



Report Number: ICRR0022128

## 1. Project Data

**Project ID**

P096018

**Project Name**

IN: Assam State Roads Project

**Country**

India

**Practice Area(Lead)**

Transport

**L/C/TF Number(s)**

IBRD-81360,TF-11446

**Closing Date (Original)**

31-Mar-2018

**Total Project Cost (USD)**

284,447,922.45

**Bank Approval Date**

13-Mar-2012

**Closing Date (Actual)**

30-Sep-2019

**IBRD/IDA (USD)**
**Grants (USD)**

Original Commitment

320,000,000.00

1,750,000.00

Revised Commitment

321,748,396.16

1,748,396.16

Actual

284,447,922.45

1,748,396.16

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**Project ID**

P119947

**Project Name**

caling up of Assam PWD Computerization ( P119947 )

**L/C/TF Number(s)**
**Closing Date (Original)**
**Total Project Cost (USD)**

0

**Bank Approval Date**

19-Dec-2011

**Closing Date (Actual)**



	IBRD/IDA (USD)	Grants (USD)
Original Commitment	0.00	0.00
Revised Commitment	0.00	0.00
Actual	0.00	0.00

## 2. Project Objectives and Components

### a. Objectives

The project development objective (PDO) as stated in the Loan Agreement (page 5) was **"to enhance the road connectivity in Assam by assisting the PWRD to improve and effectively manage Assam's roads network"** (Loan Agreement page 5,

The PDO in the Project Appraisal Document (PAD, para 14) had a slightly different wording "to enhance the road connectivity of Assam by assisting the Public Works Roads Department to improve and effectively manage its road network".

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

Yes

Did the Board approve the revised objectives/key associated outcome targets?

No

### c. Will a split evaluation be undertaken?

No

### d. Components

The project comprised three components (appraisal costs exclude contingencies of US\$36.4 million):

**Component 1: Road Improvement** (appraisal cost US\$330.4 million; actual cost US\$334.4 million). This component intended to finance improvement of priority sections of secondary roads. It included: (a) civil works for about 500 km of secondary roads (300 km road widening and upgrading, and 200 km pavement rehabilitation and strengthening). It also included demonstration of new technologies to promote cost effective, modern, climate resilient, and environment friendly road construction; (b) project preparation, supervision, management, and monitoring support; (c) resettlement and rehabilitation assistance to project-affected people and HIV/AIDS awareness program; and (d) pilots on innovative design and construction of bridges.



To improve connectivity, the road sections of the major traffic corridors in the secondary road network were selected on the basis of regional and state linkages, economic activities and the poverty level within their area of influence, and regional distribution. Missing sections in the existing long corridors were given priority to maximize the benefits of these corridors.

**Component 2: Road Sector Modernization and Performance Enhancement** (appraisal cost US\$20.0 million; actual cost US\$13.3 million). This component would support implementation of the Road Sector Modernization Program (RSMP) to carry forward and deepen various institutional development initiatives which were already underway. This component would concentrate on the following areas:

(a) *Modernization of policies, engineering practices, and business procedures*: the project would support system-wide enhancement in the Public Works Roads Department (PWRD) through significant modifications and strengthening of its policies, rules, legal framework, engineering standards, and business procedures based on best practice examples in the road industry. Key activities included development of long-term sector policies and strategies, revision of PWRD's codes and manuals, and engineering manuals for design and construction of roads integrating engineering, social, environment, and safety aspects.

(b) *Asset management and maintenance*: the project would support strengthening of existing institutions and systems for asset management through: (i) establishing a strategic core network of key state and regional corridors; (ii) expanding and strengthening the role of the Roads Board; (iii) setting-up a Road Maintenance Fund; (iv) putting in place a simple Asset Management System (AMS) to prepare prioritized plans for capital works and maintenance; and (v) executing maintenance works under the annual maintenance plans either through performance-based or other innovative systems of contracting maintenance works.

(c) *Institutional and Human Resource Development*: the project would support improvement in institutional effectiveness and efficiency of PWRD through implementation of suitable plans for (i) training and professional development of PWRD in priority areas including management of social and environmental issues; (ii) improvement of PWRD institutional structure including measures to increase efficiency and staff productivity; and (iii) capacity building of the local construction industry.

