

Ex-Ante Evaluation (for Japanese ODA Loan)

South Asia Division 1, South Asia Department, JICA

1. Name of the Project

Country: India

Project: North East Road Network Connectivity Improvement Project (Phase 5)

L/A signing date: March 26, 2021

2. Background and Necessity of the Project

(1) Current State and Issues of the Road Sector / North Eastern Region in India

The need for road infrastructure development to support rapidly growing traffic demand remains large in India, as passenger and freight traffic volumes continue to grow in line with population increases and economic growth. In 2001, India's Ministry of Road Transport and Highways (hereinafter "MoRTH") launched the National Highways Development Project (hereinafter "NHDP") and has been developing roads between large cities. These roads include the "Golden Quadrilateral" that links the capital of Delhi, Mumbai in the west, Kolkata in the east, and Chennai in the southeast. Major highway networks continue to be improved; for example, road construction work on all planned sections (7,522 km) of the 2001 plan was completed in 2015.

On the other hand, in the northeastern region (Arunachal Pradesh, Assam, Sikkim, Tripura, Nagaland, Manipur, Mizoram, and Meghalaya), the pavement ratio of all roads remains at 31.7% (national average: 71.0%), the percentage of national highways consisting of at least one lane per direction is 50.8% (national average: 74.7%) (according to Basic Road Statistics of India 2016-2017), and slope protection and drainage development as countermeasures against landslide disasters are not progressing in many areas of the region. For such reasons, road development in the northeastern region is behind that of other regions. The delay in road development has become a factor hindering economic development, as it hampers the stable transportation of people and goods within the region and impedes the stable flow of people and goods between the region and other regions and neighboring countries. In fact, the GDP per capita in the region (2015-2016) is 76,540 Indian rupees, which is far lower than the national average of 112,432 Indian rupees (according to statistical data of the Reserve Bank of India). The Three Year Action Agenda for India (2017) prepared by NITI Aayog also points out the necessity of correcting regional gaps by, for example, developing infrastructure in the northeastern region. Moreover, the Government of India established the Ministry of Development of North Eastern Region for the

purpose of developing the northeastern region (2001). For such reasons, the development of this region has become an urgent issue for the Government of India.

The Government of India is promoting national highway development between key cities in the region through the Special Accelerated Road Development Programme for North-East to encourage socioeconomic development and correct disparities in the northeastern region. The program points out the importance of National Highway 127B, which will connect Srirampur in Assam and the planned Dhubri-Phulbari Bridge that will be constructed as part of the North East Road Network Connectivity Improvement Project (Phase 3). Srirampur is a key transport point linking the East-West Corridor, a major artery that crosses all of India. However, the road from Srirampur to Dhubri-Phulbari Bridge is narrow and its surface condition is bad, and this impedes connectivity between the western part of the northeastern region south of Assam and the Dhubri-Phulbari Bridge and the rest of India.

The “North East Road Network Connectivity Improvement Project (Phase 5)” (hereinafter “the Project”) will improve connectivity between the northeastern region south of Assam and the Dhubri-Phulbari Bridge and the rest of India by developing National Highway 127B in Assam. Moreover, together with past projects, this section will form a part of the Gelephu-Dalu Corridor, which will cross Bhutan, India, and Bangladesh, and therefore contribute to better connectivity with neighboring countries. Accordingly, the Project will contribute to the regional development by facilitating distribution and also contribute to the achievement of the aforementioned policies of the Government of India. Therefore, it is positioned as an important project in India’s road sector.

(2) Japan and JICA’s Road Sector Policy and the Positioning of the Project

Country Assistance Policy for India (March 2016) formulated by the Government of Japan states that while the nation requires inclusive, sustainable and rapid growth, Japan’s ODA is expected to continue to play an important role in India to build critical infrastructures for ensuring continued investment and high economic growth. It also sets “enhancing connectivity” as a priority area and states that, with a view to de-bottleneck the infrastructure constraints to investment and growth, Japan will support development of transportation hub and network infrastructure in the areas of national highways (including express ways) to strengthen connectivity among major industrial cities and economic zones as well as regional connectivity. In addition, it states that Japan will promote

cooperation on the enhancement of regional connectivity including in the Northeast region, which has been confirmed at the bilateral summit meeting.

