

Ex-Ante Evaluation Paper (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 4)

Loan Agreement: March 27, 2020

2. Background and Necessity of the Project

(1) Current State and Issues of the Road Sector in India

In India, the National Highways Development Project (hereinafter referred to as “NHDP”) was initiated by the Ministry of Road Transport and Highways (hereinafter referred to as “MoRTH”) in 2001. Under the initiative, roads have been developed between large cities including the “Golden Quadrilateral” of Delhi, the capital city, Mumbai in the west, Kolkata in the east, and Chennai in the southeast. Major highway networks have been gradually improving, such as through road construction work on all planned sections (7,522km) of the 2001 yearly plan that was completed in 2015.

On the other hand, the pavement ratio of all roads in the northeastern region remains at 51.8% (national average: 71.4%), and the ratio of roads with two or more lanes among national highways remains at 35.6% (national average: 68.3%) (according to Basic Road Statistics of India 2016-2017), and slope and drainage development as countermeasures against landslide disasters has been delayed in many areas of the region. The delay in road development has interfered with stable transportation of people and goods in the region and has become a factor for the delay in economic development. The GDP per capita in the region (2015-2016) is 76,540 Indian rupees, which is far lower than the national average, 112,432 Indian rupee (according to the statistics data of the Reserve Bank of India). For this reason, the Government of India set the correction of regional gaps as one of the highest priority issues.

The National Highway 208 (hereinafter referred to as “NH208”), the target of “North East Road Network Connectivity Improvement Project (Phase 4)” (hereafter “the Project”), locates in the state of Tripura. The state shares borders with Bangladesh and is exporting agricultural products, mainly bamboo, fruit, and mineral resources such as marble etc. to Bangladesh, and is importing construction materials such as processed stone material, bricks, tiles, and cement etc. from Bangladesh. National Highway 8 (hereinafter referred to as

“NH8”) (total length: approx. 170km) has been functioning as an artery of such trade. However, since some issues have been pointed out for NH8 such as the fact that it takes time to travel on precipitous roads and sharp corners as NH8 passes through mountainous zones, and there is always the risk of road block owing to a partial collapse of a slope in the rainy season.

NH208 (the section between Kailashahar and Khowai) that is the target of the Project now has a narrow road width and bad road surface condition, but generally passes through a flat terrain, so it is expected to be developed as a stable distribution network. The development of NH 208 and functioning of it as an alternative road network of NH8 contributes to the promotion of smoother distribution in and out of the region, thus the Project is prioritized in road sector of India.

(2) Japan and JICA's Road Sector/Northeast Region Cooperation Policy and the Positioning of the Project

Country Assistance Policy for India (March 2016) formulated by the Government of Japan states that it intends to “develop important infrastructure which is necessary for the securing of continuous investment and high growth while it is required to realize comprehensive and stable high economic growth”. It has also set “enhancement of connectivity” as a priority area and is going to support the development of transport infrastructure so that the connectivity is enhanced in domestic major industrial cities, economic zones, and between regions with an eye to removing bottlenecks in the infrastructure related to investment and economic growth. It is also going to promote collaboration toward further enhancement of connectivity in the northeast region, confirmed between the leaders of Japan and India.

Moreover, an international road network will be formed that passes through the state of Tripura and reaches Chattogram, the second largest city in Bangladesh, which is also the largest harbor city, as well as Matarbari, where a deep-water port will be constructed, if the southern section (between Khowai and Sabroom) of the NH208 in the state is developed in the next phase in addition to the Project. Then, the transportation of people and goods will be activated by the improvement of connectivity between regions, and is expected to contribute to the realization of the Free and Open Indo-Pacific (FOIP) Initiative. Furthermore, bridge rehabilitation assistance has been provided in the corridor section on the side of Bangladesh connected from Sabroom (between Ramgarh (the name of border on the side of Bangladesh) and Baraiyarhat) through the

loan assistance “Cross-border Road Network Development Project (Bangladesh)” and the road from Matarbari Port to Chakaria on the National Highway 1 of Bangladesh is planned to be developed through the loan assistance “Matarbari Port Development Project (Bangladesh)”, and thereby a high synergistic effect with these yen loan projects is expected.

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 is going to support the development of infrastructure with an eye to removal of the bottlenecks to investment and growth in terms of infrastructure. Accordingly, the Project is consistent with the policies and analyses.