(d) *Streamlining, Standardizing, and Computerizing PWRD key business processes*.

**Component 3: Road Safety Management (appraisal cost US\$11.8 million; actual cost US\$3.8 million)**. This component would support building of road safety management capacity of related agencies through developing and implementing a multi-sector road safety strategy including: a safe corridor demonstration program and road safety improvement projects on identified road sections; development and operationalization of a road accident database and management system; building road safety capacity for PWRD during design, construction and operation stages; and awareness programs on road safety and work zone safety. It would also support implementation of engineering counter-measures for 300 km of roads under Component 1.

The project also included incremental operating costs (appraisal estimate US\$1.8 million, actual US\$2.5 million).

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



**Project Cost.** The actual project cost was US\$354.0 million, significantly lower than the appraisal estimate of US\$400.0 million. This was because of the depreciation of the Indian rupee from Rs. 49.45 to the U.S. dollar at appraisal to Rs. 70.64 to the US dollar at completion. The project utilized a substantial portion of these savings by undertaking additional civil works and road safety works.

**Financing.** The actual loan disbursed was US\$282.7 million, substantially lower than the appraisal commitment of US\$320.0 million. As explained above, this was due to depreciation of the Indian Rupee vis-à-vis US Dollar. According to the project team (email dated June 10, 2020), the undisbursed balance in the amount of US\$37.3 million was cancelled on March 31, 2020. There was no co-financing.

**Borrower Contribution.** The ICR does not provide the figures for the actual borrower contribution. According to the project team (email dated June 10, 2020), the Borrower's contribution was US\$69.7 million. At appraisal, it was estimated at US\$80.0 million.

**Dates:** The project was approved on March 13, 2012 and became effective on April 27, 2012. The original closing date was March 31, 2018, and the project closed on September 30, 2019, after a 1.5 years' extension. The extension was required to complete works that were delayed due to delays in land acquisition, utility shifting, and re-bidding of contracts.

**Restructuring.** The project was restructured (level 2) on March 29, 2018 to revise the loan closing date and results framework (see section 9).

**Split Rating Assessment.** The PDOs remained unchanged, but changes were made to the results framework during the level 2 restructuring in March 2018:

(a) since the PDO indicator "secondary road network in good and fair condition" lacked the definition for "fair condition," the definition was added to include international roughness index (IRI) between 4 and 6;

(b) the target for PDO indicator "improved asset management" in the districts was decreased from 50 to 40. At appraisal, the project was expected to implement at most four Road Asset Management activities in 22 districts. If all districts adopted these activities, then the maximum number of activities were 88 (22 districts times 4 activities). Taking into account that some districts had very weak capacity, and would not be able to adopt all four activities, the target of 50 was adopted., i.e. on average about 2 activities per district. During implementation, the Government of Assam reconfigured the number of districts. This resulted in an increase in districts from 22 to 27, and number of activities were reduced to 3 as the state was using its own resources to for implementing "performance-based maintenance contracting for state roads." Thus, the maximum number of activities were reduced to 81, and target was reduced to 40. The new target was 1.5 activities per district;

(c) the indicator "increase in the safety rating of the project corridors" was dropped as it was not directly related to the PDO; and

(d) intermediate indicators such as "effective execution of maintenance works" was dropped as it did not have any direct impact on the project since the maintenance would be done through the state budget allocation.

Since there was no major change in the PDO indicators, a split rating assessment will not be conducted for this review.



### 3. Relevance of Objectives

#### Rationale

**Context.** At appraisal in 2012, only about 25 percent of state highways in Assam were in either fair or good condition. This was due to insufficient funds and sub-optimal use of the funds leading to inadequate maintenance. The capacity of the Public Works Roads Department (PWRD) to handle the state's road network was very weak. PWRD's institutional structure and business procedures were primarily suited for small works and force-account methods.

**Development Problem.** The project investments would re-orient PWRD from a primarily construction focused entity to a modern road agency with sound policies, planning, engineering practices, business processes, and asset management. This would improve the capacity of the PWRD to effectively manage its roads network.