The Project contributes to the enhancement of connectivity, which is one of the priority areas in JICA Country Analysis Paper for India (March 2018), and to the removal of infrastructure-related bottlenecks to investment and growth. Accordingly, the Project is consistent with these policies and analyses.

Furthermore, the Project will likely contribute to the achievement of Goal 9 (build resilient infrastructure, promote sustainable industrialization and foster innovation) and Goal 13 (take urgent action to combat climate change and its impacts) of the Sustainable Development Goals, and therefore the Project's implementation is highly necessary.

(3) Other Donors' Activities

The World Bank has provided financing to the Assam State Road Project (State Road 46) (from March 2012 to September 2019) and the Mizoram State Road Project (from June 2014 to April 2021) in the northeastern region. The Asian Development Bank is providing financing for road development in the northeastern region through the North Eastern State Roads Investment Program's Project 1 (October 2012 to December 2016) and Project 2 (May 2014 to June 2021) and also supporting efforts to reinforce trade corridors in India and the region (including the Bangladesh-China-India-Myanmar [BCIM] and Bangladesh-Bhutan-India-Nepal [BBIN] trade corridors) through economic corridor development projects that are based on the South Asia Subregional Economic Cooperation framework.

3. Project Description

(1) Project Objective

The objective of the Project is to improve the connectivity in North Eastern Region of India through establishing and improving National Highway 127B (Srirampur - Dhubri section) in Assam state, thereby promoting regional socio-economic development.

(2) Project Site/Target Area

State of Assam (population: 31.2 million)

(3) Project Components

1) National Highway 127B: Improvement and widening (to four lanes) of the road between Srirampur and Dhubri, Assam (including bridges, drainages, etc.), and construction of bypasses at four locations (total length of approximately 54 km)

- 2) Consulting services (including construction supervision, environmental and social consideration, etc.)
- (4) Estimated Project Cost
23,773 million yen (Yen Loan Amount: 15,285 million yen)
- (5) Schedule
March 2021 to February 2029 (total of 96 months). The Project will be completed upon the commencement of service (February 2024).
- (6) Project Implementation Structure
 - 1) Borrower: President of India
 - 2) Guarantor: None
 - 3) Executing Agency: National Highways and Infrastructure Development Corporation Limited (hereinafter "NHIDCL")
 - 4) Operation and Maintenance Agency: Same as above
- (7) Collaboration with Other Schemes and Donors
 - 1) Japan's Assistance Activity:
JICA is conducting the ODA loan project on National Highway 51 in Meghalaya and National Highway 54 in Mizoram named "North East Road Network Connectivity Improvement Project (Phase 1)" (L/A signed in March 2017). JICA is also providing support to build a new bypass on National Highway 54 in Mizoram and perform road improvement on National Highway 40 in Meghalaya through the ODA loan project "North East Road Network Connectivity Improvement Project (Phase 2)" (L/A signed in March 2018). In the ODA loan project "North East Road Network Connectivity Improvement Project (Phase 3)" (L/A signed in October 2018), JICA is providing support to build a bridge to connect Assam and Meghalaya over the Brahmaputra River. Through the "North East Road Network Connectivity Improvement Project (Phase 4) (L/A signed in March 2020), JICA helps road improvement in the section of National Highway 208 of Tripura that is in the northern part of the state. Together with the Project, this project will enhance the connectivity of key main roads. Additionally, through the technical cooperation project "The Capacity Development Project on Highways in Mountainous Regions," JICA is providing support in the formulation of guidelines for slope protection and road operation/maintenance and strengthening cooperation with concerned agencies, including the Project's executing agency.
 - 2) Other Donors' Assistance Activity: N/A
- (8) Environmental and Social Consideration / Cross-Sectoral Issues / Gender Category