(3) Other Donors' Activities

The World Bank has already implemented the Assam State Road Project (State Road 46) in the North Eastern region (from March 2012 to March 2018) and is implementing the Mizoram State Road Project (from June 2014 to October 2020). The Asian Development Bank is providing assistance to the North Eastern region through the North Eastern State Roads Investment Program (October 2012 to December 2016) and phase 2 (May 2014 to March 2020).

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 208 (Kailashahar - Khowai section) in Tripura state, thereby promoting regional socio-economic development

(2) Project Site / Target Area: State of Tripura

(3) Project Components

- 1) NH208: improvement and widening of 2-lane roads (including bridges, drainages, and bypasses) (approx. 80km), establishment of a new bypass (approx. 5km) in Khowai, and maintenance.
- 2) Consulting services (construction supervision, maintenance support (including slope safety measures), and environmental and social consideration, etc.)

(4) Estimated Project Cost

Estimated Project Cost: 20,780 million yen (of which, the ODA Loan amount is 14,926 million yen)

(5) Schedule

March 2020 - March 2029 (109 months in total). The Project will be completed upon the commencement of services (March 2024).

(6) Project Implementation Structure

- 1) Borrower: President of India
- 2) Guarantor: N/A
- 3) Executing Agency: National Highways and Infrastructure Development Corporation Limited (hereinafter referred to as "NHIDCL")
- 4) Operation and Maintenance Agency: The operation and maintenance after the completion of the Project is performed by the contractor and a private company to which NHIDCL contracts out the work under the supervision of NHIDCL. Moreover, a consultant for the construction supervision and maintenance support is employed by NHIDCL and provides technical support. Expenses of operation and maintenance are paid with the fund allocated from the MoRTH to NHIDCL in a stable manner.

(7) Collaboration with Other Schemes and Donors

1) Japan's Assistance Activity:

The road improvement and widening of the National Highway 54 and 51 in Meghalaya and Mizoram were performed in the loan assistance "North East Road Network Connectivity Improvement Project (Phase 1)" (L/A signed in March 2017), and establishment of a new bypass of National Highway 54 and road improvement and widening of the National Highway 40 were performed in the same state in "North East Road Network Connectivity Improvement Project (Phase 2)" (L/A signed in March 2018). Moreover, a bridge was constructed over Brahmaputra River connecting Assam and Meghalaya in "North East Road Network Connectivity Improvement Project (Phase 3)" (L/A signed in October 2018). It has contributed to the enhancement of connectivity of major highways in the region along with this Project.

2) Other Donors' Assistance Activity: N/A

(8) Environmental and Social Consideration / Cross-Sectoral Issues / Gender Classification

1) Environmental and Social Consideration

① Category: A

② Reason of Categorization

This Project falls into Road sector 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

An environmental impact assessment (EIA) report on this Project was prepared in January 2017 by NHIDCL, updated in October 2019, and was approved in November, though its preparation is not required under the domestic laws of India.

④ Anti-Pollution Measures

During the construction, mitigation measures are planned to be taken such as water sprinkling, waste disposal in the disposal site designated by the government, reutilization of surplus soil, maintenance of construction heavy equipment, and installation of noise barrier, etc. in order to meet the domestic emissions standards as well as environmental standards of the country in terms of air pollution, water pollution, waste, noise, vibration, etc. Moreover, countermeasures are planned to be taken such as road surface maintenance and limitation on alarms, etc. for the noise and vibration when the services are commenced.

⑤ Natural Environment

The target area of the Project is located 26 km away from Gumti Wildlife Sanctuary and approx. 1km away from Rema-Kalenga Wildlife Sanctuary. The acquisition of permission and approval for the development in the project area does not fall into the requirements specified by relevant laws such as Environmental Protection Act, etc., so it is not required. Moreover, no particular migration corridor of rare species of wild animals has been observed in the target area of the Project, and a large part of the area has been converted into cropping or paddy fields, so no critical natural habitat of rare species seems to be contained within it. Furthermore, approx. 80ha of trees will be felling down as the road widening and establishment are performed, and the Forest Department of the state is planning to perform alternative afforestation in an area that is approx. two times larger.

⑥ Social Environment

The Project requires land acquisition of 86.51ha and involuntary resettlement of 61 households, and compensation as well as assistance will be performed in accordance with Resettlement Action Plan in compliance with domestic procedure in India as well as the JICA Environmental Guidelines. In target area of the Project, scheduled tribes

that falls according to the Constitution of India are residing, and appropriate consideration has been given in the public consultations, Resettlement Action Plan and livelihood restoration program, etc. Moreover, no particular objection to the Project has been confirmed in the public consultations concerning the Project.

