



Validation Report

Reference Number: PCV:BAN 2007-34
Project Number: 30022
Loan Number: 1708(SF)
November 2007

Bangladesh: Southwest Road Network Development Project

Operations Evaluation Department

Asian Development Bank

ABBREVIATIONS

| | | |
|------|---|--|
| ADB | – | Asian Development Bank |
| EA | – | executing agency |
| EIRR | – | economic internal rate of return |
| FFYP | – | fifth five-year plan |
| NRSC | – | National Road Safety Council |
| OFID | – | OPEC Fund for International Development |
| PCR | – | project completion report |
| RHD | – | Roads and Highways Department |
| RRP | – | report and recommendation of the President |
| TA | – | technical assistance |

Key Words

adb, asian development bank, bangladesh, roads, lessons, operations evaluation department, performance evaluation

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OED PCR VALIDATION REPORT

| 1. Basic Project Data | | PCR Review Date Posted: | | |
|--------------------------------------|---|--|---------------------------------------|--------------------------------|
| Project Number: | 32200 | Appraisal | Actual | |
| Project Name: | Loan 1708-BAN(SF): Southwest Road Network Development Project | Total Project Costs (\$M): | 214.40 160.86 | |
| Country: | Bangladesh | Loan/Credit (\$M): | 115.00 86.46 | |
| Sector(s): | Transport | Cofinancing (\$M): | 19.40 12.15 | |
| Financing (\$M): | ADF: 115.00 | Borrower Contribution (\$M): | 80.00 59.31 | |
| | OCR: | Board Approval Date: | 16 November 1999 | |
| Cofinanciers: | | Closing Date: | 30 Sep 2004 27 Sep 2006 | |
| Project Officers: | Name: | Designation: | From (month/yr) | To (month/yr) |
| | Albab Akanda | Sr. Project Specialist, IWTC | 1999 | — |
| | Yasushi Tanaka | Project Engineer, IWTC | — | 2001 |
| | M. Mizutani/ Hans Carlsson | Transport Economist, SAID | 2002 | 2002 |
| | Stefan Ekelund | Sr. Project Specialist, SAID Proj. Impl. Specialist | 2002 2003 | 2002 2005 |
| Evaluator: | Thomas F. Jones | Director: | Ramesh B. Adhikari, OED2 | |
| Quality Control Reviewer: | Narendra Singru, OED2 | | | |

2. Project Description (as stated in RRP)

a. Rationale and Expected Impacts

The need to develop and maintain an effective road network is a key theme of infrastructure development efforts in Bangladesh. The general framework for such efforts has been set in the fifth five-year plan (FFYP). Despite the temporary slowdown in economic growth owing to the 1998 floods, the demands on the road network are significant and growing. There are five main transport corridors in the country: (i) Dhaka-Chittagong, (ii) Dhaka-Northwest, (iii) Dhaka-Khulna, (iv) Dhaka-Sylhet, and (v) Khulna-Northwest. The Asian Development Bank (ADB), together with the Japan Bank for International Cooperation, has financed improvements along the Dhaka-Chittagong corridor, while the World Bank is currently improving Dhaka-Sylhet. The Dhaka-Khulna corridor is the second most important corridor in Bangladesh after Dhaka-Chittagong, particularly for freight destined for Mongla Port, the second seaport in the country. The corridor connects the capital with Khulna, the country's third largest city; Benapole, a growing land transit port at the border with India; and Jessore, a major southwest city. The current linkage between Dhaka and Khulna involves a 260 kilometers (km) route through Aricha, Faridpur, Magura, and Jessore. The connection to Mongla adds about 40 km and involves a severely congested ferry crossing over the Rupsha River. Regional cooperation in transit trade and passenger links will be enhanced with improvement to the corridor. Of the three different options analyzed for a new alignment that would shorten the current linkage, the selected option for the Project reflects the least adverse impacts on environment, land acquisition, and resettlement.

