



1. Project Data

Project ID P145778	Project Name Mizoram State Roads II- Reg Connectivity	
Country India	Practice Area(Lead) Transport	
L/C/TF Number(s) IDA-54250	Closing Date (Original) 31-Oct-2020	Total Project Cost (USD) 95,532,887.12
Bank Approval Date 12-Jun-2014	Closing Date (Actual) 30-Apr-2021	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	107,000,000.00	0.00
Revised Commitment	105,660,000.00	0.00
Actual	95,532,887.12	0.00

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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) as stated in the Financing Agreement dated April 1, 2014 (Schedule 1, page 6) and in the Project Appraisal Document (PAD, page ii):

To increase transport connectivity along regional transport corridors in Mizoram.



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

No

c. Will a split evaluation be undertaken?

No

d. Components

There were two components (PAD, pages 8 - 10).

Component one. Improvement of Priority Cross-border Roads an Infrastructure. The estimated cost at appraisal was US\$102.0 million. The actual cost was US\$93.9 million. There were four subcomponents.

(i) Widening and upgrading of roads of about 103.02 kilometer of roads. This included: The Lungei - Tlabung - Kawpucchvah (L - T - K) road on the border with Bangladesh (about 34.24 km); Champai-Zokhawthar (C-Z) road on the border with Myanmar (about 27.25 km); and Chhumhum - Chawngte (C -C) North-South corridor alignment connecting to the border roads with Bangladesh to the west and Myanmar to the south (about 41.53 km); (ii) preparing detailed studies for about 330 km of roads in the North-South corridor; (iii) road safety improvements on the identified road corridors; (iv) building trade-related infrastructure located along the targeted roads, including *haat* structures (*haat* refers to a market held on a regular basis in rural areas), and truck stops.

The Bank project team clarified that the Ministry of Road Transport declared the section from Lungei to Tlabung as a National Highway just before signing of the loan . Hence only 22 km of this section were retained for the project. Also, in the course of project implementation, due to road alignment design modifications to better negotiate the hilly terrain and avoid rock slide prone areas, the actual km of roads to be upgraded was reduced to 77.7 km without changing the intended purposes.

Component two. Road safety modernization and performance enhancement through institutional strengthening. The estimated cost at appraisal was US\$5.0 million. The actual cost was US\$4.5 million. This component planned to strengthen the Public Works Department's (PWD) capacity to implement its road sector modernization plan. There were five subcomponents.

a. Modernizing policies, engineering practices and business procedures. Activities in this subcomponent: (i) developing sector policies and strategies; (ii) preparing engineering manuals and studies; (iii) a procurement and contract management manual to introduce road safety practices; and (iv) introducing improved practices and standards for design, construction, quality monitoring and maintenance of the hill roads.

b. Asset management and maintenance. Activities in this subcomponent: (i) developing an asset management strategy and management system for the strategic core road network comprised of key state and regional corridors; (ii) operationalizing the existing road maintenance fund; (iii) providing technical assistance to mobilize additional funds for road maintenance; and (iv) utilizing simple maintenance contracts to deliver maintenance works, including through community-based contracts.

c. Institutional and human resources development. Activities in this subcomponent: (i) implementing a human resources development strategy for PWD; (ii) carry forward the computerization of PWD initiated under a previous Bank-funded project; and (iii) building capacity of the local construction industry.



d. Road safety management. Activities in this subcomponent: (i) support for establishing a Road Safety Fund, implementing road safety audits and road safety improvement activities along priority road corridors; (ii) integrate road safety measures into the Asset Management system; and (iii) implement public awareness program on road and work zone safety.

e. Improving capacity for environmental and social safeguards management. Activities in this subcomponent included strengthening the environment and social management cell's institutional capacity for planning, executing, and monitoring of environment and social safeguards policy for road sector development projects.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project cost. The estimated cost at appraisal was US\$107.0 million. The actual cost was US\$95.5 million.

Project financing. An IDA credit of US\$107.0 million financed the project (This included IDA funds from the country envelope and the regional IDA envelope). According to the clarifications provided by the Bank team, by the time the project closed, the Bank disbursed US\$95.5 million, and the bank cancelled US\$1.3 million at government request (discussed below). The team also clarified that the difference between the IDA credit and disbursements (US\$10.1 million) was due to exchange rate changes during implementation.

