

## Signing of Japanese ODA Loan Agreements with India: Contributing to inclusive and sustainable development in India through cooperation in various sectors

On March 29, the Japan International Cooperation Agency (JICA) signed loan agreements with the Government of India to provide Japanese ODA loans of up to a total of 187.884 billion yen for five projects.

Since the inauguration of the Modi administration in India in 2014, India has announced new policies in a variety of sectors, and the economic growth rate has been maintained at a high level and the gross domestic product at an average annual growth rate of approximately 7.5 percent. Nevertheless, the per capita income level in India was merely 1,670 US dollars in 2016, and the country still has the largest number of people in poverty in the world. Given these circumstances, the Modi administration is promoting development policies that aim at inclusive and sustainable growth under the motto of "Sabka Saath, Sabka Vikas" (Collective Efforts, Inclusive Growth). JICA is supporting these development policies of the Government of India through Japanese ODA loans in a wide range of sectors.



signing ceremony

The five projects under the loan agreements are described below.

- (1) Mumbai Metro Line 3 Project (II) (loan amount: 100 billion yen)
- (2) Project for Construction of Chennai Seawater Desalination Plant (I) (loan amount: 30 billion yen)
- (3) Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods (loan amount: 11.136 billion yen)
- (4) Project for Installation of Chennai Metropolitan Area Intelligent Transport Systems (loan amount: 8.082 billion yen)
- (5) North East Road Network Connectivity Improvement Project (Phase 2) (loan amount: 38.666 billion yen)

Details for the projects are provided below.

### (1) Mumbai Metro Line 3 Project (II)

#### (a) Objective and Summary

The project will construct a mass rapid transit system (subway) in Mumbai, the capital of Maharashtra State in West Central India. This initiative will accommodate the increasing demand for transportation, and promote regional economic development and urban environment improvements through alleviated road traffic congestion and a reduction in automobile pollution.

#### (b) Background and Necessity

The Mumbai Metropolitan Region (MMR) has a population of 20.7 million people as of 2016 with a population density of 20,482 people per square kilometer, making it one of the most populated metropolitan areas in the world. With a rapidly rising population in recent years, the number of registered vehicles has grown dramatically from 1.03 million in 2000 to 3.06 million in 2011. This has resulted in chronic traffic congestion in the MMR such that the average driving speed is approximately 15 kilometers per hour on trunk roads, making traffic congestion in the MMR far worse than such other major cities as Tokyo (approximately 20 kilometers per hour) and New York City (approximately 30 kilometers per hour). Moreover, air, noise and other forms of automobile pollution have grown severe. These factors make it necessary to build a subway as a mass rapid transit system to improve the transportation capacity with a means of transportation other than the road network. Therefore, construction work by the Mumbai Metro Rail Corporation Limited, the executing agency, has been progressing since 2013 toward the opening of the subway at the end of 2021.

Through the project, a subway will be constructed to connect Island City, the main urban area of South Mumbai, to the northwestern suburbs through Chhatrapati Shivaji Maharaj International Airport. The volume of transportation is projected to reach 13.8 million person-kilometers per day within two years of operation commencement, and balanced economic development is expected to result in the MMR through the alleviation in transportation congestion and air pollution.

#### (c) Executing Agency

Mumbai Metro Rail Corporation Limited  
Address: NaMTTRI Building, Plot # R13, 'E' Block, BKC, Bandra (E) Mumbai, 400051, India  
Phone: +91-22-2638-4677, fax: +91-22-2659-2005

#### (d) Planned Implementation Schedule

1. Completion of project: December 2021 – when the facilities are put into service
2. Issuing of letters of invitation for consulting services (including construction supervision): Consultants have already been hired
3. Tender announcement of initial procurement package for international competitive bidding on project construction:  
Procurement package title: Construction of Underground Stations and Tunnels  
Release date: Already contracted

### (2) Project for Construction of Chennai Seawater Desalination Plant (I)

#### (a) Objective and Summary

The project will construct a seawater desalination plant and construct and improve water transportation and distribution facilities in the Chennai Metropolitan Area in Tamil Nadu State in South India. This will provide safe, stable water services and contribute to the living and investment environments in the area.

#### (b) Background and Necessity

The population in the Chennai Metropolitan Area has increased rapidly in recent years, growing from 6.56 million people in 2001 to 8.9 million in 2011, and it is projected that the population will exceed 15 million by 2035. Furthermore, economic development has been notable and many foreign companies, including more than 370 Japanese companies, have expanded their operations to Chennai as of November 2017. As a result, the demand for domestic and industrial water is rapidly increasing, and it has been difficult to satisfy this quickly burgeoning demand in the short term with river water and groundwater, the primary water sources. Because these water sources are also easily affected by droughts during the dry season, the chronically serious lack of water is a pressing challenge that must be addressed for personal living and business activities. Ensuring stable water resources is therefore a priority.