Bangladesh has one of the lowest per capita incomes in the world and extremely high absolute poverty levels. The southwest region through which the proposed road runs covers two divisions and 21 districts with an estimated population of about 35 million, almost 25% of the total population of the country. The population density along the Dhaka-Khulna/Mongla corridor is close to the national average of 755 persons per square kilometer over most of the road. It is estimated that 44% of the population along the corridor are landless, and 25% are marginal farmers with less than a hectare of land. The extent of poverty along the Bhanga-Bhatiapara-Gopalganj corridor is higher than the national average owing to lack of employment opportunities and underutilization of local resources. Improvement of the road network under the Project is expected to lead to significant economic growth throughout the southwest region and contribute to poverty reduction through easier and higher mobility of labor; employment in the construction and maintenance of roadworks; employment and self-employment in transportation; growth of petty trade and commerce; and promotion of horticulture, fisheries, and other nonfarm activities.

b. Objectives or Expected Outcomes

The objectives of the Project are to (i) open a shorter and more cost-effective road corridor linking Dhaka with cities of Mongla, Khulna, Jessore, and Benapole, thereby creating conditions for greater regional cooperation with neighboring countries and inducing economic growth in the relatively neglected southwestern region of the country; (ii) address poverty reduction and human development needs by providing access to income and employment opportunities and by creating safer roads through technical improvements and public awareness; (iii) improve public sector governance through institutional reform and private sector participation; and (iv) strengthen institutional responsiveness to social and environmental issues.

Poverty reduction is a major developmental objective of the Project. According to the estimates of the Poverty Reduction Impact Study (PRIS) carried out as part of the detailed project design, 52% of the population in the project zone of influence is poor, and 46% are extremely poor. These figures are higher than the national averages of 48% poor and 23% extremely poor.

Three project outputs were envisioned at appraisal. These were (i) developing an effective road network, (ii) improving governance and institutional development, and (iii) addressing social and environmental issues. These are presented in more detail in (c) below.

c. Components

- a. **Developing an Effective Internal Road Network:** Capable of accommodating rapidly growing levels of freight and passenger traffic, including transit trade, by improving, constructing, and rehabilitating about 166 km of roads from Dhaka to Town Noapara on ADB-financed Khulna-Mongla Road and constructing a 450 km bridge over the Arial Khan River. The Project was to also undertake road safety civil works at selected black spots throughout the country.
- b. **Improving Governance and Institutional Development:** (i) Introducing transparency and accountability: Contracting and bid evaluation processes have been identified as areas in which systemic improvements will reduce corruption and inefficiencies. The Project was to introduce greater transparency and accountability at the Roads and Highways Department (RHD) through the creation of procurement and monitoring divisions and improvements to financial processes, greater organizational efficiency, and promotion of private sector participation in management and operation opportunities such as the management and operation of the five vehicle inspection centers financed under ADB-financed Road Overlay and Improvement Project. (ii) Making resource allocation efficient: The allocation of road maintenance funds customarily has not followed an economic criteria-based maintenance program over a defined period with clear allocation of resources. The Project was to require that RHD mandate the use of its highway planning and maintenance model, for which it was to provide consulting services and network support.
- c. **Addressing Social and Environmental Issues:** (i) Establishing responsive institutions: Although RHD is actively taking social and environmental concerns into account in its new and ongoing projects, it still lacks a division with a clear institutional mandate to address those issues. The Project was to create a social and environment circle at RHD with qualified social scientists who will participate in the design, implementation, and monitoring of socially and environmentally responsive projects. (ii) Making roads safe: Road safety is a major issue. The Project was to seek to address road safety issues through improved road design and construction and public awareness campaigns. Institutional support was to also be provided to the National Road Safety Council (NRSC) to implement its National Road Safety Action Plan in coordination with the World Bank. (iii) Creating opportunities for women: To ensure that gender concerns are addressed, the Project was to set employment targets for road constructions and afforestation activities, as well as require contractors not to differentiate wages between men and women, and to provide facilities for women involved in construction works. The Land Acquisition and Resettlement Plan was to provide special assistance for female-headed households. (iv) Reducing poverty: Recognizing that creating access to income and employment opportunities would have significant impacts, the Project was to assess the impacts through a Poverty Reduction Monitoring Program that would apply benchmarks set out under the Poverty Reduction Impact Study carried out as part of the detailed design of the Project. (v) Implementing ADB's Involuntary Resettlement Policy: With the creation of the social and environment circle, resettlement issues were to be addressed more systematically by RHD. The Land

Acquisition and Resettlement Plan was to be carried out by a qualified nongovernment organization (NGO) contracted prior to approval of the loan to ensure early and equitable resolution of resettlement issues. (vi) Improving air quality: The Project was to include a technical assistance activity to identify clean air options and strategies, particularly in the use of compressed natural gas (CNG) in urban transport modes.

d. Outputs

The expected outputs are described in section c above.