Recipient contribution. The recipient had not planned at appraisal to contribute. There was no recipient contribution during implementation.

Dates. The Bank approved the project on June 12, 2014, and the project became effective on October 10, 2014, with a planned closing date of October 31, 2020. However, the project closed six months behind schedule on April 30, 2021.

Other changes. The Bank supported the following changes through a Level 2 project restructuring on October 30, 2020.

- extended the closing date by six months from October 31, 2020, to April 30, 2021, for completing the ongoing activities that were delayed in the wake of the COVID-19 pandemic lockdown imposed by the state and central government from March 2020 to mid-April 2020, and intermittently thereafter.
- cancelled US\$1.3 million of the IDA credit, in response to the government's request for repurposing savings under existing loans in response to the COVID-19 pandemic.

3. Relevance of Objectives

Rationale

Country and State context. Despite its potentially advantageous geographical location between Bangladesh and Myanmar, Mizoram is a secluded and landlocked state in India's northeastern region, and is one of the poorest in the country. Mizoram's lagging economic development is due in large part to its



landlocked location, poor infrastructure, and limited linkages with markets and ports of neighboring countries including Bangladesh and Myanmar, which are physically closer to Mizoram than the rest of India. Travel and transport from Aizawl, Mizoram's state capital to Delhi involves an approximately 2,400 km via the congested Siliguri corridor, and a journey of 1,547 km to the nearest Indian port of Kolkata. In contrast, the Chittagong port in Bangladesh is only 100 km away from Mizoram's border.

This project addressed a development challenge due to Mizoram's geographic location in India. Given Mizoram's long distance to markets and ports in India, rehabilitating the road network in the regional corridor linking Mizoram to markets and ports in Bangladesh and Myanmar, would significantly improve Mizoram's development prospects, both by lowering prices for Mizoram's consumers, and by giving Mizoram access to wider markets via ports in Bangladesh and Myanmar.

Sector context. Mizoram's road network is poor in quality and under developed. The key challenges of the road sector included: inadequate sector funding and for road maintenance, weak planning for investments, out of date road engineering practices and business procedures, limited capacity of the road agency staff, low capacity of the construction industry, and poor road safety management.

Government strategy. The PDO was well-aligned at appraisal with India's vision for development outlined in its 12th Five Year Plan for 2013-2017. This plan highlighted the need for "*faster, sustainable and more inclusive growth*", through focusing on poverty reduction, equality and regional balance. This plan emphasized the need for developing a more balanced transport network to link the north eastern regions of India to the rest of India. The PDO continues to be relevant with the Mizoram government strategy outlined in the "*Sustainable Vision for 2030 for Mizoram*". This strategy highlighted the need for improving rural and interurban connectivity, trade facilitation initiatives for expanding domestic and international trade, and institutional development.

Bank strategy. At appraisal, the PDO was well-aligned with the overarching objectives of the Bank's Country Partnership Strategy (CPS) for the 2013-2017 period of poverty reduction and shared prosperity in India. Specifically the CPF highlighted the need for economic integration through improving transport connectivity, and strengthening regional trade integration through more balanced multimodal transport network to link the northeastern states to the rest of India. The PDO continues to be well-aligned with the Bank's Country Partnership Framework (CPF) for 2018-2022. The focus area two of the CPF highlighted the need for enhancing competitiveness and enabling job creation, including through improving transport connectivity and expanding interregional trade for remote regions in India.

Bank experience. The preparation of this project, which came on the heels of a previous Bank financed transport project in Mizoram (Mizoram State Roads project), drew upon the experiences from the previous project (discussed in section 9). The design, although simple with only two components in view of the low implementation capacity of the state, had innovative aspects tailored to local conditions. This included: (i) an application of bioengineering solutions for slope stabilization given the state's topography; (ii) truck stops near the border to prevent truck traffic congestion at the border; and (iii) developing a comprehensive Road Asset Management System (RAMS) with new modules for Economic Corridor Information System, green and resilient roads, and rural accessibility.