Along with related facilities, the project will construct a seawater desalination plant which will provide a steady supply of water without being affected by droughts during the dry season, enabling a stable supply of water to a larger population. The water supply population in the project target area of Chennai City is expected to increase from approximately 7.1 to 8.2 million people. The project measures will contribute to meeting the demand for water in the Chennai Metropolitan Area, which is expected to continue growing.

Further, this project is expected to contribute to the improvement of the investment climate in the Chennai-Bengaluru Industrial Corridor (CBIC) area through the stable supply of water, and also to contribute to the Government of India's "Make in India" policy that encourages the establishment of domestic operations by foreign companies. Such contributions are aligned with the overall strategy of developing industrial clusters under the CBIC policy jointly promoted by the Governments of Japan and India.

#### (c) Executing Agency

Chennai Metropolitan Water Supply and Sewerage Board

Address: No. 1, Pumping Station Road, Chintadripet, Chennai, 600002, India  
Phone: +91-44-2845-1319, fax: +91-44-2845-4336

(d) Planned Implementation Schedule

1. Completion of project: March 2025 – when the facilities are put into service
2. Issuing of letters of invitation for consulting services (including detailed design work): August 2018
3. Tender announcement of initial procurement package for international competitive bidding on project construction:  
Procurement package title: Installation of Product Water Transmission Mains  
Release date: August 2018

(3) Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods

(a) Objective and Summary

The project will promote activities pertaining to sustainable forest ecosystem management and biodiversity conservation in Himachal Pradesh State in north India, as well as creating an implementation system for those activities, building the capacity of participants, and strengthening the livelihood infrastructure of local residents. These measures will strengthen the ecosystem management system in the forested areas of Himachal Pradesh State.

(b) Background and Necessity

Located in the western part of the Himalayan Mountain Range with a population of approximately 6.86 million people (2011), Himachal Pradesh State is filled with rugged topography, from low hills to soaring mountains, and also has a diverse ecosystem. Since the state as a whole is also a part of the Himalayan biodiversity hotspot,\* and many endangered species on the IUCN Red List have been confirmed in the state, ecosystem conservation is necessary for the state. However, forest resource use has been increasing due to a rising population, the burden on forest resources has been growing due to deforestation by development projects, and the forests have been suffering from local degradation due to forest fires and other causes. Such forest degradation impacts the biological habitat, threatening the loss of the biodiversity. Also, wild animals have frequently appeared in the human biosphere in recent years as a result of forest degradation, and there has been much damage to residents, livestock and more. It is therefore necessary to quickly strengthen forest conservation and biodiversity conservation measures. In order to achieve both these measures and local economic development, strengthening of the livelihood infrastructure for local residents is also needed.

The project is expected to implement afforestation activities over an area covering at least 10,000 hectares in Himachal Pradesh State. Training for sustainable forest ecosystem management and biodiversity conservation will be provided to local residents, and support for livelihood improvements such as in poultry farming and horticulture will also be provided, and those efforts are expected to establish a sustainable forest conservation system that also ensures local economic development.

\* Biodiversity hotspot: An area designated by Conservation International having a significant level of biodiversity with many unique species and being threatened with severe destruction of the ecosystem.

(c) Executing Agency

Forest Department, Government of Himachal Pradesh  
Address: Forest Headquarters, Talland Shimla, Himachal Pradesh, 171002, India  
Phone: +91-177-262-4186, fax: +91-177-262-4192

(d) Planned Implementation Schedule

1. Completion of project: March 2028 – with completion of all activities
2. Issuing of letters of invitation for consulting services (including project management): July 2018
3. Tender announcement of initial procurement package for international competitive bidding on project construction:  
The procurement required for this project will be carried out through domestic bidding, and international competitive bidding for procurement is not planned.

(4) Project for Installation of Chennai Metropolitan Area Intelligent Transport Systems

(a) Objective and Summary

The project will provide intelligent transportation systems (ITS) in the Chennai Metropolitan Area of Tamil Nadu State in southeastern India. Doing so will advance the construction of efficient transport systems capable of handling the rapidly increasing traffic volumes, mitigating traffic congestion in the Chennai Metropolitan Area and contributing to regional economic development.