3. Evaluation of Design and Implementation (Evaluator assessment of actual versus envisioned)

a. Relevance of design and formulation

The Project was and still is highly relevant to the needs of the transport sector. The Project was developed in accordance with ADB's country operational strategy, which emphasized the importance of the road network for regional cooperation. ADB's strategy also focused on developing the capacity of those institutions that plan, manage, and maintain the transport system. It was also consistent with the Bangladesh Integrated Transport System Study (1998) and the Road Master Plan (1994).

b. Components (or key conditions in the case of program loans): Outputs and costs by component as envisioned during appraisal as compared to actual costs and achievement of outputs; reasons for any deviation

Appraisal and Actual Costs (\$ million)

| Project Component | Appraisal Estimate | | | Actual | | |
|--|--------------------|---------------|---------------|--------------|--------------|---------------|
| | Foreign | Local | Total | Foreign | Local | Total |
| A. Base Cost | | | | | | |
| 1. Land Acquisition/Resettlement | | 10.00 | 10.00 | | 10.05 | 10.05 |
| 2. LARP Implementation | | 1.00 | 1.00 | | 0.85 | 0.85 |
| 3. Civil Works | 77.97 | 74.79 | 152.76 | 63.13 | 66.98 | 130.11 |
| a. National Highway No. 8 | 77.09 | 73.47 | 150.56 | 62.45 | 65.95 | 128.40 |
| b. Road Safety (a) ADB | 0.80 | 1.20 | 2.00 | 0.68 | 1.03 | 1.71 |
| (b) Danida ^a | 0.08 | 0.12 | 0.20 | | | |
| 4. Construction Supervision | 7.17 | 4.03 | 11.20 | 6.54 | 5.52 | 12.06 |
| 5. Project Administration | | 1.00 | 1.00 | | 1.37 | 1.37 |
| 6. Poverty Reduction Monitoring Program ^b | | 0.25 | 0.25 | | | |
| 7. Road Safety Component: (a) NDF | 2.40 | 1.60 | 4.00 | 2.51 | 1.38 | 3.89 |
| (b) Danida | 0.08 | 0.12 | 0.20 | | | |
| Subtotal (A) | 87.62 | 92.79 | 180.41 | 72.18 | 86.15 | 158.33 |
| B. Contingencies | | | | | | |
| 1. Physical | 8.51 | 9.10 | 17.61 | | | |
| 2. Price | 4.45 | 8.41 | 12.86 | | | |
| Subtotal (B) | 12.96 | 17.51 | 30.47 | | | |
| C. Service Charge during Construction | 3.57 | 0.00 | 3.57 | 2.53 | | 2.53 |
| Grand Total | 104.15 | 110.30 | 214.45 | 74.71 | 86.15 | 160.86 |

ADB = Asian Development Bank, Danida = Danish International Development Assistance, LARP = land acquisition and resettlement plan, NDF = Nordic Development Fund.

^a Danida withdrew its commitment to provide \$0.40 million grant for part of the road safety component (Dhaka-Aricha highway) as that road section was to be financed under another project.

^b This item was transferred to the supervision consultants to undertake, as the Planning Commission, which was to be responsible for this, did not take timely action.

Project costs were largely in line with appraisal estimates. The largest component and the one that normally has the largest overruns was the cost of civil works, which was not the case here. All the civil works contract bids were significantly lower than the engineers' estimate by 17% to 31%. The total bid price for all contracts was 25% lower than the engineers' estimate. This was due to devaluation of the Taka relative to the US dollars and, presumably, competitive bidding. A total of \$30.47 million in contingencies was allowed for but not used. The road safety component was not completely undertaken, as Danida withdrew its funding in favor of another project.

c. Project cost, disbursements, borrower contribution, and conformance to schedule (as relevant to project performance)

There was no disbursement schedule included in the appraisal. Nevertheless, given the implementation delays totaling about 15 months, disbursements had to be slower than anticipated. Delays were mainly due to (i) delay in availability of Government funds, (ii) a longer-than-expected flood season, (iii) delays in site clearance, and (iv) delays related to unexpected design problems. After some delay, the Government was able to make the necessary funds available. Also, the mobilization payment to contractors for the civil works contract from Dhaka to Mawa, which was partly financed by the OPEC Fund for International Development (OFID), was delayed due to administrative difficulties. In spite of these delays, the civil works were completed to a good standard and generated traffic beyond expectation.

d. Implementation arrangements, conditions and covenants, and related technical assistance

The implementation arrangements were as envisaged at appraisal. There were numerous changes by RHD supervision staff, but it does not appear that this resulted in any loss of civil works quality or in any undue delay to the completion of the Project. The Government and the Executing Agency (EA) generally complied with the standard loan covenants, but there were some exceptions. The Project put some very tight schedules on instituting measures to improve governance and institutional development that were not met. Nevertheless, the various measures were eventually instituted. Two specific areas were identified where this could have affected project performance. The covenant related to the privatization of the vehicle inspection centers could not be implemented for various reasons, including lack of capacity and resources. This component has been transferred to an ongoing ADB-financed project. The EA was to ensure that the contractors followed the environmental mitigation measures, but this was not always done. Finally, the covenant on resettlement and land acquisition was also delayed.

