



1. Project Data

Project ID
P101258

Project Name
CN-Hubei Yiba Highway

Country
China

Practice Area(Lead)
Transport & ICT

L/C/TF Number(s)
IBRD-76760

Closing Date (Original)
31-Dec-2015

Total Project Cost (USD)
2,194,020,000.00

Bank Approval Date
31-Mar-2009

Closing Date (Actual)
31-Dec-2015

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	150,000,000.00	0.00
Revised Commitment	150,000,000.00	0.00
Actual	150,000,000.00	0.00

Sector(s)
Rural and Inter-Urban Roads(100%)

Theme(s)
Infrastructure services for private sector development(90%):Other environment and natural resources management(10%)

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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) as stated in the Loan Agreement (LA, Schedule 1, page 4) and in the Project Appraisal Document (PAD, page 4) was:

"To improve passenger and freight flows in the Yichang-Badong corridor by construction of an expressway with enhanced environmental management practices."



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

No

- c. Components

Component One: Yichang- Badong Expressway (YBE) (*estimated cost at appraisal US\$2,188.7: actual cost at closure US\$2,331.79 million*). This component financed the construction of about 173.6 kilometer (km) of the YBE, with a design/speed of 80Km/hour connecting Yichang City and Badong County at the border of Hubei and Chongqing Municipality. Activities included: (i) Construction of tunnels, bridges and viaducts. (ii) Construction of service areas, parking lots, toll plazas and buildings, seven interchanges and about 35.4 km of interconnecting roads with the local road network. (iii) Acquisition and installation of electrical and mechanical equipment. (v). Supervision of the construction activities. and, (vi) Carrying out land acquisition required for this part of the project and resettlement and rehabilitation of people affected by the project.

Component Two. Institutional Strengthening (*estimated cost at appraisal US\$5.40 million: actual cost at closure US\$9.87 million*). This component financed a program for strengthening the capacity of Hubei Provincial Communications Department (HPCD) in expressway construction and management through inter-alia (i) Training on expressway construction and management (including design, safety, maintenance, financial management and the environment). (ii). Preparation of guides to improve environmental monitoring and management. (iii) Financing studies on tunnel safety and Hubei's transport and logistics development plan, designing approaches to reduce the risk of landslides and other geological disasters during construction and operation. and, (iii). Providing equipment for expressway management and environmental monitoring.

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

Project Cost. The estimated project cost (including the baseline cost, costs associated with physical and price contingencies, project management fee, financial fee and other fees and Front-end fee) was US\$2,194.01 million. The actual cost at closure was US\$2,827.66 million. The actual cost was higher appraised, due to the many unexpected landslides that occurred during construction, which required additional geological investigation and increased construction costs.

Project Financing. The project was financed by an IBRD loan of US\$150.00 million that was fully disbursed. There was parallel financing for complementary activities such as support for an HIV- AIDS education program from the Australian Agency for International Development (AusAID).

Borrower Contribution. It was agreed at appraisal at US\$2,044.02 million, or about 93% of the total project cost. Actual contribution by closure was 31% more than planned at US\$2,677.66 million.

Dates. The following changes were incorporated through a Level 2 restructuring on 03/04/2011. (i) There was a reallocation of loan proceeds. The bidding process of eight sub-grade contracts, which represented 80% of the Bank Loan, were deemed to be not compliant with the Bank's procurement guidelines (discussed in detail in section 11). After a careful review of the circumstances surrounding the non-compliance, the issue was eventually noted as a misunderstanding on the part of the Project Implementation Unit (PIU) about the Bank's procurement guidelines, and Bank declared mis-procurement without cancellation of funds. These sub-grade contracts were eventually financed by the Borrower and the loan proceeds assigned for these contracts were reallocated to finance other activities (such as construction of pavements, traffic facilities and Electrical and Mechanical (E&M) works). (ii) Two studies that were to be financed - a study on tunnel safety and a study on design approaches to reduce the risk of landslides and other geological disasters during construction and operation - were replaced with two other studies - a study on tunnel design and key construction technology in high stress region and soft rock area and a study on environment supervision and management system on highway construction projects, as the replaced studies were deemed to be more useful for this project and other future operations in Hubei Province. The project closed as scheduled on 12/31/2015.