⑦ Other / Monitoring

During the construction, under the supervision of NHIDCL, contractors, etc. perform the monitoring of air quality, water quality, waste, noise, and soil erosion, etc. NHIDCL performs the monitoring of noise and soil erosion, etc. during operation. NHIDCL and a local NGO perform the monitoring of site acquisition and resident transfer, and NHIDCL, Forest Bureau of the state, and a contractor perform the monitoring of ecosystems.

2) Cross-Sectoral Issue

The greenhouse gas (GHG) emissions reduction effect is expected from traveling performance improvement, etc. through the Project, which contributes positively to climate change (mitigation measures). The expected climate change mitigation effect of the Project (rough estimation of the GHG emissions reduction) is approx. 2050t/year (as of 2025).

3) Gender Category: ■GI (S) (Gender activity integration project)

<Activities/Classification Rationale>

The Project is planning to set occupations and time zones based on the needs and aptitudes of women, social backgrounds of target areas, etc. in order to secure the employment opportunities of women in construction work.

(9) Other Important Issues: N/A

4. Targeted Outcomes

(1) Quantitative Effects

1) Outcomes (Operation and Effect Indicators)

Indicator	Baseline (2019)	Target (2026) [2 Years after Completion]
Average travel time in the target section (min)	205	103
Average travel cost in the target section (rupee/km)	24 (passenger vehicles) 60 (trucks)	15 (passenger vehicles) 40 (trucks)
Annual average daily traffic volume in the target section (vehicles/day)	1,940	7,650
Number of passengers in the target section (x 1,000 people/year) (note 1)	1,875	4,680
Amount of freight in the target section (x 1,000 tons/year) (note 1)	95	3,255
Annual number of closure days in the section (over 24 straight hours, day)	21 (note 2)	0

(Note 1) The number of passengers is calculated by the breakdown of the average daily traffic volume in the target section multiplied by 365 days and capacities of each vehicle (bike: 1.5, passenger vehicle: 3, small-sized bus: 20, ordinary bus: 40). The amount of freight is calculated by the breakdown of the average daily traffic volume in the target section multiplied by 365 days and the maximum loading capacities of each freight vehicle (light commercial vehicle (LCV): 1 ton, 2-axle truck: 3 tons, 3-axle truck: 13 tons, multi-axle truck and trailer: 15 tons).

(Note 2) This is based on the operation records by the road administrators.

(2) Qualitative Effects

Enhancement of Connectivity in and out of the country and with other regions, and the social economic development of the region, etc.

(3) Internal Rate of Return

According to 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 fees are not collected.

[EIRR]

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

Benefit: Reduction in the vehicle travel costs, reduction in the travel time costs

Project Life: 25 years

5. External Factors and Risk Control

(1) Preconditions

Consensuses of regional residents and relevant institutions are continuously made for land acquisition.

(2) External Factors

The political and economic conditions of India and the target surrounding areas of the project are not adversely affected, and no large-scale disasters occur.

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

A lesson has been learnt from the experience of previous case examples, such as “North East Road Network Connectivity Improvement Project (Phase 1)” in India that show us the necessity of following up the land acquisition process. In concrete, it is important to follow carefully the inter-cooperation between implementation agency and the state government for smooth land acquisition, with consideration to the fact that it takes more time than expected for the land acquisition process.

Necessary procedures for the Project, including the public consultations with local residents, have been performed so far for the land acquisition and relocation. However, it is proposed to take measures, where appropriate, so that the results of monitoring do not violate the domestic laws of India as well as the JICA guidelines taking account on the periodic reports from implementation institutions regarding the result of monitoring of the progress status of land acquisition and livelihood condition after relocation.

7. Evaluation Results

The Project is consistent with the development issues and policies of India, and assistance policies of Government of Japan as well as JICA. It contributes to the SDGs Goal 9, “Build resilient infrastructure, promote inclusive and

sustainable industrialization and foster innovation”. Consequently, JICA’s support for the Project is highly necessary.

8. Plan for Future Evaluation

(1) Indicators to be Used

As indicated in sections 4. (1) to (3).

(2) Timing of the Next Evaluation

Two years after the project completion

End