The related technical assistance (TA) was designed to help tackle ways and means of improving air quality in Dhaka and other major cities in Bangladesh. In essence, the TA was to identify the sources of air pollution particularly as related to motor vehicles, suggest means to reduce these pollutants through the development of action plans, review relevant regulations and suggest changes, and identify the potential role of ADB to help improve the situation. A technical assistance completion report was prepared and rated the TA as successful.

e. Performance of the Borrower and Executing Agency

The Borrower appears to have performed as expected. The loan effectiveness process went according to schedule, and cancellations of unneeded loan proceeds were done in a prudent manner. Similarly, necessary extensions to the loan closing date were handled expeditiously. The project completion report (PCR) simply states that RHD, the EA for the Project, effectively managed physical implementation of the Project. Implementation of civil works involves activities they are well qualified and equipped to undertake. It was far more difficult for RHD to implement institutional changes, but these were eventually instituted with a certain level of success. The Borrower and RHD's performance was rated as successful.

f. Performance of the Asian Development Bank

Overall, ADB performance was rated as successful. Initially, the Project was administered from ADB Headquarters, but this was eventually transferred to the Bangladesh Resident Mission. A total of seven review missions, one special loan administration mission, a midterm review mission, and an environmental review mission were fielded. This displays a considerable input by ADB that was recognized by the EA. As there were no financial or revenue-generating components included in the Project, it is curious why a financial analyst was included in the appraisal mission.

4. Evaluation of performance (evaluator assessment)

a. Relevance

The civil works funded under the Project were relatively straightforward, but the institutional, social, and environmental components were quite comprehensive and reflected many aspects of the transport sector that required attention. Also, the Project was highly congruent with ADB's strategy and the Government's plans. As such, the Project can be considered as highly relevant.

b. Effectiveness in Achieving Outcome

The PCR evaluated the Project as effective, and this validation agrees. The outcomes as envisaged at appraisal were substantially achieved. The civil works were completed at an acceptable level of quality. Traffic has grown at a higher rate than estimated at appraisal. The effect on poverty reduction was very substantial. Institutional and governance matters, although late in realization, were accomplished. Road safety effects cannot yet be measured, but there are signs that significant improvements were achieved.

c. Efficiency in Achieving Outcome and Outputs

The Project is rated as highly efficient. Efficiency was rated through a recalculation of the economic internal rate of return (EIRR) for the project road. At appraisal, the EIRR was estimated at 23.1%, while the PCR calculated 27.6%. The primary differences between reevaluation and appraisal were (i) lower economic costs based on actual costs, (ii) longer construction periods caused by implementation delays, and (iii) higher-than-expected traffic growth.

d. Preliminary Assessment of Sustainability

Sustainability is rated as less likely. There is, at present, a considerable backlog of maintenance of all types on the national road network due to budgetary shortages. As a result, many of these roads will have to be reconstructed at some point and at considerably higher cost. While the Government is said to be seriously considering a Road Maintenance Fund, there is normally a lot of resistance to such dedicated funds. Secondly, no case is made to show that the fund will have adequate access to revenue sources.

For the project road, in addition to the lack of maintenance funds, there is the very real concern that overloaded trucks could advance the road's deterioration. Although there is an axle weigh station on the road, it is not operational nor is there any operational axle weigh station in Bangladesh.

e. Impact (both intended and unintended)

In general, it appears that the environmental impact mitigation measures were followed with reasonable success. The most significant impact that was not fully understood at appraisal involved the socioeconomic impact of the Project. While it is understandable that local incomes would go during construction, a telling post construction statistic revealed that about 185,000 permanent jobs were created in the project area in the fields of transport, small enterprises, and the trade and service sectors. Resettlement proved difficult and contentious. The project designers did a good job by preparing a thorough land acquisition and resettlement plan, the implementation of which started 1 year ahead of the award of civil works contracts. Some serious problems were associated with resettlement. Specifically, noncompliance and delayed compliance with the related loan covenants. The main problem appears to be related to the responsibility for payment resting with the district commissioners. They did not have the necessary funds in a timely manner nor were they adequately staffed for this undertaking. There was also some harassment by the district commissioners and allegations of corruption. As a result, construction was delayed and the contract of the NGO responsible for implementation of the land acquisition and resettlement plan had to be extended five times. Land acquisition was completed in 2003, but compensation was completed in 2005. A survey by the NGO indicated that 81% of affected persons were better off, while 19% had maintained their income and livelihood.