**Alignment with the Government of Assam Priorities:** The project objectives were aligned with the infrastructure development focus area of Assam's Vision Document 2016-25. The project contributed towards re-constructing/renovating district/state roads, as well as by upgrading bridges, to facilitate transportation and communication.

The project objectives were also aligned with the North Eastern Council Regional development plans (FY17 to 20) which aimed at removal of infrastructure bottlenecks. This was important because the plan identified high cost of maintenance of the north eastern roads due to the terrain, soil types, high rainfall, long duration of monsoon and shorter working season of maximum five months.

**Alignment with the Bank Strategy:** At appraisal, the project objectives were consistent with the Country Strategy (for the period FY09-12) which focused on lagging states, and removing infrastructural constraints to growth. At completion, the project objectives were fully aligned with Country Partnership Framework (CPF) FY18–22 focus area “investing in transport and connectivity infrastructure as a growth enabler”. In addition, the project objective “assisting the PWRD to improve and effectively manage Assam's road network” is fully aligned with CPFs pathway “strengthening the public sector” as one of the pathways for the World Bank engagement (para 31).

However, while there is clear alignment between the project's development objectives and the country- and WB strategies, the relevance of the objectives is pitched at a level that does not adequately reflect a potential solution to a development problem. A shortcoming here is the lack of clarity in the PDO formulation around what outcomes would be achieved through “improved road connectivity in Assam, i.e. in what ways this was expected to improve peoples' lives. Focusing on “improved road connectivity” and “improved and effectively managed Assam's roads network” alone is not outcome focused and does not help in understanding what development results were expected as a consequence of the project. Impact on people's lives (such as to achieve rapid and inclusive economic growth, as stated in the ICR's ToC) may be longer term targets but tracking them and identifying them is an important aspect of a successful development operation. Relevance is rated Substantial.



## Rating

Substantial

## 4. Achievement of Objectives (Efficacy)

### OBJECTIVE 1

#### Objective

To enhance the road connectivity of Assam by assisting the Public Works Roads Department to improve and effectively manage its road network.

#### Rationale

**Theory of Change:** The project's theory of change linked the inputs such as (a) modernization of policies, engineering practices, and business procedures; (b) development of an asset management and maintenance system at the PWRD; and (c) standardization and computerization of the PWRD key business processes to outputs such as adoption of the policies, business processes and PWRD codes, and Road Asset Management Strategy by the PWRD. These outputs were expected to result in outcomes relating to improved maintenance planning by the PWRD and effective execution of road works. The key assumptions underlying this part of the theory of change was strong political commitment towards road sector modernization and performance enhancement. In addition, the project's theory of change linked inputs such as upgrading and rehabilitation of roads and inclusion of road safety works as well as development of road safety strategy to outputs like improved quality of roads and improved road safety. The key assumptions underlying this segment of the theory of change were: (a) the availability of road maintenance funding (b) effective collaboration between different agencies for rehabilitation and resettlement; (c) availability of contractors; and (d) timely deployment of contractors. All these outputs were to result in outcomes such as improved roads connectivity, reduction in travel time on project corridors and improved capacity of the PWRD to effectively manage road network. This, in turn, were expected to lead to rapid and inclusive economic growth by removing infrastructural constraints to economic growth (as outlined in the ToC on page 6 of the ICR).

#### Outputs

##### Infrastructure

- At project closing, 978 km of roads were upgraded/rehabilitated against the revised target of 1000 km and original target of 500 km. Of these, 248 km of roads were upgraded or widened against the revised target of 250 and original target of 300. About 730 km pavement rehabilitation and strengthening works were carried out against the revised target of 750 and appraisal target of 200. Revised target almost achieved.
- The project piloted innovative design of bridges. 11 pilot bridges of 618 m were completed, against the revised target of 700 m. Target mostly achieved.





- Road safety works were carried out on 1,000 km of upgraded/rehabilitated roads (including the 23 km demonstration corridor), far exceeding the target of 300 km (ICR Table 3).
- A Safe Road Demonstration program was implemented. Road Safety Audit was carried out on about 220 km (no targets were set for road safety audits at appraisal). The road safety strategy developed by the project was adopted by the Government of Assam as targeted.