3. Relevance of Objectives & Design

- a. Relevance of Objectives

The PDO was highly relevant to the Hubei province and to the Government strategy for promoting linkages with the inland/western regions to reduce development gaps. Hubei is a landlocked province in Central China and a key industrial and agricultural area in the country. Despite its strategic location. Hubei's lack of transport accessibility, especially in the mountainous areas in the Western part of the province had hindered its social and economic development. In the years before appraisal, the Government approved the China National Expressway Network (CNEN) aimed at reaching more than one billion people in China, by linking all provincial capitals and large urban centers of more than 500,000 inhabitants with cities of more than 200,000 inhabitants. A major component of the Government's "Western Development Strategy"



was to facilitate the growth of the non-coastal regional hubs by providing access from the developed eastern coastal areas to the developing markets in Central and Western China. The PDO remained relevant and consistent with government priorities, as the central and provincial 12th Five year Plans for 2011-2015 specifically supported expanding the country's expressway network, promoting regional integration through high quality transport connections and promoting environmentally- friendly transportation system. Hubei's total mileage of expressways in operation had reached 6,204 Kilometers Km by the end of the 12th five year plan period, and its target for the 13th five year plan was to build 1,300 km of additional expressways to improve passenger and freight flows, enhance modern logistics and efficient transportation for supporting the new strategy of developing the Yangtze River Economic Belt.

At appraisal, the PDO was consistent with the Bank's Country Partnership Strategy (CPS) for the 2006-2010 period. The second pillar of the CPS emphasized the objective of reducing poverty, inequality and social exclusion through improving China's competitiveness. The PDO was also consistent with the Bank's recommendations listed in the CPS for China, in particular its recommendations pertaining to: (i) reducing internal and external barriers to trade and investment. (ii) reducing poverty, inequality and social exclusion through expanding affordable access to basic social and infrastructure services. and (iii) managing resource scarcity and environmental challenges. The PDO was consistent with the current CPS for 2013-2016 and its two strategic themes of promoting green growth and inclusive development through supporting improved transport connectivity for more balanced regional development.

Rating

High

b. Relevance of Design

The statement of the project development objectives is clear. Project activities and their outputs were likely to produce the specified outcomes which were measurable. Activities such as construction of the YBE network. tunnels, bridges, viaducts, service areas, parking lots, toll plazas, building, interconnecting roads with the local road networks in conjunction with institutional strengthening of the Hubei Provincial Communications Department in expressway construction and management, preparing guidelines to improve environmental monitoring and management can be expected to contribute to improve passenger and freight flows in the Yichang-Badong corridor. Given the environmental and ecological sensitivity of the project area, the design incorporated measures for addressing environmental and social effects and these were significantly relevant to the achievement of desired outcomes of enhanced environmental management practices.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To improve passenger and freight flows in the Yichang-Badong corridor by construction of an expressway with enhanced environmental management practices.

Rationale

Outputs.

173.72 km of expressway, 37.6 km of Class II interconnecting roads and 6.5 km of Class III interconnecting roads were completed, as targeted. Monitoring and information systems were installed at key points along the expressway.

The guides for environmental management during construction were developed in 2009 and adopted during the project implementation as targeted. A software application, Safeguard Compliance Monitoring System, was developed for addressing grievance redress. Enhanced environmental management practices was adopted in all works contracts through the Independent Environmental Supervision. An Environmental Management Plan (EMP) implementation guide for contractors and a guide for environmental supervisors was provided as



targeted.

Two studies were completed as targeted: (i) A study on tunnel design and key construction technology in high stress region and soft rock area and, (ii) A study on environmental supervision and management system on highway construction projects. This study developed a framework for environment supervision and management, established performance indicators and quantified and standardized the process of environmental supervision.

Research on Hubei's Comprehensive Transport and Logistics System Development Plan was completed as targeted. This plan provided an analysis of the current status of Hubei's logistics development, issues faced by the logistics sector and demand forecast. The recommendations of the study were incorporated in the province's 13th Five Year Plan. The guide for long tunnel construction and operation of safety practices was developed and adopted during project preparation and monitored during implementation. In addition to the three studies mentioned above, the project supported 18 other studies on bridges, tunnels, landslides, environment, construction materials and project management. Of these, six were ministry- level research projects and twelve were provincial- level projects. 5,039 workers and staff of the Hubei Provincial Transport Department (HPTD) were trained as compared to the target of 99.