1) Environmental and Social Consideration

- ① Category: A
- ② Reason of Categorization: The Project falls into the Road sector, is located in a sensitive area, and is likely to have significant adverse impact due to its characteristic under the JICA guidelines for environmental and social considerations (April 2010).
- ③ Environmental Permit: Although not required under the domestic laws of India, an Environmental Impact Assessment (EIA) report for this Project was prepared by NHIDCL in November 2018 and approved in August 2020.
- ④ Anti-Pollution Measures: During the construction, mitigation measures that include water sprinkling, waste disposal in government-designated disposal sites, reutilization of surplus soil, maintenance of heavy construction equipment, and installation of noise barrier will be taken with respect to air pollution, water pollution, waste, noise, vibration, etc. Moreover, such countermeasures as road surface maintenance and limitation on alarms, etc. will be taken with respect to noise and vibration when service is commenced.
- ⑤ Natural Environment: The closest protected area to the Project's work sites is the Chakrashila Wildlife Sanctuary. However, the sanctuary is located approximately 45 kilometers from the Project area at the closest point, and therefore the acquisition of permission and approval for development in the Project area does not fall under the requirements specified by the Environment Protection Act and other relevant laws and so is not required. Sareswar Beel, which is a Key Biodiversity Area (KBA), is situated approximately 5 km from the Project site; however, no nesting or feeding grounds of rare species exist near the Project site and therefore the site is not considered as an important habitat.
- ⑥ Social Environment: The Project requires the acquisition of approximately 160 ha of land and the involuntary resettlement of 255 households. Land acquisition as well as compensation and support will be implemented based on a Resettlement Action Plan and in compliance with domestic procedures in India as well as JICA guidelines. Scheduled tribes that are classified as minority tribes under the Constitution of India reside in the Project area and appropriate

consideration is being given to them in public consultations, resettlement/livelihood restoration support measures, etc. No particular objections to the Project have been confirmed in public consultations concerning the Project.

- ⑦ Other/Monitoring: During the construction, contractors and others will monitor air quality, water quality, waste, noise, soil erosion, etc., under the supervision of NHIDCL. NHIDCL will monitor noise, soil erosion, etc., during service, and the Competent Authority of Land Acquisition (CALA), which is a body of the state government, local NGOs, and NHIDCL will monitor land acquisition and resettlement. Compensatory afforestation for felled trees is planned under the Project, and the state's forest department will monitor the growth of the planted trees. Contractors will monitor ecosystems during the construction and NHIDCL will monitor them after service commences.

2) Cross-Sectoral Issues

- ① Climate Change: Although it is predicted that traffic volume will increase as a result of the Project, the Project will contribute to lower greenhouse gas (GHG) emissions by improving traveling performance. It is anticipated that the climate change mitigation effect of the Project (rough estimation of GHG emissions reduction) will be approximately 7,887 tons/year when based on CO₂ conversion (as of 2030).
- ② Poverty: It is expected that the economic activities of residents living along the highway will be invigorated and thereby contribute to poverty reduction.
- ③ Consideration for Disabilities: It was confirmed at the time of screening that the executing agency will give necessary consideration with respect to ensuring livelihood recovery following resettlement and safety during construction for the socially vulnerable.
- ④ Controlling AIDS/HIV: As it is assumed that many workers will be involved in the Project, it is thought that the risk of HIV infections will be high. Accordingly, to prevent the risk of HIV infection during construction, the Project will demand that contractors cooperate with HIV/AIDS countermeasures for workers. This will include the inclusion of HIV/AIDS prevention items in bid documents. Moreover, at the time of screening, the executing agency agreed to a list of measures that must be taken when formulating projects and implementing projects

(total of 36 items) to control COVID-19 infections. Items include the formulation and thorough adherence to behavior patterns for preventing infections, providing contractual consideration for contractors when infections increase, etc.

