IEG **ICR Review**
Independent Evaluation Group

1. Project Data:		Date Posted : 03/23/2009		
PROJ ID :	P070459		Appraisal	Actual
Project Name :	Cn-inner Mongolia Hwy Project	Project Costs (US$M):	269	258
Country :	China	Loan/Credit (US$M):	100	100
Sector Board :	TR	Cofinancing (US$M):		
Sector(s):	Roads and highways (99%) Sub-national government administration (1%)			
Theme(s):	Rural services and infrastructure (29% - P) Infrastructure services for private sector development (29% - P) Regional integration (28% - P) Trade facilitation and market access (14% - S)			
L/C Number:	L4663			
		Board Approval Date :		06/06/2002
Partners involved :		Closing Date :	03/31/2008	03/31/2008

Evaluator :	Panel Reviewer :	Group Manager :	Group :
Ramachandra Jammi	Peter Nigel Freeman	Monika Huppi	IEGSG

2. Project Objectives and Components:

a. Objectives:

The objective of the Project (as recorded in the Legal Agreement) was to improve the efficiency, safety, and cost effectiveness of the transport infrastructure in support of the social and economic development of the Inner Mongolia Autonomous Region or IMAR (and additionally in the Project Appraisal Document) to improve accessibility to its poorer areas reducing social and economic disparity within the region .

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

No

c. Components (or Key Conditions in the case of DPLs, as appropriate):

Part A: (*At Appraisal: US$185.8M; At Completion: US$169.1M*) Highway Capacity Expansion: Construction of Laoyemiao-Jining Highway (LJH) in the Inner Mongopilia Autonomous Region (IMAR). consisting of (a) construction of about 90 kilometers of a divided, four-lane, access-controlled highway between Laoyemiao and Jining; (b) three toll stations, one service area, and a facility for highway administration and maintenance; and (c) supply and installation of electrical and mechanical equipment for toll collection, traffic monitoring, lighting, and operational

telecommunications facilities on said highway; Resettlement and rehabilitation of Affected Persons in connection with the carrying out of Part A.I of the Project.
Part B: (*At Appraisal: US$61.1M; At Completion: US$81.7M*) Highway Network Improvement Program (HNIP): Carrying out of a program of rehabilitation and maintenance of about five selected sections of rural roads totaling about 343 kilometers in length.
Part C: (*At Appraisal: US$2.1M; At Completion: US$5.8M*) Highway Safety Improvement Program (HSIP): Carrying out of a highway safety improvement program in selected locations on the provincial highway network in IMAR.
Part D: (*At Appraisal: US$0.8M; At Completion: US$0.4M*) Institutional Strengthening and Capacity Building: Carrying out of a training program for staff of highway sector agencies and departments of IMAR in respect of, inter alia, highway management, maintenance, traffic safety, and environmental protection and quality control highway construction.

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

Project cost at completion (US$258M) was slightly lower (4%) than the appraisal estimate of US$268M. The Bank contributed US$100M as planned. The savings came from unused price contingencies and lower costs than anticipated in Part A. which more than compensated for the increases in Part B and C. The project was completed as planned on 03/31/2008.

3. Relevance of Objectives & Design:

The project objectives were consistent with Government priorities and the Country Assistance /Partnership Strategies (2003; 2006) which identified improving transport infrastructure as a key area to achieve social and economic development and address regional inequalities. The project contributed to realizing the larger economic potential of the western provinces, which were primarily suppliers of raw material and needed to diversify their economic activity and integrate better with the national market. Several important sector studies including the Strategy for the Transport Sector (1997/1998) and the China Highway Sector Strategy Review (2001) underpinned the project objectives. Relevance of objectives is rated *high*.
The project design took into account the relevant economic, financial, technical and institutional factors. Traffic forecasts were made and the financial implications of tolled and non-tolled roads were analyzed. The project design attempted to balance highway network improvements between high-growth and high-poverty areas by allocating an appropriate share of investment to lower classes of roads. Road safety issues were incorporated in line with the new emphasis on the subject. The project design attempted to incorporate lessons from similar projects in the past by paying attention to the standards followed in evaluation contract bids, conducting more thorough geological surveys, and providing for proper quality control during construction. The project design took note of potential risks relating to government commitment, land acquisitions, and local political pressures that might affect schedules and quality of work, and proposed measures to mitigate such risks. Relevance of project design is rated *high*.

4. Achievement of Objectives (Efficacy):

The overall achievements against the project objective are rated *substantial*.