### **Public Works Department Capacity**

- 360 out of 1,400 PWRD staff received training. 26% of the PWRD staff received training against the target of 25%. The annual training days were reduced from 7 days training annually to 2 days during restructuring. The training was on modern highway practices (ICR para 82).
- The ICR reports (para 29) that the development of the Roads Asset Management system (RAMS) was completed. A dedicated RAMS cell was established, and required staff was assigned. The project team confirmed that a consulting firm was hired for 3 years to support the administration of the RAMS.
- The strengthening of the Assam Roads Research Training Institute (ARRTI) was carried out. According to the project team (email dated June 10, 2020), this was achieved through assisting ARRTI in becoming an autonomous body by: (a) enabling it to open a separate Bank account to meet its expenditures for the first time since its inception; (b) allocation of separate budget for the operation and management; (c) strengthening staff management with more recruitments (on deputation); (d) preparation of Annual Training plans were prepared and implementation of three plans; ed by ARRTI; and (e) revising the Financial and Service Bye-rules to reduce attrition and improve Institutional Human Resource retention capacity. Through the project interventions, ARRTI became a fully functional training and research center during the project implementation and it is gradually evolving into a Center of Excellence for the Northeast (NE) India.
- To strengthen the capacity of the Assam State Roads Board (ASRB), a Business Implementation Action Plan of was prepared and at project closure was under consideration by the Government of Assam.
- At project closing, all 27 districts carried out all three activities of the Roads Asset Management system (RAMS) This included: (i) annual maintenance plans using Assam PWRD Computerization Project (APCP), (ii) web-based system which allows public viewing of road inventory and condition data for state roads, and (iii) computerized workflow of APCP for project management. Therefore, the number of districts times the number of improved asset management activities achieved was 81 (27\*3) against the revised target of 40 and original target of 50.
- Capacity Building Plan for Construction industry was implemented as planned.

### **Outcomes**

- The ICR reports (para 42 and 43) that the project enhanced connectivity in all districts of Assam, which covered and potentially benefited more than 26 million people (85 percent of the population of Assam). In many districts, prior to the project no all-season roads existed, and people could not reach



markets to sell their produce. For example, after the construction of the missing link of Barpeta road, the price of tomato traded at the Barpeta town market increased from Rs. 4 to Rs. 5 per kilogram to Rs. 25 to Rs. 35, a five-fold price increase which directly contributed to the farmers' income growth. Farmers have better access to off-farm jobs in Barpeta town. The ICR also notes there was a marked increase in land value as a result of the influx of businesses and settlements closer to the road. New schools were set up in the villages along the road.

- The ICR reports (para 22) that the bridges constructed by the project also improved connectivity for indigenous people living in isolated and remote areas.
- The road condition in Assam was substantially improved. At project closing, the percentage of secondary roads in good or fair condition was 55 percent, substantially exceeding the target of 40 percent (baseline was 25% in 2012).
- The average travel time on project roads was reduced by 23% against the target of 20%.
- The RAMS provides PWRD with a systematic mechanism for maintaining and upgrading roads assets by developing roads condition database which will be used in planning short and long-term maintenance needs. It supports a simplified asset maintenance tool to estimate the budget for routine maintenance.
- The monitoring of all PWRD works in Assam is being done using the e-Project Monitoring System, which links to the RAMS geographic information system (GIS).

**Rating**

Substantial

**OVERALL EFFICACY****Rationale**

The project substantially contributed to enhancing road connectivity and improving the condition of the roads network in Assam and strengthening the capacity of PWRD to manage the roads network effectively.

**Overall Efficacy Rating**

Substantial

**5. Efficiency**





## Economic Efficiency

At appraisal as well as completion, an economic analysis of roads investments was carried out using the Bank's standard Highway Development and Management Model-4 (HDM-4). The model compares the annual streams of economic cash flows associated with a "with-project" and a "without-project" scenario, and computes the Net Present Value (NPV) and the Economic Rate of Return (ERR). The discount rate of 12% was used.

Economic analyses were carried out at completion for six upgraded roads totaling 236 km and six rehabilitation roads totaling 148 km under Component A. The ERRs are presented in Table 1 below.