(b) Background and Necessity

The population in the Chennai Metropolitan Area has increased rapidly in recent years, growing from 6.56 million people in 2001 to 8.9 million in 2011, and it is projected that the population will exceed 15 million by 2035. Furthermore, economic development has been notable and many foreign companies, including more than 370 Japanese companies, have expanded their operations to Chennai as of November 2017. Accompanying that growth, the traffic volume in the Chennai Metropolitan Area has also grown rapidly, resulting in chronic traffic congestion and other issues hampering people's lives and business activities. In order to mitigate congestion with more efficient transportation, travel routes, travel times, peak hour traffic demand and other such data must be collected and analyzed, and transportation management must be carried out through such measures as providing timely road information and controlling traffic signals. Installing systems capable of collecting and analyzing traffic information and providing efficient operation are priorities.

The project will provide systems for improving traffic flows by generating and communicating traffic information and controlling traffic signals, and for improving the efficiency and convenience of bus operations. The project will also include a transfer of technology for the operation and management of those systems. Further, this project is expected to contribute to the improvement of the investment climate in the Chennai-Bengaluru Industrial Corridor (CBIC) area through the betterment of transportation, and also to contribute to the Government of India's "Make in India" policy that encourages the establishment of domestic operations by foreign companies. Such contributions are aligned with the overall strategy of developing industrial clusters under the CBIC policy jointly promoted by the Governments of Japan and India.

(c) Executing Agency

Chennai Smart City Limited  
Address: Wing A, 5th Floor, Amma Maaligai, Ripon Building, Chennai, 600003, India  
Phone: +91-44-2561-9670, fax: +91-44-2538-3962

(d) Planned Implementation Schedule

1. Completion of project: December 2022 – with the completion of system pilot operations
2. Issuing of letters of invitation for consulting services (including basic design work): April 2018
3. Tender announcement of initial procurement package for international competitive bidding on project construction:  
Procurement package title: Installation of ITS  
Release date: September 2019

(5) North East Road Network Connectivity Improvement Project (Phase 2)

(a) Objective and Summary

The project will build four new bypasses on National Highway 54 of Mizoram State and improve the existing National Highway 40 of Meghalaya State in North East India, an area

bordering Bangladesh, Bhutan and Myanmar. This is expected to strengthen the overland connectivity in the region between India and these neighboring countries and contribute to economic development in the area.

(b) Background and Necessity

Accompanying the increasing population and economic growth in India in recent years, there is a rising need for improvements to roads essential for domestic goods distribution, but road improvements in mountainous areas tend to lag behind those in plain areas due to financial and technological challenges. The North East Region, which is the project target area, has much hilly and mountainous terrain, which impedes progress in road construction, and faces challenges such as roads that have not been widened, are without slope measures, and have broken pavement. Particularly in the rainy season, roads are frequently closed due to mudslides caused by the combination of heavy rainfall and steep topography. This lag in road development hinders the stable supply of goods and access to medical and educational facilities. Improving the road network is a priority to ensure that local residents have a lifeline and for economic development. JICA is supporting widening, paving and other improvements on National Highways 51 and 54 through the North East Road Network Connectivity Improvement Project (Phase 1) (I) (agreement signed on March 31, 2017 for a loan of up to 67.17 billion yen), a Japanese ODA loan. The present project is a continuation of phase 1, maintaining support for road connectivity improvements between the North East Region of India and Myanmar and Bangladesh.

JICA is also supporting the creation of a manual for mountain road development through the Capacity Development Project on Highways in Mountainous Regions, technical cooperation, contributing to sustainable road development in India.

(c) Executing Agency

National Highways and Infrastructure Development Corporation Limited  
Address: 3rd Floor, PTI Building, 4 Parliament Street, New Delhi, 110001, India  
Phone: +91-11-2346-1600, fax: +91-11-2371-1103

(d) Planned Implementation Schedule

1. Completion of project: September 2022 – when the facilities are put into service
2. Issuing of letters of invitation for consulting services (including construction supervision): April 2018
3. Tender announcement of initial procurement package for international competitive bidding on project construction:  
Procurement package title: Road Improvement on NH 40 I  
Release date: March 2019

Terms and Amounts of Loans

Project title	Amount (million yen)	Annual interest rate (%)		Repayment period (years)	Grace period (years)	Procurement
		Project	Consulting services			
Mumbai Metro Line 3 Project (II)	100,000	1.50	0.01	30	10	General, untied
Project for Construction of Chennai Seawater Desalination Plant (I)	30,000	1.50	0.01	30	10	General, untied
Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods	11,136	1.30	0.01	30	10	General, untied
Project for Installation of Chennai Metropolitan Area Intelligent Transport Systems	8,082	1.50	0.01	30	10	General, untied
North East Road Network Connectivity Improvement Project (Phase 2)	38,666	1.20	0.01	30	10	General, untied
Total	187,884					