Outcomes.

Average daily traffic on the expressway increased to 12,869 Passenger Car Unit (PCU). This exceeded the target of 7,050 PCU/day. Average daily traffic on the existing roads increased from 5,700 at the baseline to 1,530 PCU/day as compared to the target of 3,500 PCU/day. Traffic flows on the existing road were 56% lower than the target due to the greater than expected traffic diversion from existing roads to the newly-constructed expressway.

The freight rate for moving freight along the expressway reduced more than expected. Freight rate for moving ore and moving agricultural products reduced by 30% and 29% respectively as compared to the target of 25%. Freight rate for passenger travel by bus along the expressway reduced by 23% as compared to the target of 18%.

Travel time on the expressway was 2.17 hours at closure, while it was five hours on the existing roads, a saving of more than three hours. This exceeded the target of 2.5 hours.

Accident rates on expressway were 53 at project closure, below the target of 100. Accident rates on the existing roads decreased from 425 at the baseline to 153 at project closure as compared to the target of 200; at the same time, fatalities increased on the existing roads from 34 to 35 (the target was to reduce the number of fatalities on the existing roads to 18, albeit there were no related project activities).

There were three incidents of non-compliance with Environmental Management Plan (EMP) requirements during implementation, which were rectified by project closure (discussed in Section 11).

The ICR (page 47) notes that a survey was carried by an independent resettlement consultant in 2014 to assess the overall performance of the resettlement program in terms of improvement of physical infrastructure, satisfaction with resettlement and livelihood rehabilitation. The assessment randomly sampled 25% of the displaced families. About 81% of the displaced families expressed satisfaction with their living condition after the resettlement. About 80% of the displaced families were satisfied with the compensation and 69% of the displaced families expressed that their living condition was better in 2014 as compared to in year 2008.

Rating
Substantial

5. Efficiency

Economic and Financial Efficiency.

Economic Analysis.

A Cost-Benefit analysis was conducted both at appraisal and at project closure using the same methodology. The analysis was conducted for project components which accounted for 81% of the project cost at appraisal and 82% of the project cost at closure. The main benefits of the project were to come through: (i) Savings in vehicle operating costs. (ii). Time savings through relieved congestion on the existing road (the benefits resulting from the lower level of congestion were quantified on the basis of a Bank-financed report on feasibility study methodology for highways in China and the value of passenger time savings was estimated based on the increase of Gross Domestic Product (GDP) per capita in the project area), and (iii). Reduction in accident costs. Cost included capital investment and maintenance costs. The ex post economic rate of return (EIRR) for the project was 22% as compared to the ex ante EIRR of 14%. The Economic Net Present Value (NPV) based on a 12% discount rate was Chinese Yuan Renminbi RMB 21,972.93 million as compared to RMB 3,442.41 million at appraisal.

Financial Analysis.

The financial analysis for the expressway component of the project was conducted both at appraisal and at completion. This component accounted for about 70% of the total project cost at appraisal and about 71% of the project cost at completion. Financial cost included annual road routine maintenance cost and costs associated with major maintenance to be carried out every 12 years. Financial benefits were assumed to come from toll revenues. The Financial Net Present Value (FNPV) at closure was RMB -0.85 million, as compared to the FNPV of -11,048 RMB million at appraisal. The ex post Financial Internal Rate of Return (FIRR) was 4.46% as compared to the ex ante FIRR of -



1.9%.

Operational and Administrative Efficiency.

There were cost overruns with the project costing about 29% more than the appraisal estimate. Cost of construction activities in a region prone to landslides was underestimated at preparation. Cost overruns during implementation were further exacerbated by a combination of factors, including unexpected landslides which necessitated a substantial volume of newly added landslide treatment works and changing pavement materials in tunnels to asphalt, inflation and increase in unit cost of materials. Although procurement delays affected disbursement in the initial years, disbursements picked up once these rectified and at closure, the loan was fully disbursed. There were no time overruns, with major activities complete a year before the project closing (about 63 km of the expressway was open to traffic on September 29, 2012 and the remainder was open to traffic on December 27, 2014). Resettlement activities started in mid-2009 and most had been completed by April 2010.