**Table 1. Economic Rate of Return (ERR) at Appraisal and Completion**

	Appraisal		Completion	
Civil Works	Length (km)	ERR (%)	Length (km)	ERR (%)
Upgrading	300	45	236	41
Rehabilitation	200	37	148	26
Overall ERR		40		Not provided in the ICR

Source: ICR and PAD.

The ex-post ERR for both upgrading and rehabilitation are lower than the appraisal estimate, but over the minimum required ERR of 12%. The difference in the ERR between appraisal and completion is due to: (i) the increase in construction costs; (ii) deterioration of the roads between the time the initial economic analysis was carried out (2012) and the time the works were completed; and (iii) implementation delays (discussed below under administrative efficiency).

## Cost Savings

As a result of the depreciation of the Indian rupee from Rs. 49.45 to the U.S. dollar at appraisal to Rs. 70.64 to the US dollar at completion, the project had considerable loan savings. The project utilized a substantial portion of these savings by undertaking additional civil works and road safety works.

## Administrative Efficiency

The project was extended by 1.5 years to complete works that were delayed due to delays in land acquisition, utility shifting, and re-bidding of contracts. Due to poor performance of the contractors, five packages for upgrading were re-bid (after slicing and packaging them as smaller contracts). However, there were substantial delays in making this decision and this resulted in the project being placed in "problem status" for one and a half years.

Although, the ERR at closure was lower than the estimated ERR at appraisal, it is substantially above the required minimum of 12%. Overall, project efficiency is rated 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	✓	40.00	72.00 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

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

## 6. Outcome

The project objectives were well aligned with Bank strategy and country priorities, although the PDO was not pitched at a level to adequately address a development problem. Relevance of objectives is rated Substantial. The project substantially achieved its objectives in enhancing road connectivity and strengthening the capacity of PWRD to manage the roads network effectively, and both Efficacy and Efficiency are rated Substantial. The overall outcome rating is therefore Satisfactory.

### a. Outcome Rating

Satisfactory

## 7. Risk to Development Outcome

The main risks to development outcome are:

**Institutional.** The institutional risk is considered modest because the project contributed to strengthening the capacity of the Public Works Roads Department (PWRD) to effectively manage the its roads network. The adoption of the Roads Asset Management System (RAMS) was an important achievement under the project. RAMS is being used for making decisions related to road construction, including maintenance.

The ICR notes (para 79) that the Government of Assam and the PWRD needs to fast track the process of implementing the recommendations of several studies conducted under the project, for example, the reinstatement of the Assam State Roads Board (ASRB), and the revival of the Assam Road Research & Training Institute. If this is not done, these units run the risk of either becoming non-functional or continuing with their current practices.



**Technical.** A consulting firm was hired for 3 years to manage the RAMS. However, there is modest risk that PWRD may not deploy adequate manpower to manage the different functions of the RAMS system, resulting in under-utilizing the RAMS or making it obsolete.

**Financial.** The financial risk that maintenance will not be funded is modest to low. During implementation, the Government of Assam increased maintenance funding from Rs. 6 billion in FY16-17 to Rs. 20 billion in FY20-22 to ensure that the secondary road asset networks received sufficient maintenance to provide a basic level of access to all areas in Assam. For FY 21-22, the Government has planned Rs. 25 billion.

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

This was the Bank's first transport project in Assam and PWRD had no previous exposure to Asset Management Systems. The Bank team worked closely with the Government of Assam (GoA) to prepare this project. The Bank team pushed GoA to approve an asset management policy as a prerequisite for the loan. This was critical to achieving the project's outcome and it was the main reason for the very long preparation period (7 years) for this project.

Safeguards were appropriately identified. Some risks were underestimated: poor contractor performance, PWRD's lack of experience in coordination, and PWRD's limited capacity. There were also some shortcomings in M&E such as the lack of an indicator for measuring the objective "enhanced road connectivity" (see section 9).

On balance, while the project was generally well-designed some of the risks were underestimated and these affected project performance in the initial three years. The quality at entry is thus rated moderately satisfactory.