That said, the PDO as formulated ('along regional corridors in Mizoram') was relatively unambitious, as compared to the Bank's criteria for regional projects (that is, having activities in more than one country), and given that the project was partly funded through the regional IDA credit. The project activities focused on rehabilitating roads only up to the Mizoram border with Bangladesh and Myanmar. In terms of a regional



context, the expected project outcomes were not outcome-oriented. Although the project activities fulfilled a necessary condition for facilitating movement of freight in Mizoram, it was not sufficient to achieve the regional perspective of the PDO of "*increasing transport connectivity along regional transport corridors*", without complementary infrastructure investments in Bangladesh and Myanmar in general, and at-the-border activities in Mizoram. As examples of the former, the ICR (paragraph 40) notes that the detailed project design for the road connecting Thegamukh (Thega) bridge to Chattogram seaport in Bangladesh is now being prepared by the Government of Bangladesh, and the road segment in Myanmar needs to be upgraded. Examples of the activities on the Mizoram side of the border include constructing the Thega bridge and completing the Integrated Check Post for enhancing regional connectivity through Bangladesh by reducing the onerous documentary requirements and other nontariff barriers that raise trade-related transactions costs of cross-border trade. Given that the project activities aimed at only benefiting the residents of Mizoram without the Thega Bridge construction and a contribution to completing the Integrated Check Post for trade facilitation with Bangladesh, as well as the uncertainty regarding trade facilitation facilities and upgrading of the connecting road in Myanmar, this project's objective was only partially relevant to the requirements for a regional road corridor project. Therefore, the relevance of the PDO is assessed as modest.

Rating

Modest

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To increase transport connectivity along regional transport corridors in Mizoram.

Rationale

Theory of change. The outputs of activities such as, widening and strengthening roads (including priority cross-border roads), preparing designs for corridor roads, constructing trade-related infrastructure (haats and truck stops), were likely to improve the condition of regional corridor roads. The outputs of activities aimed at improving PWD's capacity to modernize policies, engineering and business practices, human resource and asset management practices, and environmental and social safeguards policies, were likely to contribute to PWD's institutional strengthening. The combination of these activities were likely to facilitate movement of freight on the Mizoram side of the North South regional corridor. The intended outcome of increasing transport connectivity along the regional trade corridor was predicated on the following assumptions: (i) the Government of Mizoram maintains adequate labor, cash and material supply for infrastructure development to meet the stipulated physical and financial milestones until project completion; (ii) the Government is committed to reforms; and more importantly (iii) complementary activities would be undertaken in Mizoram, Bangladesh and Myanmar to realize the full benefits of the regional project (as discussed in Section 3 these broader objectives needed to be part of the PDO for a regional project). The causal links between project activities, their outputs and outcomes were logical, and the intended outcomes were monitorable.



Outputs

- 77.70 km of roads were constructed to better standards (widened from single to two lanes) as targeted. This included the following: (i) 26.2 km on the C- Z road part of the multimodal corridor (through roads and rail) connecting Mizoram to Myanmar and the Sittwe seaport; (ii) 11.3 km on the T - K road connecting the western part of Mizoram to the Chittagong port in Bangladesh, and the Aizawl multimodal corridor connecting Mizoram to Myanmar. (iii) 40.2 km on the C - C road with the connectivity potential to the "Trilateral Highway" (an essential link to the East Asia market, including Myanmar). The ICR (paragraph 26) notes that most of the project roads were greenfield investments and would increase connectivity both within Mizoram, and improve access to transport infrastructure and services to the isolated communities.
- Roads in good and fair condition, as a share of Mizoram's classified road network, increased from 20% at the baseline in February 13, 2014, to 35%, exceeding the target of 30%.
- Five trade-related infrastructure (haats and truck stops) were constructed as targeted.
- The project prepared studies and designs for 217 km of the North - South corridor, as compared to the appraisal estimate of 330 km. This included design for the Thega bridge (a continuation of the T - K road at the Mizoram border with Bangladesh and Myanmar).
- Five district level road maintenance schemes were developed, and twelve road maintenance contracts were implemented as targeted.
- The PWD completed the road modernization plan as targeted.
- A Road Asset Management System (RAMS) was established to identify the core road network, and PWD staff were trained to use the system as targeted. This system included a rural accessibility module, an economic corridor information system, a green and resilient right-of-way module, and bridge culvert data collection system. The project also implemented the Moveable Asset Tracking System (MATS) to provide regular backup service and network access to RAMS to ensure data security.
- The Government of Mizoram revised its road policy framework, and formulated the "Mizoram State Roads and Bridges Development and Maintenance policy 2020". The framework included a long-term comprehensive sector development policy, and covered areas relating to strategic planning, asset management, maintenance, road safety, financing, and capacity building. The PWD drafted a road sector plan for the entire state as targeted.
- The project conducted road safety audits along project corridors and organized road safety awareness campaigns for schools and colleges. These activities were completed as targeted. However, the planned road accident recording system was not established as targeted, due to the lack of adequate technical guidance from the project.
- The PWD established an Environment and Social Engineering Cell (ESCE), to implement environmental policies in line with the "Mizoram State Roads and Bridges Development and Maintenance Policy 2020" , and the "Institutional Strengthening Plan to Implement Road Sector Policy", as targeted.