Efficiency and cost-effectiveness: Travel time and distances have been reduced for travel on the main east-west corridor in Inner Mongolia, thereby reducing vehicle operating and transport costs. As of 2008, traffic volume on LJH is nearly 60% higher than estimated, and that on NH110 is sightly higher (3-8%) than estimated. Travel time has reduced significantly between Laoyemiao and Jining by about 38 minutes (41% reduction), leading to reduced vehicle operating costs and a more efficient and effective transport corridor. The average number of days on which roads are closed was reduced to 5 days per year from an average of 45 days a year before the investments.

Safety: The project contributed to improved road safety on LJH through treatment of 15 black spots, improvement in traffic management (improved/new traffic sign boards, road markings, etc.) as well as general physical improvement and rehabilitation. Fatalities and accidents were reduced steeply (1 accident, 0 fatalities or injured since 2005), compared to 85 accidents, 35 fatalities, and 63 injured over five years prior to the appraisal year of 2002. There are now plans to treat additional black spots in 60 priority sites and eventually treat several hundreds more. The project has also significantly lowered traffic accidents on several rural roads. In general, the project has also contributed to an increased awareness of (potential) safety issues. However, there is still a lack of coordination between the various agencies responsible for road safety, for example in the sharing of data.
The project financed a study to develop a modern highway maintenance management system which has allowed the analysis of large amounts of road information to improve the deployment of funds to prioritize maintenance works and optimize road management activities. A market-oriented maintenance-by-contract system was tried out for a major rehabilitation of a 40 km road section and a 100 km road section under routine maintenance during a 3- year program, with encouraging results. The contractors fulfilled their obligations and the work was rated high in terms of road condition and maintenance management.

Accessibility, Social and Economic development: The completion of the LJH has provided a missing link in the

(National Trunk Highway System (NTHS) between the northwestern region and Beijing and the coastal areas . The Highway Network Improvement Program (HNIP) investments have increased the accessibility of poor counties and townships to more developed areas through improving 664 km of lower road classes to link the poor counties and townships to other villages and to provincial and national highway systems . Traffic volumes on each of the five rural roads under the program increased from 19%-35%, exceeding appraisal estimates by 2%-51%.
The ICR reports several positive trends in tonnage of goods shipped to Beijing and Tianjin Eastern port (increased annually by 16% between 2001 and 2008, but still about 11% below the appraisal target of 6.46 million tons for 2008); and an increase in per capita net income in the rural areas in inner Mongolia (18.3% from 2007 to 2008); but it not clear to what extent these gains can be attributed to this project .

5. Efficiency (not applicable to DPLs):

The combined Economic Internal Rate of Return (EIRR) for the LJH and HNIP components is estimated at 29.7% compared to 17.9% estimated in the PAD. The individual EIRRs for LJH and HNIP were 21.8% and 41.3% respectively (against 15.1% and 30.2% respectively at appraisal). LJH, which accounted for 65% of the project cost for which there is a toll (there is no toll for HNIP) displayed a financial rate of return of 17.8% against 5.8% at appraisal. The Financial Internal Rate of Return (FIRR) to the capital investments for LJH (there were no tolls for HNIP) was estimated to be 17.8% against an appraisal estimate of 5.8%. The substantially higher rates of return at completion are due to higher than estimated traffic volumes and lower than estimated project costs . The project was completed as scheduled and actual cost was within 4% of that estimated at appraisal. Overall efficiency is rated *high* .

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	Yes	17.9%	96%
ICR estimate	Yes	29.7%	96%

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

6. Outcome:

Relevance of objectives and design were *high* (see section 3), efficacy of the project development objective in terms of its important elements of improving efficiency and cost-effectiveness of the usage of roads under the project; safety; and accessibility and its impact on social and economic development, is rated *substantial*. Efficiency is also rated *high* in terms of EIRR, time and cost. Overall project outcome is rated *satisfactory*.

a. Outcome Rating : Satisfactory

7. Rationale for Risk to Development Outcome Rating:

The physical achievements in the form of the LJH and the HNIP roads have resulted in expected usage, improved safety and reduced road closures. The availability of ongoing resources for maintenance of LJH appears likely as user charges for the expressway are generating higher income than expected . Funds for maintenance of rural roads do not cover maintenance needs but the budgets have increased annually by 10.2% for routine maintenance and 5.3% for periodic maintenance. The technical, managerial, and financial capacity of the highway sector entity, Inner Mongolia Communications Department (IMCD), has improved as a result of this project experience . Overall risk to development is rated *negligible to low.*

a. Risk to Development Outcome Rating : Negligible to Low

8. Assessment of Bank Performance:

The project was not subjected to a Quality at Entry or Quality of Supervision Assessment (QAE or QSA) by the Quality Assurance Group (QAG). IEG rates quality at entry as satisfactory (see section 3). The Bank team was led by an experienced highway engineer and included specialists covering environment, social issues/resettlement, economics, rural roads, institutional strengthening and highway safety . Continuity in supervision was maintained despite having three Task Team Leaders (TTLs) during the project implementation. Adequate attention was paid to implementation of safeguards policies .