### Quality-at-Entry Rating

Moderately Satisfactory

### b. Quality of supervision

Supervision was intensive with an average of two missions per year, supplemented by interim missions and technical visits. The project team provided support to both the PWRD and the Project Management Unit in identifying problems that hindered project implementation as well as providing guidance to improve project performance such as termination of non-performing contractors, repackaging contracts to enable medium-sized contractors to bid and thus strengthen the local construction sector, promoting high quality of construction, and featuring road safety in construction (ICR para 73). The mid-term review was carried out in November 2015 and the project was restructured in a timely manner. However, the lack of an indicator for measuring the objective "enhanced road connectivity" was not addressed during implementation/restructuring. The quality of supervision was moderately satisfactory.



### **Quality of Supervision Rating**

Moderately Satisfactory

### **Overall Bank Performance Rating**

Moderately Satisfactory

## **9. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

The project design included three outcome indicators: (a) increase in the percentage of secondary road network in good and fair condition; (b) reduction in travel time on the project corridors; and (c) introduction of improved asset management in majority of the districts. The main shortcoming of M&E was the lack of indicator for measuring connectivity.

Also, the indicator “secondary road network in good and fair condition” lacked the definition for “fair condition”. During the level 2 restructuring in 2018, the definition was added to include international roughness index (IRI) between 4 and 6.

### **b. M&E Implementation**

As discussed above, during implementation, the definition of “fair condition” was added. The indicator “increase in the safety rating of the project corridors” was dropped as it was not directly related to the PDO. The target for PDO indicator improved asset management was decreased from 50 to 40 (see section 2e for details).

The ICR reports (para 57) that there were initial data collection issues which were resolved over time. Indicators were tracked as part of regular implementation supervision missions and reported in Aide Memoires and Implementation Status and Results Reports (ISRs). However, there were delays in M&E reporting and issues with the quality of reports (ICR para 59). According to the project team (email dated June 10, 2020), “during the initial stages of implementation (almost for the first three years), the reporting was inconsistent and had information gaps. Submission of reports were delayed. However, after the stagnation period of the three years, PWRD/the implementing entity strengthened the follow-up of project implementation by holding monthly review meetings with all contractors, CSC and PWRD field staff to assess the constraints and provide timely decisions for completing the works packages on time. And PWRD established a clear procedure with responsibilities and timelines at different levels for processing of variation proposals and evaluating Road Safety proposals under the existing contracts through provisional sums. Thereafter, the overall quality of reporting improved significantly”.

The ICR gathered anecdotal evidence on the impact of roads on people living in towns and villages for example the Barpeta town market. Data was collected on the condition of roads, travel time reduction, and improved asset management in districts.



### **c. M&E Utilization**

The ICR reports (para 58) that M&E utilization was hindered by delays in reporting and the issues with the quality of reports. M&E data was used to inform project management and restructuring. Additional data was collected at the ICR for assessment of PDO achievement, hence there is sufficient evidence for the Satisfactory rating despite Modest quality of M&E.

### **M&E Quality Rating**

Modest

## **10. Other Issues**

### **a. Safeguards**

The project was assigned Environmental Category “A” and the following six safeguards policies were triggered: 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).

#### **At appraisal**

#### **Environmental Safeguards**

*Environmental Assessment (OP/BP 4.01):* The PAD stated that the project activities, if not properly managed and mitigated, could have adverse environmental impacts. These included felling of roadside trees; impacts on water bodies; impairment to natural drainage; construction phase impacts related to camp site operation, dust generation and pollution from construction plants, machinery and other equipment; and disposal of debris. However, since most of the road improvement works would be within the existing right of way (ROW), their direct adverse impacts on environment were expected to be limited in nature. The overall environment management strategy for the project included: (a) environment screening to identify key issues including those related to biodiversity/wildlife and forests; (b) corridor-specific Environmental Impact Assessment (EIA) along with the preparation of an Environment Management Plan (EMP) for upgrading works; and (c) preparation of a generic Environment Management Framework (EMF) for road rehabilitation and strengthening works.

*Natural Habitats (OP/BP 4.04):* No road passing/traversing through a designated protected area would be financed under the project. However, substantial flora and fauna exist (in the state and in the neighboring states) outside the formally protected areas and therefore, environment assessment would determine if any such significant resources would be impacted by the project.