Outcomes

There were two intended outcomes: reduction in travel time and increase in traffic on the project corridors.

- The travel time on the project-intervened areas decreased from 293 minutes at the baseline in 2014 to 90 minutes when the project closed in April 2021, well exceeding the target 204 minutes. The



reduction in travel time in the three rehabilitated road segments were: the travel time on the L-T-K road reduced from 78 minutes at the baseline to 15 minutes, exceeding the target of 54 minutes. The travel time on the C-Z road decreased from 75 minutes to 30 minutes, exceeding the target of 55 minutes. The travel time in the C -C road, decreased from 98 minutes to 45 minutes, exceeding the target of 98 minutes.

- Traffic along the corridor did not increase as expected along the project-intervened roads. Total traffic (mostly two-wheelers, cars and jeeps and commercial vehicles) on the three road segments decreased to 2,416, well short of the target of 4,836. Traffic in C - Z road decreased from 3,456 at the baseline to 2,416, far short of the target of 4,838. The traffic in L - T - K road segment decreased from 1,083 at the baseline to 916, short of the target of 1,474. The traffic in the C - C road segment decreased from 1,123 at the baseline to 1,572. The ICR notes that the reduction in traffic was primarily due to the COVID - 19 pandemic, which reduced freight transactions and public transport. In the wake of trade and travel restrictions, the number of vehicles on the road corridors declined by more than 50% in Mizoram. Traffic on the project road segments is expected to pick up after the pandemic moderates and the travel restrictions are lifted (ICR, paragraph 35).

On balance, the extent to which the objective of increasing transport connectivity along the regional trade corridors in Mizoram, as measured by the PDO indicators, was achieved, or expected to be achieved, was assessed as substantial.

Rating

Substantial

OVERALL EFFICACY

Rationale

The overall efficacy is substantial, given that the target outcome with respect to reduction in travel time on the road segments was realized, and that the reduction in traffic was plausibly due to the restrictions on movements in the wake of the COVID - 19 pandemic and was likely to achieve the original traffic targets when the travel restrictions are lifted.

Overall Efficacy Rating

Substantial

5. Efficiency

Economic analysis. A cost-benefit analysis was conducted using the Highway Development Management (HDM-4) model for activities associated with rehabilitation of roads on the regional corridor. These activities accounted for about 95% of the estimated cost at appraisal and actual cost respectively. The project benefits were assumed to come from changes in vertical operating costs. The overall Net Present Value (NPV) at 12%



discount rate at closure was US\$45.40 million, as compared to the NPV of US\$57.40 million at appraisal. The overall ex post Economic Internal Rate of Return (EIRR) was 17.2%, slightly exceeding the ex ante EIRR of 17%.

The EIRR and NPV of the three road segments were as follows based on the ICR (paragraph 36):

- The ex post EIRR on the Champai-Zokhawthar road when the project closed was 15.9% (ex ante EIRR 16.4%). The NPV of this road segment when the project closed was US\$10.40 million as compared to the NPV of US\$12.27 at appraisal.
- The ex post EIRR on the Lungei - Kawrpuichhau road was 18.2% (ex ante EIRR 15.2%). The NPV of this road segment when the project closed was US\$8.70 million, as compared to the NPV of US\$8.38 million at appraisal.
- The ex post EIRR of the chhumhum - Chawngte road was 17.7%,(ex ante EIRR 20.9%). The NPV of this road segment was US\$26.40 million, as compared to the NPV of US\$36.74 million at appraisal.