5. Overall assessment, lessons, and recommendations (evaluator assessment)

a. Overall Assessment

Overall, the Project was successful. It was completed at a cost considerably below estimates and with good quality. The benefits ascribed to the road improvement component were well above those estimated at appraisal. The institutional components, although sometimes slow in realization, were eventually achieved. Privatization of the vehicle inspection centers was not achieved but is being further pursued under an ongoing ADB-funded road project.

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| <p>b. Lessons</p> <p>In addition to the lessons learned that are included in the PCR, this validation makes the following observation: Much of the travel time savings that could be attributed to the road improvement component are not being realized because of low ferry capacity at the Mawa river crossing. All components of a road project should be evaluated and steps taken to ensure that potential benefits are realized.</p> <p>c. Recommendations</p> <p>In addition to the recommendation made in the PCR, this validation adds the following:</p> <p>(i) Both the report and recommendation of the President (RRP) and the PCR make several mentions of the regional aspect of project, but these are not spelled out in either document.</p> <p>(ii) The Project has opened many opportunities for institutional development and reforms. These should be followed-up and, where appropriate, supported by all stakeholders and external financing agencies.</p> |
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| <p>6. M&E design, implementation, and utilization (evaluator assessment)</p> <p>The design of the Project was comprehensive and complex involving not only a large road improvement component but also several institutional initiatives and cofinancing. These aspects were well covered and explained in the RRP, and with few exceptions, the Project's goals were achieved. Overall, the design was quite good and appears to have been effective in implementation. There are no significant issues to be brought out here.</p> |
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| <p>7. Other (safeguards, including governance and anticorruption; fiduciary aspects)</p> <p>Safeguards were complied with albeit with some difficulty. Corruption does not appear to be a major issue, although some corrupt practices have been alleged concerning resettlement payments. Fiduciary aspects appear to have been well handled.</p> |
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| 8. Ratings | PCR | OED Review | Reason for Disagreement/Comments |
|---|-----------------|-----------------|----------------------------------|
| Relevance: | Highly Relevant | Highly Relevant | |
| Effectiveness in Achieving Outcome: | Effective | Effective | |
| Efficiency in Achieving Outcome and Outputs: | Efficient | Efficient | |
| Preliminary Assessment of Sustainability: | Less Likely | Less Likely | |
| Borrower and EA: | Satisfactory | Satisfactory | |
| Performance of ADB: | Satisfactory | Satisfactory | |
| Impact: | Positive | Positive | |
| Overall Assessment: | Successful | Successful | |
| Quality of PCR: | | Satisfactory | |

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| <p>9. Comments on PCR Quality</p> <p>Based on:</p> <ul style="list-style-type: none"> • Quality and completeness of evidence and analysis to substantiate claimed ratings • Consistency with PCR Guidelines (PAI 6.07) • PCR candor and internal consistency; consistency of narrative/ratings with monitoring indicators, other data • Candid, accurate consideration of exogenous factors (positive and negative), and attribution of results • Extent to which lessons and recommendations are based on evidence and analysis <p>(i) Although both the RRP and the PCR make several allusions to the positive subregional impact, neither is clear about just how this will be achieved.</p> <p>(ii) Mongla Port is at the terminus of the project road, and it is touted as being the second most important port in the country. Project justification could have been strengthened if a stronger analysis of Mongla's role had been made.</p> <p>(iii) The reasons why the Bangladesh Road Transport Authority and the Planning Commission failed as implementing agencies could have led to further lessons learned.</p> <p>(iv) The economic reevaluation appears very conservative especially with the levels of road roughness assumed. If the road had not been improved, it is likely that the international roughness index would have exceeded 4 meters/km.</p> <p>(v) It is very difficult to make a comparison between the economic evaluation at appraisal and in the PCR, as the tables are largely different in presentation and data content.</p> |
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**REGIONAL DEPARTMENT'S RESPONSE TO THE PROJECT COMPLETION REPORT
VALIDATION REPORT**

On 30 October 2007, Director, OED2, Operations Evaluation Department (OED), received the following comments from the Bangladesh Resident Mission, South Asia Department.

We have reviewed OED's earlier draft Project Completion Report (PCR) Validation Report circulated to us on 12 October 2007 and its final draft that was sent to us for review on 30 October 2007. We appreciate that the comments we made to OED on the earlier draft have been adequately incorporated in the final draft. Therefore, we have no formal comment to make on the final draft.