



1. Project Data:		Date Posted : 04/28/2003	
PROJ ID: P003652		Appraisal	Actual
Project Name: Cn-2nd Shaanxi Prov Hwy	Project Costs (US\$M)	557	574
Country: China	Loan/Credit (US\$M)	210	210
Sector(s): Board: TR - Roads and highways (84%), Other social services (15%), Sub-national government administration (1%)	Cofinancing (US\$M)		
L/C Number: L3986			
	Board Approval (FY)		95
Partners involved :	Closing Date	12/31/2001	12/31/2002
Prepared by :	Reviewed by :	Group Manager :	Group:
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2. Project Objectives and Components			
a. Objectives			
The project objectives were to :-			
<ol style="list-style-type: none"> support continuing development of road infrastructure to relieve congestion, improve access to important archaeological and tourist sites, facilitate mobility, and increase the efficiency of road transport; assist in the implementation of policy to alleviate poverty in the poor areas of the province; promote development of institutional capabilities of Shaanxi Provincial Transport Department (SPTD); and increase the safety of road transport. 			
b. Components			
The total project costs of \$574 million comprised :-			
<ol style="list-style-type: none"> construction of five high -grade highways - (i) Weinan-Tongguan (WTE), (ii) Tongchuan-Huangling (THH), (iii) Lantian-Xiaoshangyuan (LXH), (iv) Lington-Terra Cotta Warriors Museum (LTWMH), (v) Famen Jiangzhuang-Tangyu (FJTH) and construction rehabilitation and upgrading of 8.2 kms of linking roads to interconnect and feed traffic to interchanges (63%); upgrading of 32 km of Class 1 Xian-Sanyuan Highway (XSH) with full control of access, traffic safety devices and installation of a telecommunications system (2%); improvement and new construction of 4,100 kms of rural roads by the Roads Improvement for Poverty Alleviation (RIPA) program (19%); provision of equipment for control of construction quality, environmental monitoring, operation and maintenance (O&M), and institutional strengthening of SPTD, including the traffic police (2%) ; road safety (1%) ; institutional strengthening and training of SPTD and related agencies by enhancing capacities in O&M, construction supervision, investment planning, RIPA implementation and highway traffic components of the project (2%); and Land Acquisition and Resettlement (to comply with Bank safeguard policies) (9%). 			
c. Comments on Project Cost, Financing and Dates			
Adverse climate conditions, underestimation of geological problems and changes in the designs for telecommunications and toll systems delayed the completion of the project by 1 year, and increased costs. The overrun in dollar terms was 22% for civil works, and 72% for RIPA. The generous contingencies of \$90 million and local currency devaluation in relation to the US\$, enabled overall cost increases to be limited to 3%.			
3. Achievement of Relevant Objectives:			
<ol style="list-style-type: none"> All of the highways were completed, with some delays, but above average construction quality and notable attention paid to environmental and resettlement impacts. As a result congestion was relieved and access to tourist and archaeological sites improved. The ERR of the 5 high-grade highways was 13%, slightly lower than the 16% expected at appraisal. THH had an uneconomic ERR of 9%, below the test discount rate of 12%. Nearly 96% of the planned 4100 km of rural roads in poor areas, in 31 road systems covering 32 counties, were 			

improved. The roads increased living standards although it is unclear from the ICR by how much. The RIPA roads improved access to education, health and social services - for instance the rate of entrance to middle school increased from 40% to 85%, and road accessibility to 2,858 villages from 72% to 95%. The ERR for all phases of RIPA was 16.7%, compared to 15% for the first phase at appraisal.

3. All studies and training were completed, SPTD staff received exposure to new concepts and incentives, learning new practices and technical approaches in the process. Studies contributed to the reform of highway O&M throughout Shaanxi province by improving mechanized operations and data collection, while introducing a new pavement management system,
4. The road safety component was satisfactorily completed according to an independent November 2002 evaluation.

The overall project ERR of 14.1% was only slightly below that anticipated at appraisal (15.8%). The FIRR was close to target and the project is financially viable with strong internal cash generation, sufficient to fund operations, loan repayments and maintenance expenditures. Financial leverage is healthily low with a 66% government equity stake and a current ratio of 2.9 (the ratio of current assets to liabilities.)

4. Significant Outcomes/Impacts:

1. The RIPA was the most noteworthy achievement of the project and succeeded beyond hopes, despite the challenge of exceptional flooding in 1998-99 and corresponding damage to roads (2/3 of RIPA costs were for repair.) The ERR was satisfactory and the social and poverty impact high. The criteria, screening and selection process for RIPA will be used by local authorities as a reference for future programs.
2. The project successfully combined institutional development and sectoral reforms aimed at modernizing the highway system, also making a significant contribution to the Great Western Development Strategy, which requires construction of infrastructure and highway transportation.
3. The additional intensive technical studies, addressing deficiencies in project design (on embankment treatment, management systems, landslides and slope stability) generated new knowledge that is widely applicable in Shaanxi and in similar geographical conditions elsewhere in China.
4. Environment, resettlement and cultural preservation were key aspects of implementation. Over 20 km² of greening were completed.

5. Significant Shortcomings (including non-compliance with safeguard policies):

1. The technical complexities of highway construction and operation were underestimated - this diverted budget from electrical and mechanical supply and installation components. Fortunately these were then financed by Shaanxi Province itself. The lack of preparatory geotechnical investigations, borehole testing and detailed topographical survey, contributed to cost overruns.
2. Accident rates are still high, despite a nearly 400% overrun in costs, and much remains to be done. There is room for improvement in coordination between traffic police and SPTD, more traffic enforcement, pedestrian and driver education.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev.:	Substantial	Substantial	
Sustainability:	Likely	Likely	
Bank Performance:	Satisfactory	Satisfactory	
Borrower Perf.:	Satisfactory	Satisfactory	
Quality of ICR:		Exemplary	

NOTE: ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

1. A poverty alleviation component which does not raise revenue is not necessarily unsustainable. RIPA was not the burden expected - maintenance is only 9% of corresponding total SPTD expenditures and capital investment only 6% of all annual SPTD revenues. Central government was reluctant to support borrowing for a project that did not raise revenue, but the province came to appreciate that the fiscal cost of maintenance was small in comparison to benefits, and financed RIPA itself.
2. The pairing of international with local supervision teams was highly cost-effective, leveraging 162 weeks of international with 12,432 weeks of local supervision services.
3. Entrusting technical studies to outside consultants may allow tight deadlines to be met, but this approach has minimal impact on implementing agency capacity.

8. Assessment Recommended? ☐ Yes ☒ No

9. Comments on Quality of ICR:

Exemplary - clear, concise and complete. The economic and financial analyses are especially noteworthy and apply HDM-III (Highway Design and Maintenance Standards Model) to estimation of benefits.