Administrative and operational issues. There were administrative and operation issues during implementation for factors such as, difficulties in finding experts to work in Mizoram due to COVID- 19 and its remoteness, as well as procurement delays due to a combination of factors including, financial issues of the contractor, delays in obtaining clearances, and difficulties in sourcing construction materials for roads (ICR, paragraph 47). These problems were eventually resolved. Weak performance of the project management firm was also an issue, until it was eventually replaced by a number of individual consultants). Tragically two accidents occurred in C - Z and C -C road segments with resulted in four fatalities (described in section 10).

There were no cost overruns. Of the original US\$107.0 million IDA credit for the project, the Bank disbursed US\$95.5 million, and cancelled US\$1.98 million at government request. The remainder of the difference between the IDA credit and the amount disbursed was due to exchange rate changes during implementation. Despite difficult operating conditions in Mizoram, exacerbated by the restrictions due to the impact of the COVID - 19 pandemic, most of the activities were completed with only a six months extension of the originally scheduled closing date.

In sum, efficiency is assessed as substantial.

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	✓	17.00	95.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	17.20	95.00 <input type="checkbox"/> Not Applicable



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

6. Outcome

The relevance of the PDO was judged to be modest because of its partial coherence with the rationale for constructing a regional road and trade corridor. On the other hand, the efficacy and efficiency with which the declared objective of the project was implemented were both assessed as substantial. Therefore, in light of the moderate shortcomings in the project objective's partial relevance and minor shortcomings in its efficacy and efficiency, the project's overall outcome is assessed as moderately satisfactory.

a. Outcome Rating

Moderately Satisfactory

7. Risk to Development Outcome

Government commitment at the country and at the regional level. According to the clarification provided by the Bank project team, the Department of Trade of the Government of India has allocated funds for constructing an Integrated Check Point in Mizoram. However, there is substantial risk to the intended development outcome of increasing regional connectivity, given that there is no international lending from donors for follow-on interventions in Bangladesh and Myanmar to date.

Sustainability risk. The sustainability of road assets rehabilitated under the project is assured by the maintenance period specified in the contracts for priority corridors (ranging from three to ten years). There is however, a substantial risk that there may not be adequate budgetary provision for road maintenance in Mizoram due to fiscal constraints in the wake of the COVID-19 pandemic. There is also a sustainability risk given that there were no key outcome indicators for monitoring activities associated with the institutional strengthening of PWD.

8. Assessment of Bank Performance

a. Quality-at-Entry

The Bank prepared this project based on the experience from the previous Bank-financed project (the Mizoram State Roads project). The lessons incorporated at design included: (i) ensuring quality engineering designs to mitigate against cost increases; (ii) planning for the difficult terrain and the short construction season (due to seasonal monsoons); (iii) strengthening the fiduciary and project management capacity of the implementing agency; and (v) making sufficient provision in contingency fund to mitigate against the uncertainties associated with the factors mentioned above (ICR, paragraph 46). The analytical underpinnings of this project and the previous Bank financed project were based on the previous studies carried out by the Bank on road sector modernization, which emphasized the need



for transforming road agencies from the role of "provider" to "manager" of the road infrastructure (ICR, paragraph 6).

The implementation arrangements were appropriate. A Project Implementation Unit (PIU) already established at appraisal in the PWD was responsible for project implementation. The PIU had already at appraisal created a procurement and contracts management cell for the entire procurement cycle, and for providing oversight to contracts management.

The preparation team identified several risks at appraisal. The risks included, risks associated with weak implementation capacity, governance risks, possibility of cost overruns due to implementation delays related to the poor quality of contractors and short construction season, and ensuring environmental and social compliance in a state with multiple biodiversity hotspots and tribal population. Mitigation measures incorporated at design included careful attention to quality design and enhancing the capacity of the Environmental and Social Safeguards cell of the PWD. Even with the mitigation measures, the overall project risk was rated high at appraisal (PAD, page 15).