*Forests (OP/BP 4.36):* This safeguards policy was triggered as some of the project roads may traverse within or adjacent to the forest areas, particularly the small forest patches that are located all over the state. The environment assessment would determine if the project would impact the forests, either directly by



acquisition of forest areas, or by impacting the quality of forest through edge deterioration or fragmentation, etc.

## **Social safeguards**

*Physical Cultural Resources (OP/BP 4.11):* Assam has a number of cultural property sites, including sites of archaeological, historical, and religious significance. The environmental assessment would determine the extent of direct or indirect impacts on these cultural properties by the project.

*Indigenous Peoples (OP 4.10):* This policy was triggered because some project corridors were expected to pass through areas where households belonging to indigenous communities were settled. An Indigenous Peoples Development Plan (IPDP) was prepared for Phase I and II roads in consultations with the indigenous community. This Plan also included the Indigenous Peoples Management Framework (IPMF), that would form the basis for the IPDP for Phase III roads.

*Involuntary Resettlement (OP 4.12):* The PAD (para 53) noted that the Resettlement Action Plan (RAP) for all four upgrading works under Phase I was prepared and disclosed both “in country” on July 19, 2011, and in the Bank’s “InfoShop” on July 27, 2011. A resettlement policy framework was also prepared and would be used for the preparation of the RAPs for Phase II and III roads. The PAD further noted that Assam PWRD had assigned adequate staff in the Environment and Social Cell to implement the RAP.

## **During implementation**

### **Environmental Safeguards**

*Environmental Assessment (OP/BP 4.01):* The project assisted in the preparation of environmental management documents and introduced the Public Works Roads Department (PWRD) to good environmental safeguard practices. The project assisted in mainstreaming the environmental and social safeguard policies that were applied under the project in the working culture of the PWRD. At the time of project closing, the Revised Code of PWRD (which included environmental and social safeguards policies) was being reviewed by the different stakeholder departments and were to be submitted for cabinet approval.

The flood protection measures under the project included the usage of climate resilient material (such as geo-bags) for the construction of spurs or for slope protection. These measures minimized the usage of construction materials such as boulders.

*Natural Habitats (OP/BP 4.04):* The project supported the construction of three Rhino Corridors, which were reportedly the first of their kind in the state.

*Forests (OP/BP 4.36):* Not discussed in the ICR. The project team confirmed (May 14, 2020) that there was no encroachment into the forest area.

The ICR notes (para 63) that the project largely complied with all the environmental safeguard policies that were triggered under the project, and in addition contributed to mainstreaming environmental management in Public Works Roads Department.

## **Social safeguards**



*Physical Cultural Resources (OP/BP 4.11)*: Not discussed in the ICR. The project team confirmed that no artifacts were found during construction.

*Indigenous Peoples (OP 4.10)*: The ICR notes (para 65) that while OP 4.10 was triggered at appraisal, it was never applied during implementation as the project did not pass through any major tribal settlements.

*Involuntary Resettlement (OP 4.12)*: Although the PAD mentioned that Assam PWRD had assigned adequate staff in the Environment and Social Cell to implement the RAP, the ICR para 89 mentions that "land acquisition was a major problem, as no designated staff was involved in the land acquisition process". The project team explained (email dated June 10, 2020) that, "in the first three years of the project implementation, no designated staff was involved in the land acquisition process. World Bank team supported with just-in-time technical expertise during missions and suggested corrective actions. It was only during the second half of the project life that Assam PWRD strengthened their Environment and Social Cell with adequate staff to implement the RAP and engaged an NGO to provide the required support to the project in dealing with social safeguard issues, in particular. In view of all the arrangements that were made during the second half of the project life, all the compensation was fully paid, and all the land acquisition issues were amicably settled".

The ICR indicates (para 66) that most of the compensation, wherever applicable, was disbursed. However, there was one package where land and properties were acquired without compensation. The work on the affected package was suspended till the required processes were completed and the compensation funds were transferred.

