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|---|------------------------------|---------------------------------|---------------|
| <b>1. Project Data:</b>   |                              | <b>Date Posted :</b> 06/27/2002 |               |
| <b>PROJ ID:</b> P003569   |                              | <b>Appraisal</b>                | <b>Actual</b> |
| <b>Project Name:</b> Shanghai-Zhejiang Hwy  | <b>Project Costs (US\$M)</b> | 729.2                           | 614.0         |
| <b>Country:</b> China   | <b>Loan/Credit (US\$M)</b>   | 260.0                           | 197.4         |
| <b>Sector(s):</b> Board: TR - Roads and highways (97%),<br>Sub-national government administration (3%)  | <b>Cofinancing (US\$M)</b>   |                                 |               |
| <b>L/C Number:</b> L3929  |                              |                                 |               |
|   | <b>Board Approval (FY)</b>   |                                 | 95            |
| <b>Partners involved :</b>  | <b>Closing Date</b>          | 06/30/2001                      | 12/31/2001    |
| <b>Prepared by :</b>  | <b>Reviewed by :</b>         | <b>Group Manager :</b>          | <b>Group:</b> |
| Robert C. Varley  | John H. Johnson              | Alain A. Barbu                  | OEDST         |
| <b>2. Project Objectives and Components</b>   |                              |                                 |               |
| <b>a. Objectives</b>  |                              |                                 |               |
| The following objectives are from the SAR (Staff Appraisal Report) for the Shanghai-Hangzhou Expressway (SHE): -  |                              |                                 |               |
| <ol style="list-style-type: none"> <li>to increase highway capacity in the Shanghai -Hangzhou corridor in order to relieve existing congestion and promote economic development.</li> <li>to improve road safety in northern Zhejiang; and</li> <li>to develop highway sector institutional capacity in Shanghai and Zhejiang .</li> </ol>  |                              |                                 |               |
| <b>b. Components</b>  |                              |                                 |               |
| Total realized project costs of \$614.0 million comprised:-   |                              |                                 |               |
| <ol style="list-style-type: none"> <li>Civil Works for construction of a 130 Km divided four-lane access controlled highway, including service facilities, and upgrading and construction of 56 km of linking roads (72%.)</li> <li>Electronic and mechanical (E&amp;M) equipment supply and installation (3%)</li> <li>Construction Supervision (2%)</li> <li>Road Safety Program, and Technical Assistance (TA) (1%)</li> <li>Equipment for research, pavement management and maintenance of expressways (1%)</li> <li>Land Acquisition and Resettlement (21%.)</li> </ol>  |                              |                                 |               |
| <b>c. Comments on Project Cost, Financing and Dates</b>   |                              |                                 |               |
| The first part of the road safety program component was declared misprocured because of quality problems and \$7.75 million cancelled from the loan in 1996. Assuming the main text to be correct (see section 9) there were substantial savings in overall costs due to accelerated and more efficient procurement procedures . None of the \$ 175 million contingency was used.   |                              |                                 |               |
| <b>3. Achievement of Relevant Objectives:</b>   |                              |                                 |               |
| <ol style="list-style-type: none"> <li>The construction was completed on time and below budget . The Shanghai section of the SHE was rated among the ten best projects by Shanghai Municipal Government in 1998. The ERR was satisfactory at 22.7% albeit below that projected in the SAR at 32.8%.</li> <li>The number of accidents with fatalities per 10,000 vehicles was reduced from 3.28 in 1995 to 1.15 in 2000 - this is attributed to the Road Safety Program (but see section 9 below.)</li> <li>The construction and project administration capacity of Zhejiang Province has been greatly advanced by the project - for instance implementation of competitive bidding, provision of FIDIC and supervision systems .</li> </ol> |                              |                                 |               |
| <b>4. Significant Outcomes/Impacts:</b>   |                              |                                 |               |
| <ol style="list-style-type: none"> <li>Congestion was relieved and the travel speed on NR 320 increased from 36.8 to 46.8 km/hour in the first year after opening of the SHE.</li> <li>"The quality of expressway construction is above average - better than any other expressway in China ."</li> <li>The securitization of project assets has led to the exploration of private alternatives for financing high -grade highways. The Zhejiang Expressway Company (provincially owned) was granted a concession on a section of the expressway.</li> <li>Procurement efficiency and project management contributed to cost savings - \$ 175 million of contingencies</li> </ol>   |                              |                                 |               |

were not used.

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

1. The project only focused on physical design and did not consider policy issues such as private sector participation. As the ICR observes there are limited resources for financing the transport sector and there is an enormous demand.
2. Even though this was a toll expressway, financial analysis was not undertaken at appraisal - a deficiency made up in the ICR.
3. There was significant overestimation of demand - traffic is projected to grow at 6.4-7.0% over the next 20 years, compared to 10.9- 11.1 at appraisal. There were corresponding falls in the ex-post NPV (\$5.2 billion versus \$15.9 in the SAR.)
4. The misprocurement of the Road Safety Program in Zhejiang revealed inadequate design and construction, supervision and development problems. The documentation revealed flaws in the overall sequencing of events. This happened despite forewarning.

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

**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. Through joint supervision with international consultants the local counterparts can learn to appreciate the importance of quality control and assurance ("Compliance with World Bank instructions and positive cooperation are key elements for smooth implementation" - Borrowers Comments.).
2. Bank procurement policy is an important instrument of quality assurance and good governance.
3. The experience with expressway diversion of traffic from existing roads should be incorporated in future projects to improve the accuracy of traffic projections.

**8. Assessment Recommended?**  Yes  No

**9. Comments on Quality of ICR:**

Satisfactory apart from the cost inconsistencies between text and supporting annexes.