Appropriate arrangements were made at appraisal for safeguards and fiduciary compliance (discussed in section 10).

However, there were moderate shortcomings in quality-at-entry. First, as discussed in Section 3 of this review, the PDO as formulated was relatively unambitious, compared to the Bank's criteria for regional road projects. Second, the preparation team underestimated the risk associated with procurement delays and the mitigation measures were not designed adequately for dealing with such delays. Third, there were M&E design shortcomings (discussed in section 9).

Quality-at-Entry Rating Moderately Satisfactory

b. Quality of supervision

The Bank conducted supervision missions twice a year for the first five years. These formal missions were complemented by interim missions and technical visits (ICR, paragraph 69). The missions were held virtually in 2020, in the wake of the COVID-19 pandemic. The supervision team provided proactive guidance support to the PIU and the PWD in identifying issues that impacted implementation (in matters pertaining to fiduciary issues, highlighting deficiencies in design and quality of construction and taking measures to ensure that qualified supervision staff were employed in the difficult condition in Mizoram (ICR, paragraph 68). The Bank took appropriate measures following the two accidents in the project-intervened areas (discussed in Section 10). The support provided by the team aided in safeguards and fiduciary compliance (discussed in Section 10).

The Bank project team clarified that the continuity of leadership was maintained, with two task team leaders during the implementation period (one based in India and one based at headquarters).



Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The two key outcome indicators - reduction in travel time and increase in traffic on the project-intervened areas were appropriate for monitoring the extent to which the project achieved its objective.

However there were shortcomings in M&E design. One, there were no outcome indicators for monitoring the time and cost associated with moving freight across borders in Mizoram, given that the project was designed as a regional project; and two, there were no key outcome indicators for monitoring activities associated with institutional strengthening of PWD. For instance, there were no indicators for monitoring the road safety aspects of the project. Likewise, there were no indicators for monitoring the road asset management system component.

b. M&E Implementation

A web portal and mobile applications developed by the Project Management Consultant was used for monitoring civil works progress. The PIU and PWD (jointly responsible with the Project Management Consultant for M&E) used this system for collecting data, analyzing and reporting (ICR, paragraph 49). The PIU and the PWD regularly prepared and shared quality reports with the Bank through a newsletter during implementation.

According to the ICR "The results section of the implementation status and results reports (ISRs) and aide memoires recorded the progress towards achievement of indicator targets" (paragraph 50).

c. M&E Utilization

The M&E was used for monitoring performance. The ICR notes that the progress reports prepared by the PIU were shared with the minister periodically, and with the Bank on a quarterly basis. These reports formed the basis for project restructuring and identifying loan savings that was subsequently utilized for addressing the impact of the COVID-19 pandemic through additional activities (ICR, paragraph 51) .

In sum, M&E is assessed as modest due to the shortcomings in design.

M&E Quality Rating

Modest



10. Other Issues

a. Safeguards

The project was classified as a Category A (full assessment) project under the World Bank safeguard policies, triggering six safeguard policies at appraisal; Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Forests (OP/BP 4.36); Physical Cultural Resources (OP/BP 4.11); Indigenous Peoples (OP/BP 4.10); and Involuntary Resettlement (OP/BP 4.12).

Environmental assessment, Natural Habitats, Forests, Physical Cultural Resources. The potential adverse environmental impacts associated with road rehabilitation activities, included slope stability (related to landslides, erosion and water management, managing excavated materials, disruption to natural drainages, impacts on forest and biodiversity, impacts on cultural sites, damages to crops and assets, and construction issues (such as noise, dust and health safety issues. An Environmental Management Framework (EMF), Environmental Impact Assessment, Environment Management Plan and a Social Impact Assessment were prepared and publicly-disclosed at appraisal to address these issues..

The ICR (paragraph 56) notes that compliance with environmental safeguards was assessed as moderately satisfactory. The ICR notes that the environment management measures executed during implementation, included, debris and waste disposal, cleaning of natural drains along project roads, protection of culverts and bridges, display of signage at construction sites, road safety signals at construction sites, and measures for protecting safety of construction workers. The Bank team clarified that there were compliance with the safeguards on natural habitats, forests and physical cultural resources.