3) Gender Category:

Gender Project (N/A) ■ Gender Informed (gender mainstreaming needs survey/analysis project)

Activity Description/Reason for Classification: Although gender mainstreaming needs were surveyed during screening, this did not lead to specific efforts that would contribute to gender quality and women's empowerment. However, the Project will give attention to promoting women's employment in construction work, promoting women's employment by the executing agency, etc.

(9) Other Important Issues: N/A

4. Targeted Outcomes

(1) Quantitative Effects

Outcomes (Operation and Effect Indicators)

Indicator	Section/Type	Baseline (2020 estimate)	Target (2026) (Two years after Project completion)
Average Travel Time (min.) (passenger vehicle)	Entire section	86	46
Average Travel Cost (INR/km)	Passenger vehicle	13.52	9.91
	Truck	32.37	25.30
Traffic Volume (PCU/day)	From 0-km point to 38.99-km point	3,900	5,000
	From 38.99-km point to 54.154-km point (see note)	2,900	14,000
Passenger Volume (x1,000 people/year)	From 0-km point to 38.99-km point	5,000	6,400
	From 38.99-km point to 54.154-km point	2,600	8,900
Cargo Volume (x1,000 tons/year)	From 0-km point to 38.99-km point	640	810
	From 38.99-km point to 54.154-km point	80	9,200

Note: It is predicted that traffic diversion from other existing routes will occur from the 38.99-km point, and therefore the indicators pertaining to traffic volume are ascertained separately based on that point.

(2) Qualitative Effects

Improved travel comfort in the target section, enhanced connectivity in the northeastern region and with the rest of India, and socioeconomic development in the region

(3) Internal Rate of Return

Under the following preconditions, the Project's Economic Internal Rate of Return (EIRR) will be 12.5%. The Financial Internal Rate of Return (FIRR) is not calculated because the tolls will not be collected.

[EIRR]

Costs: Construction costs, operation and maintenance costs (both excluding taxes)

Benefits: Reduction in vehicle travel costs, reduction in travel time costs

Project Life: 20 years

5. Preconditions and External Factors

(1) Preconditions: None

(2) External factors: Public order in the Project's areas does not worsen significantly.

6. Lessons Learned from Past Projects and Application to the Project

A lesson that is drawn from the experiences of similar road construction projects currently underway in Northeast India is the importance of carefully following the coordination among the executing agency, state government, and NGO and the progress of matters such as land acquisition and resettlement. This is because considerable time has been spent on those processes due to the lack of coordination between the executing agency, which handles the formulation of land acquisition and the resettlement action plan, and state governments, which execute those plans.

To make use of lessons learned from previous projects, it has been confirmed that NHIDCL is preparing the resettlement action plan with the state government's cooperation; in the previous phases, it was mainly prepared by NHIDCL. Subsequently, adequate information sharing is taking place between the two sides at the planning stage.

At the moment, all necessary procedures concerning land acquisition/resettlement, including public consultation, have been carried out. JICA confirmed with NHIDCL that until relocation is completed, the executing agency will conduct monitoring surveys on the status of progress and post-resettlement living conditions and JICA will receive periodic reports on their results. JICA also will conduct further support to expedite procedures if necessary.

7. Evaluation Results

The Project is consistent with the development issues and policies of India and the assistance policies of the Government of Japan as well as JICA. The Project aims to improve the connectivity in North Eastern Region of India through

establishing and improving National Highway 127B (Srirampur - Dhubri section) in Assam state, thereby promoting regional socio-economic development, and will likely contribute to the achievement of Goal 9 and Goal 13 of SDGs. Therefore, JICA's support for the Project is highly necessary.

8 . Plan for Future Evaluation

(1) Indicators to be Used

As indicated in section 4 above.

(2) Timing of the Next Evaluation

Ex-post evaluation: two years after the Project's completion.