Efficiency Rating
Substantial

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:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	14.00	81.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	22.00	82.00 <input type="checkbox"/> Not Applicable

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

6. Outcome

The relevance of objective both with respect to the Government strategy and Bank Strategy for China was rated as High and that of design Substantial. Efficacy of the objective - To improve passenger and freight flows in the Yichang-Badong corridor by construction of an expressway with enhanced environmental management practices - was rated as Substantial. All outcomes were either realized or exceeded. Efficiency was rated as Substantial; although there were cost overruns given that project activities were in areas prone to landslides, major activities were complete before the project closing date and the loan was fully disbursed.

a. Outcome Rating
Satisfactory

7. Rationale for Risk to Development Outcome Rating

Financial. Operation and maintenance risk is considered low for the expressway due to toll revenues and projected increase of traffic volume. Measures have been adopted to mitigate faster road deterioration and to ensure availability of maintenance funds to manage and operate the highway.

Exposure to natural disasters. There is a risk associated with natural disasters, as the road is vulnerable to landslides. Segments of the expressway are in a difficult topographic and geological region, vulnerable to landslides that continued after traffic opening. Although the Hubei Provincial Yiba Expressway Construction Headquarter (HPYCH) continues with geological investigations and monitoring landslides, there is a risk to the project development outcome that ongoing benefits from these activities may not be sustainable due to the area's vulnerability to natural disasters.



- a. Risk to Development Outcome Rating
Modest

8. Assessment of Bank Performance

a. Quality-at-Entry

The preparation of this project built on the experience from earlier Bank-financed highway projects in China and five Bank-financed highway projects in Hubei province. One lesson learnt from the experiences of the Bank financed project in China was the need for addressing environmental protection issues. The design of this project incorporated aspects aimed at enhancing environmental management such as through selecting alignments not solely based on engineering considerations but also taking into account social and environmental aspects and designing access roads with appropriate drainage facilities for minimizing adverse environmental impacts. Given the relatively small contribution by the Bank to the project cost (less than 8%), the design appropriately opted for financing several contracts located in a particularly environmentally-sensitive areas that could be expected to contribute to building the provinces' capacity for addressing environmental issues. The project mobilized additional trust funds for policy interventions. Appropriate arrangements were made at appraisal for compliance with safeguards and financial management (discussed in Section 11).

The design underestimated the cost of construction in a difficult topographic and geological region. This required additional geological investigation and increased construction costs during implementation. The design underestimated the procurement risk which affected project implementation in the initial years of the project (discussed in Section 11).

Quality-at-Entry Rating
Satisfactory

b. Quality of supervision

Generally, there were two supervision missions a year. The placement of an Independent Environment Supervision specialist at an early stage and providing training during the launch workshop aided in enhancing environmental management. The supervision team was diligent and worked effectively with the implementing agencies and this aided in delivering the project on time. The Bank experts provided support to address specific engineering supervision needs, ensuring compliance with the Environmental Management Plan (EMP) and guide resettlement and rehabilitation activities. The Borrowers ICR (page 37) reports that the Bank team cooperation with the implementing agencies and the Hubei Province helped in providing the necessary assistance to handle restructuring issues and monitor contractors performance.

As discussed in Section 2d, the bidding process of eight sub-grade contracts, which represented 80% of the Bank Loan, were deemed to be not compliant with the Bank's procurement guidelines. The issue was noted as a misunderstanding on the part of the Project Implementation Unit (PIU) about the Bank's procurement guidelines, and Bank declared mis-procurement without cancellation of funds. The change in Bank leadership at the time contributed to the delays in detecting the misprocurement.

Quality of Supervision Rating
Satisfactory

Overall Bank Performance Rating
Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

At the central level, the Ministry of Communications located in Beijing was responsible for providing overall direction and the Hubei Provincial Government was responsible at the provincial level. The Government demonstrated strong ownership and commitment and this aided in realizing the PDO. Hubei Provincial Government provided strong leadership and guidance, especially on environmental management innovations and compliance with environmental safeguards. The provincial and local governments and the Bank team developed a strong working relationship during project preparation and this aided in incorporating aspects pertaining to enhanced environmental management. A "Strategic Environmental Assessment" for Hubei Road Network (2002-2020) carried in parallel with project



preparation was completed in mid-2008 and although the plan was a province- wide transport plan and not specifically related to project activities, SEA's institutional adjustments and recommendations provided immediate assistance to the implementing agency to improve the environmental management of the project. The contribution by way of counterpart funding was more than planned and this helped in covering the cost overruns. The provincial and local government also financed the eight-sub grade contracts, which represented 80% of Bank financing, once they were declared ineligible for Bank financing; this enabled the reallocation of loan proceeds to finance other contracts.