Indigenous peoples. An Indigenous Peoples Plan was prepared and publicly-disclosed at appraisal. The ICR (paragraph 57) notes that there were no issues with indigenous people during implementation.

Involuntary resettlement. A Resettlement Action Plan (RAP) was prepared and publicly-disclosed at appraisal. The ICR (paragraph 58) notes that land acquisition and resettlement was initially slow due to the RAP containing inaccurate information on land holdings, mismatches between road design and drawings, and field conditions and delays in compensation negotiations. The ICR notes that the Bank disbursed 100% of compensation and that there were no pending resettlement issues when the project closed (later confirmed by the team).

There were two accidents in the C -Z and C - C road segments and this resulted in four fatalities. The Bank took timely action by suspending the civil works activities and providing guidance on the list of actions that PWD had to implement for resuming the civil works activities. The fatal accident in April 2016, along the C - C road involved two contractor workers and compensation was paid to the bereaved families through an out of court settlement. The second accident occurred in May 2017 along the C - Z road and resulted in the death of two children. An out-of-court settlement was reached, and compensation was paid to the bereaved families.

b. Fiduciary Compliance

Financial management. The Bank conducted an assessment of the financial management arrangements at appraisal. The PWD had executed the previous Bank-financed project, and was familiar with Bank



policies. The Bank assessment concluded that the financial management arrangements were satisfactory (PAD, paragraph 48).

The ICR (paragraph 62) notes that the financial management performance was satisfactory. The team clarified that audits were submitted in a timely fashion during implementation. The team clarified that the financial audits were unqualified.

Procurement. The Bank conducted a procurement assessment at appraisal. As indicated above, the PWD was familiar with the Bank's procurement procedures.

The ICR (paragraph 63) notes that the new contracting mechanisms developed during implementation for complex procurement activities contributed to procurement delays. There was market failure in several procurements especially the output and performance based road contract, the road safety technical assistance and road safety civil works, resulting in the need for retendering. These issues were however resolved, and the ICR reports no case of mis procurement.

c. Unintended impacts (Positive or Negative)

d. Other

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	
Quality of M&E	Modest	Modest	
Quality of ICR	---	Substantial	

12. Lessons

IEG supports the following main lessons that the ICR draws from the experience of implementing this project, with some adaptation of language.

1. Bioengineering solutions can help in protecting against landslides and enhance resilience in hilly regions. One of this project's main achievements was the successful piloting work on the hilly areas of Mizoram for side slope stabilization to prevent landslides in a cost-effective and environmentally-friendly way.



2. Trade facilitation interventions at the borders can help in enhancing efficient handling of moving freight along corridors. Truck stops built along regional corridors near the border can enhance the physical movement of freight by reducing traffic congestion at the border.

3. A careful market study of contractor capacity during preparation is needed to reduce procurement delays during implementation in remote areas. The remote location of Mizoram resulted in procurement delays as the project found it difficult attracting qualified contractors to work in the difficult terrain.

The IEG draws the following additional lesson.

Regional connectivity projects need to be comprehensive in their coverage. For regional connectivity projects, particularly those partly funded by a regional IDA grant, it is necessary for the project's objective to include cross-border activities, given that trade-related transactions costs (cost and time associated with moving goods across borders contribute to nontariff barriers), are identified in the trade facilitation literature as a significant impediment to trading across borders in regional corridors.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is well-written, concise and adheres to the recommended length. The ICR is consistent with the OPCS guidelines and the quality of evidence and analysis provided to support the intended outcomes. The theory of change propounded in the ICR explicitly states the assumptions for the intended outcomes. The ICR includes annexes and appendices to support the achievements. The report is consistent and logically links the various parts of the report. The ICR draws reasonably good lessons from the experience of implementing this project. The ICR also acknowledges the inherent weakness in design for a regional project, given that the project activities focused only on activities on the Mizoram side of the border.

However there are minor shortcomings. The ICR does not provide enough detail on whether there was compliance with safeguards on forests, physical cultural resources and forests. Although the ICR does not provide details on continuity of leadership; this information showing continuity was provided at IEG's request by the Bank project team.

a. Quality of ICR Rating

Substantial