## b. Fiduciary Compliance

**Financial Management.** The ICR notes (para 67) that the Interim Unaudited Financial Reports and disbursement claims were largely timely. However, the overall management of the Financial Management aspects under the project is considered Moderately Satisfactory for the following reasons: (a) in the last year of project implementation, there were delays in the payments to contractors; (b) there were delays in the submission of external audit reports; and (c) the PMU delayed the response to the audit observations (Inspection Report) of the auditor general for two years. The issues identified in the inspection report were largely related to technical and contract management issues. The ICR (para 67) notes that the project submitted its response to the auditor general but it needs to follow up for satisfactory resolution, as part of the final year audit (for the period April 1, 2019, to March 31, 2020), which will be submitted by June 30, 2020.

**Procurement.** The ICR notes (para 68 and 69) that the procurement complied with the Bank's guidelines and was satisfactory. In particular, it highlights the procurement of RAMS, which was carried out for the first time in the state, as successful. However, there were problems and delays in construction contracts:

(a) five contract packages for upgrading works were re-bid due to the poor performance of the contractors. The contracts had to be repackaged into smaller contracts, but this decision was delayed substantially and resulted in the project being placed in "problem status" for one and a half years; and





(b) there was “non-compliance” with contractual provisions. The PWRD responded to these after a long delay.

### c. Unintended impacts (Positive or Negative)

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### d. Other

The project's attention to gender was inadequate. The PAD (para 45) mentioned that as part of gender empowerment, specific self-employment training would be provided to women. For project affected women, the project would assist in the formation of self-help groups which would be scaled up to non-affected persons as well. However, there was no gender analysis of project impact on men and women – and no strategy to include women. There was no assessment of the travel needs of women such as need for sidewalks/safe crossings/lighting, access to markets, etc).

The ICR indicates (para 40) that the project trained 200 people (in income generating activities and more than half of these were women (either Project Affected Persons (PAPs) or family members of PAPs) and approximately 57.5% were female. These included: (i) 30-day training on basic computer skills; (ii) 15-day training for weaving; (iii) two-day training in fruit processing and preservation; and (iv) 21-day training on Basic Beautician course. These training, seem to have had little or nothing to do with road or traffic safety or anything else connected to the content of the project and looks more like ad-hoc add-ons to the project in order to tick off the "gender box" rather than to ensure an adequate and relevant inclusion of women in the project. There is no indication whether female staff at the PWRD was targeted and trained.

## 11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Satisfactory	IEG finds that the shortcomings in efficiency were not of a level that warrants Modest rating, hence the upgrade.
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	
Quality of M&E	Modest	Modest	
Quality of ICR	---	Substantial	

## 12. Lessons

The following lessons are adapted from the ICR (paras 80 to 90):



- **The active engagement of policy makers and road agency staff is critical for road sector investments and reform.** The Government of Assam showed strong commitment and collaborated closely with the Bank, and actively supported the project at a high-level to steer the project when progress was lagging. Continued commitment during project implementation led to the acceptability of the PWRD reforms, accountability for progress, and sustainability of the works.
- **For clients with weak capacity, the Bank task team's needs to provide hands-on guidance while building client capacity.** The initial weak capacity of the client was addressed through frequent handholding support for construction supervision, project management and contract management, along with an emphasis on key institutional reforms. The project context of a previously conflict-prone region with weak institutions made this hands-on approach a necessity for turning this project around from problem status. Subsequently, the mutual trust and client confidence developed led to the expected outputs and outcomes.
- **Timely decision making for contract re-tendering is the primary corrective measure to rectify poor contractor performance.** In this project, delays in civil works contracts were mostly attributable to the lack of timely action by the big local contractors. The decision to terminate these contracts and re-tender the split packages (suitable for middle-size local contractors) resulted in speeding the progress of works and improved construction quality.

### 13. Assessment Recommended?

No

### 14. Comments on Quality of ICR

The ICR is well written and candid. The theory of change is well illustrated and the key assumptions underlying the theory of change are discussed thoroughly. Regarding results orientation, it provides good evidence on the objective of assisting the Public Works Roads Department on improving the capacity for effective management of its road network. There are a few minor shortcomings: (i) the actual borrower contribution is missing, and (ii) there is no overall Economic Rate of Return for the entire project.

#### a. Quality of ICR Rating

Substantial