There was no sufficient time allocated by the Government to allow adequate investigations and engineering designs in an area vulnerable to natural disasters, largely explained by expectations for early completion of the expressway.

Government Performance Rating
Satisfactory

b. Implementing Agency Performance

The project was implemented by the Hubei Provincial Communications Department (HPCD) - the agency responsible for road maintenance in the Hubei Province. HPTD provided overall guidance and coordination and demonstrated strong commitment for creating an enabling policy environment for cooperation. The agency facilitated communications with cities and counties and provided support for resolving issues that arose during supervision. The agency mobilized additional funds for increasing compensation rates, providing pensions and medical insurance to displaced families, and this aided in the resettlement and rehabilitation of project affected people. The Hubei Provincial Yiba Expressway Construction Headquarter (HPYECH) was responsible for day-to-day management of the construction works. The agency demonstrated strong capacity and addressed the engineering challenges and this proved helpful in completing the segment of the expressway on a tight schedule. The staff of the agency ensured that the construction of the expressway had minimal negative environmental impacts through frequent supervisions and providing additional funding for the environmental risk management fund. Financial management was considered satisfactory.

The departure of the chief of the Project Management Unit (PMU) in charge of Bank projects just before procurement started and the unfamiliarity of the new leader with Bank procurement guidelines contributed to the late detection of mis procurement which represented 80% of the project loan. The agency established quality assurance procedures and this ensured full compliance with Bank's procurement guidelines in the latter years of the project.

Implementing Agency Performance Rating
Satisfactory

Overall Borrower Performance Rating
Satisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The key outcome indicators measured the achievement of PDOs from two aspects: (i) Measurement of traffic flows in terms of cost (decreased freight and passenger tariffs), efficiency (decreased travel time) and safety (decreased accident rates in the expressway corridor, and (ii) Environmental management (improved compliance with the Environmental Management Plan).

The World Bank Financed Project Office (WBFPO) was in charge of collecting the relevant data and submitting to the Bank semi-annual progress reports. These reports were to include not only physical progress but also information on compliance with safeguards and institutional strengthening.

Regards the inclusion of fatality targets on the existing roads, these were set based on assumptions regarding reduced traffic on the existing road and better driving. The indicator was designed to evaluate the impact of the expressway on the entire corridor. However, the targets on the existing road were set without taking into account increased speeds on the existing road resulting from traffic diversion to YBE.

b. M&E Implementation

The M&E implementation was decentralized, with the Hubei Provincial Transport Department (HPTD) coordinating and the relevant agencies



carrying out environment supervision and traffic monitoring. An Independent Environment Supervisor was responsible for monitoring compliance with environmental safeguards. Data collected helped the relevant parties to take appropriate actions. For example, based on three incidents of non-compliance with the Environmental Management Plan (EMP) that were recorded in 2012 and 2013, contractors were instructed to take immediate action to mitigate their impacts and the issue was resolved at project closure.

c. M&E Utilization

The M&E indicators were used for monitoring implementation progress.

M&E Quality Rating
Substantial

11. Other Issues

a. Safeguards

The project was classified as a Category A project for environmental assessment purposes. Other than Environmental Assessment (OP/BP 4.01), three social safeguards were triggered: Natural Habitats (OP/BP 4.04); Physical Cultural Resources (OP/BP 4.11); and, Involuntary Resettlement (OP/BP 4.12).

Environmental Assessment, Natural Resources and Physical Cultural Resources. The project entailed major expressway construction on a new alignment and possible environmental issues included the generation of solid waste, wastewater and pollution from vehicles as a result of direct and induced development and short-term environmental impacts such as dust, soil erosion and noise (ICR, page 78). The expressway also traversed environmentally-sensitive areas including the Three Gorges National Geological Park, the Shennongjia Scenic areas, the Xiaofeng Tourism Area and karst areas (karst is a special type of landscape that is formed by the dissolution of soluble rocks, including limestone and dolomite). Karst regions contain aquifers that are capable of providing large suppliers of water. Four cultural relics - Baihuguan Ruin, Pingyikou Tombs, Xinping Overhanging Coffics and Niejiahe Ancient Camp Ruins - were identified along the project alignment. The expressway was also expected to cause some loss of natural habitats, as it was in an area that had patches of natural vegetation.