a. Ensuring Quality -at-Entry: Satisfactory

b. Quality of Supervision : Satisfactory

c. Overall Bank Performance : Satisfactory

9. Assessment of Borrower Performance:

Both the central government and the Inner Mongolia government displayed commitment to the project throughout, including institutional development components as well as commitment to deadlines . The implementing agency, the Inner Mongolia Communications Department (IMCD), also demonstrated commitment to construction activities as well as institutional development, and helped complete the major activities broadly on schedule with some savings and high quality. There was a significant variation in orders and cost overruns which led to delays in the approval procedure of IMCD but these were smoothed out over time through dialogue with the Bank. However, these issues will need to addressed in the longer run through a more simplified internal clearance procedure.

a. Government Performance : Satisfactory

b. Implementing Agency Performance : Satisfactory

c. Overall Borrower Performance : Satisfactory

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

Design and Implementation: The project specified measurable indicators for appropriately defined outputs, intermediate outcomes and outcomes. Outputs were tracked through quarterly progress reports on civil works . These were supplemented by an annual report that additionally assessed the extent to which development objectives were being achieved based on key outcome indicators (discussed in section 4). The ICR reports that arrangements have been made for on-going collection of data for monitoring performance of the implementing entities beyond the project implementation period.

Utilization: Data collected from the above monitoring instruments was reviewed according to the agreed plan and was used to guide the timely implementation of the project. However, the attribution of developmental outcome indicators such as volume of goods transported and increase in income levels is not very clear, since other factors could also have played a role.

a. M&E Quality Rating : Substantial

11. Other Issues (Safeguards, Fiduciary, Unintended Positive and Negative Impacts):

Safeguards: This was a Category A project for Safeguards, with OP 4.01 (Environmental Assessment and OP 4.12 (Involuntary Resettlement) being triggered. The project met the Borrower's policy and administrative requirements for Environmental Assessment (EA). Potential impacts that were identified included noise, air and water pollution and soil erosion. An Environmental Impact Assessment (EIA), Environment Management Plan (EMP), and a Resettlement Action Plan (RAP) were prepared, including arrangements for supervision, monitoring, and related institutional strengthening and training. Mitigation measures included appropriate alignment selection; providing road crossings, bridges; culverts, drainage, slope protection and restoration of vegetation . The effect of mitigation measures were monitored by the Inner Mongolia Environmental Science Academy and verified by the State Environmental Protection Agency (SEPA). Results were broadly satisfactory except for the need for more attention to greening and restoration works. Public consultation was carried out throughout the project cycle including dissemination of information relating to resettlement through booklets and face -to-face events as necessary. Total expenditure on environmental protection and water and soil conservation was estimated to be about 64.69M Yuan. Resettlement was relatively on a small scale with 24 households being relocated and compensated to the tune of 34.4M Yuan which covered the cost escalation during the project period . Income levels of the resettled persons were reported to have increased by 76% per capita after relocation.

Fiduciary Issues: Fiduciary compliance was broadly satisfactory with Bank procurement guidelines being generally followed, and accounts being found acceptable by audits . There were some delays in finalizing contract prices for the expressway section due to variations in size and amounts of contracts .

12. Ratings:	ICR	IEG Review	Reason for

			Disagreement /Comments
Outcome :	Satisfactory	Satisfactory	
Risk to Development Outcome :	Negligible to Low	Negligible to Low	
Bank Performance :	Satisfactory	Satisfactory	
Borrower Performance :	Satisfactory	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:

- In complex projects involving multiple agencies, it is particularly important for internal clearance procedures to be streamlined and simplified to the extent possible, to reduce the scope for unnecessary delays .
- Where technical capacity of an implementing agency is of a high order, it is more efficient to make use of local staff and consultants to the extent possible on project tasks, while international consultants should be used judiciously in areas where they can add value and improve local capacity .
- In road transport projects that cover new terrain, emphasis should be placed on conducting thorough geo-technical surveys to minimize the need for design changes at later stages, thus reducing the possibility of cost and time overruns.

14. Assessment Recommended? ○ Yes ● No

15. Comments on Quality of ICR:

The ICR is written in a clear and logical manner, and provides relevant background and evidence . The annexes are detailed and informative on evidence relating to outputs, intermediate outcomes and outcomes . The methodology and assumptions in arriving at internal rates of return are also detailed satisfactorily in an annex .

a.Quality of ICR Rating : Satisfactory