffic Control System). The Government also fulfilled its obligations, e.g, monitoring and reporting, in a timely manner . (ICR p19).

Government Performance Rating Satisfactory

b. Implementing Agency Performance:

There were various implementation agencies under this project . The major ones were Municipal Engineering Bureau, which was responsible for the preparation and implementation of city sewer and road components until 2005, and Tianjin Urban Development Investment Group Corporation, which was the new implementation agency for the project following the reorganization of project financing and management regime by the Municipality . Municipal Engineering Bureau had successfully implemented this project's predecessor, Tianjin Urban Development and Environment Project 1, hence it knew well Bank's procedures and policies, and was equipped

with well-established expertise and systems . Municipal Engineering Bureau's performance was satisfactory .

Tianjin Urban Development Investment Group Corporation did not perform well for the first two years of project implementation as it was not familiar with the Bank's procedures and requirements . As reported by the ICR, it also had difficulties of raising the counterpart funds subsequent to the change of project financing regime from Government's budget funding to commercial financing . However, the project implementation did pick up after initial serious delays.

Implementing Agency Performance Rating : Moderately Satisfactory

Overall Borrower Performance Rating : Moderately Satisfactory

10. M&E Design, Implementation, & Utilization:

a. M&E Design:

The M&E design was weak. There were four Key Project Indicators (KPI) at project appraisal as (i) urban wastewater management coverage; (ii) water reuse; (iii) travel time to cross selected points; and (iv) increase in the modal share of buses. The indicators of water reuse and travel time were dropped during the Mid -Term Review (MTR) because it was difficult to collect data for these two indicators . The remaining two could not accurately reflect the achievement of PDO. For example, one of the remaining indicators was "increase in overall percentage of wastewater collected and treated in Tianjin city proper". This indicator mainly reflects the coverage of wastewater treatment system, rather than the efficiency of the system . The same issue arises with the other KPI for transport sector.

The intermediate outcome indicators for this project were really output indicators, e .g., construction of the Jinzhonghe interchange and rehabilitation of the Dagu Canal . The M&E framework was not comprehensive to show how project outputs linked to the intermediate outcome and to the achievement of PDOs .

b. M&E Implementation:

As reported by the ICR, the implementation of M&E turned out to be difficult, without baseline data, the quantitative monitoring concerning the equity effect of the project could not be carried out meaningfully . Some KPIs had to be dropped during implementation. The remaining M&E information was reasonably monitored . (ICR p10)

c. M&E Utilization:

Since the M&E design was weak and its implementation difficult, the utilization of M&E framework as an effective in managing project implementation was minimal.

M&E Quality Rating : Negligible

11. Other Issues

a. Safeguards:

The project was classified as a category "A" project, the safeguard policies triggered were Environmental Assessment (OP4.01) and Involuntary Resettlement (OP4.12).

Environmental : at project preparation, a full environmental assessment was carried out and environmental management plans were prepared . During project implementation, two additional environmental assessments were conducted for the revised project activities : one was for the bus parking garage in June 2009 and one for Baidilu drainage area rehabilitation in May 2010. Throughout project implementation, experienced safeguard specialists from the Bank monitored and supported safeguard implementation closely . The project TTL confirmed ICR's reporting that Bank's safeguard policies were fully complied with .

Social: A resettlement policy framework was prepared to guide the Resettlement Action Plan (RAP) if the project was to affect any displaced families or required any collective land . A RAP was prepared and sent to the Bank for review in 2006. Some project components were dropped because little resettlement progress could be made on specific project component site . As reported by ICR (p29), a total 278,623.59 square meters of lands were acquired

under the project. There was no reported violation of the Bank's Involuntary Resettlement Policy . However, the ICR (p28) did take note that the project could have been more selective on subproject sites to avoid large -scale resettlement or have conducted more thorough analysis and surveys to understand the possible resettlement impact .

b. Fiduciary Compliance:

Financial management : There was sufficient financial management support from the Bank side to the project . The financial audits of project accounts were timely and satisfactory . There was no reported ineligible expenditure under the project.

Procurement : the procurement process was lengthy for two contracts under the project : the contract using Design-Build-Operate (DBO) methodology and the area traffic control system . The methodologies were relatively new and it took about two years to complete the procurement review and subsequently delayed the project implementation. The ICR noted that the client viewed the Bank's procurement rules as overly complicated and unresponsive to the pace of the ongoing development of the city . Because of this, the Borrower started to finance some project activities with their own funds (ICR p11).

c. Unintended Impacts (positive or negative):

The ICR reported that there are three unintended impacts :

- 1) The rehabilitated Dagu Canal is attracting residential and commercial developments along its banks which is a welcome unintended benefit, but also one that has raised risks of pollution by surface runoff and potential illegal effluent overflows from the new developments .
- 2) Hangu WWTP acted as one of the positive factors for the establishment of the new Ecological City, which it is now expected to serve in addition to the main town of Hangu (Yingchen).
- 3) The good effect and cost savings gained by a set of low -cost improvements at Dagunanlu junction, instead of the originally planned construction of a flyover, apparently have had an effect of reducing the bias toward multi -level urban interchanges which used to be preferred options in large cities of China .

The PDOs were not modified because the benefits only emerged after project activities were completed .

d. Other:

12. Ratings :	ICR	IEG Review	Reason for Disagreement / Comments
Outcome:	Moderately Satisfactory	Moderately Satisfactory	
Risk to Development Outcome:	Negligible to Low	Moderate	The risk that the dredged Dagu Canal might be polluted is assessed as moderate to high if there is lack of coordination between the Environmental Protection Bureau and Water Business Bureau. The risk that achieved efficiency and equity of transport system could not be sustained is also moderate given fast growth of urban traffic.
Bank Performance :	Moderately Satisfactory	Moderately Satisfactory	
Borrower Performance :	Moderately Satisfactory	Moderately Satisfactory	
Quality of ICR :		Satisfactory	

NOTES:

- 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 reported two broad lessons:

- 1) Innovation should be encouraged, but a balance of innovation and risk should also be considered when preparing projects. This project involved many innovative activities and technologies, which should be encouraged and valued, but which inevitably involve uncertainties and risks that challenge their implementation. Under this specific project, some innovative activities were implemented as planned such as Dagu Canal rehabilitation, but at higher cost, both financially and timely. Some activities were dropped.
- 2) Projects should select the right instrument depending on the project composition and substance. This project was complex with various activities and technology uncertainties. In hindsight, an APL would have been a more suitable instrument than SIL.

14. Assessment Recommended? Yes No

Why? to prepare for the upcoming Urban Poverty evaluation

15. Comments on Quality of ICR:

The ICR provides a candid analysis of issues related with project design and implementation with many reflections that will benefit projects of a similar nature. It was also concise, enabling the reader to understand what had happened to the project even though this project involved many activities and had experienced many revisions during implementation.

However, evidence on the achievement of PDO could have been more substantive. The presentation was limited to the achievement of the KPIs, which did not necessary fully and accurately reflect the achievement of PDOs. Such limitation could be attributed to the shortcoming of the M&E framework, yet additional efforts of collecting and presenting information on achievement of PDOs would have been very helpful.

a. Quality of ICR Rating : Satisfactory