A full Environmental Impact Assessment (EIA) was undertaken and an Environmental Management Plan (EMP) was prepared at appraisal (PAD, page 82). Specifically, the EMP identified the possible adverse impacts to environmental resources such as water, air, land, caves, archeological/ cultural resources; mitigation measures to reduce these impacts were included in the EMP. Both EIA and EMP were publicly-disclosed. A "Strategic Environmental Assessment" for Hubei Road Network (2002-2020) carried in parallel with project preparation was completed in mid-2008 and although the plan was a province- wide transport plan and not specifically related to project activities, SEA's institutional adjustments and recommendations provided immediate assistance to the implementing agency to improve the environmental management of the project.

To ensure compliance with environmental safeguards, the following features were incorporated at design: (i) A separate environmental supervision consultant was appointed to ensure the compliance of the contractors with the provisions of the EMP. (ii) To ensure the proper implementation of the EMP, the key requirements from the EMP were incorporated as "technical specifications" and included in the bid and contract documents for civil works. (iii) A binding compliance framework was designed and adopted to motivate contractors to comply with the EMP. (iv) A Safeguard Compliance Monitoring System was established to facilitate the lodging of complaints by the Project Affected People via the internet or Short Message Service (SMS).

Involuntary Resettlement. According to a Social Assessment (EA) conducted at appraisal, the project was expected to affect 9,845 people in 53 villages. A total of 1,543 households were expected to be affected by land acquisition and a total of 991 households affected due to the structural demolition of private residential housing (PAD, page 17). A Resettlement Action Plan (RAP) that was in accordance with relevant Chinese laws and regulation and with the Bank's Operational Policy Guidelines on Involuntary Resettlement was prepared and disclosed by the dedicated Hubei Expressway Resettlement Office (HERO) prior to project appraisal. Project information was disseminated in the affected villages through reports and public meetings (PAD, page 19). The RAP described the extent of resettlement, identified affected persons and resources, defined how resettlement would be addressed and explained the institutional arrangements. Further, a social assessment was undertaken to better understand farmers' concerns and survey was administered to ascertain the migrant workers' awareness of national labor law.

Compliance with environmental safeguards. During implementation, independent environmental supervision was carried through routine inspections and spot checks, verified payment certificates (the independent environmental supervisor was empowered to sign invoices submitted by contractors and only those who met the minimum environmental management requirement were paid). The ICR (page 11) notes that compliance with environmental safeguards was deemed to be satisfactory.



Compliance with social safeguards. The ICR (page 12) notes that by project completion 1,038 families were relocated, an increase of about 1,000 persons compared to the Resettlement Action Plan mentioned in the PAD and that resettlement and rehabilitation of project affected people was deemed to be satisfactory. The ICR (page 47) notes an assessment of the resettlement activities was conducted by an independent consultant based on a random sampling of 25% of the displaced families noted the following: About 81% of the displaced families expressed their satisfaction about their living condition after resettlement. Family income above average reached 57% in comparison to 45% in 2008. About 80% of displaced families were satisfied with the compensation and 69% of the displaced families reported better living condition at project closure.

According to a Resettlement Cast Study published by the Bank on the results of this project " *Transformative Potential of World Bank Safeguards Policies: Case Study Series 3 from Yichang-Badong expressway Project in China*", by the end of this project most households who were resettled had better access to better quality roads, to electricity and better quality water than before. The study concludes that success of the resettlement program was due to a combination of factors including: (i) Effective leadership by the Hubei Provincial Transport Department. (ii). Effective management and distribution of resettlement funds. (iii). Citizen active engagement throughout the project. (iv). Effective procedures for receiving and addressing complaints in a timely fashion. (v). Sharing project prosperity to local farmers, such as through integrating local road, electricity, water supply and sanitation access improvement into the project design (ICR, page 49).

b. Fiduciary Compliance

Financial Management. A financial management assessment was conducted at appraisal and financial management risks were deemed to be low (PAD, page 47). The ICR (page 12) notes that the financial management system provided timely information on project progress and the use of Bank loan proceeds. There were some delays in the submission of the interim financial report and project audit reports due to the turnover of staff. However, the interim financial report was submitted in the required format eventually and all audit reports were issued without qualifications during project implementation.

Procurement Management. A procurement management assessment was conducted at appraisal. The implementing agency was staffed by sufficient procurement staff with experience in Bank-financed highway projects in Hubei Province. At appraisal, the agency had developed a procurement plan for project implementation that was consistent with the Bank's procurement policies. During implementation, the bidding process of eight sub-grade contracts, which represented 80% of the Bank Loan, were deemed to be not compliant with the Bank's procurement guidelines. According to the ICR (page 8), the Hubei Provincial Yiba Expressway Construction Headquarter (HPYECH) which was responsible for procuring the eight International Competitive Bidding (ICB) sub-grade contracts in a single batch, issued an Addendum in mid 2009 to the bidding documents in Chinese, based on their incorrect understanding of the Bank's Procurement Guidelines, which contained the statement "*if bid prices exceed the employer's budget, all bids will be rejected*". This statement was not part of the English version cleared by the Bank. The issue eventually was noted as a misunderstanding of Procurement Guidelines and the Bank declared mis-procurement without cancellation of funds. Following this, the Hubei Provincial Yiba Expressway Construction Headquarter (HPYECH) took remedial action including through providing additional training and establishing a quality assurance procedure for procurement. The ICR (page 12) reports in subsequent procurements, project implementing entities adhered to Bank procurement guidelines with full compliance.

c. Unintended impacts (Positive or Negative)

d. Other

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	---



Risk to Development Outcome	Modest	Modest	---
Bank Performance	Satisfactory	Satisfactory	---
Borrower Performance	Satisfactory	Satisfactory	---
Quality of ICR		Substantial	---

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 draws the following four lessons from the experience of implementing this project.

(1) **For expressway projects in challenging topography, sufficient time should be allowed for investigations and design.** In the case of this project, the expressway contractors experienced different geological conditions during construction compared to the conditions assumed during project design. This necessitated additional geological investigation and increased construction costs. A combination of measures taken during project preparation, including sufficient time for investigations, realistic construction timeline and preparation of back-up plans could have helped in preventing cost overruns during implementation.

(2) **Successful procurement of large scale civil works contracts requires good procurement planning, packaging, quality review and sufficient advance training to the implementing agency.** The experience with this project showed that it is essential to avoid procuring a large number of packages within a short time period and further the Bank should carefully monitor the procurement capacity prior to large procurements being undertaken and ensure that appropriate training is provided to the relevant staff.

(3). **Innovative measures can be helpful in enhancing environmental management focus.** The project has demonstrated that establishing a comprehensive management framework and a bundle of measures can help in minimizing adverse environmental impacts and thereby aid in enhancing environmental compliance in expressway projects. The innovative measures included choosing the alignment and adopting an engineering design to minimize environmental impact, involving independent environmental supervision to monitor and evaluate compliance, and creating incentives for all parties to ensure good environmental management (such as launching a Green Award Competition among contractors and supervision engineers and presentation by finalists on good examples of environmental management measures to increase the awareness of the general public).

(4) **Successful resettlement activities can be helpful in contributing to prosperity for project affected people.** In the case of this project, project resettlement activities were carried out with the aim of minimizing land acquisition because villagers rely on farming and shortage of farmland in the mountainous region. In some areas the alignment was modified during design stage to protect farmland. The project also provided displaced families significantly improved local living conditions through rural road upgrading, new land reclamation, electricity supply, sanitation improvements, drinking water improvements, pension insurance, career development and housing improvements.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR provides a detailed overview of the project. The narrative supports the ratings and available evidence. It is candid, particularly in parts where it discusses the issues associated with construction of the expressway in a difficult terrain. The ICR also provides a good description of the measures for ensuring compliance with environmental and social safeguards, and the case study provided in Annex 10 contains useful information on how resettlement was addressed in the case of this project.

The ICR description of mis-procurement which represented 80% of the Bank loan is confusing. It is not clear if the mis procurement was mainly due to a translation issue or a combination of factors including lack of understanding on the part of the Project Implementation Unit (PIU) and/or insufficient training provided by the Bank. While the ICR draws useful lessons from implementing this project, it could have also drawn a lesson for the risk to development outcome given that the segment of the highways was and still remains prone to natural disasters.



- a. Quality of ICR Rating
Substantial