

OPERATIONS AND ACTIVITIES IN **INDIA**



Transport



Water & Sanitation



Manufacturing



Forestry & Agriculture



Energy



Education & Health

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Photo courtesy: Mika Tanimoto

FOREWORD

Strengthening the cooperation between India & Japan



Takema Sakamoto
Chief Representative | JICA India Office

It is a privilege to be the Chief Representative of India office of the Japan International Cooperation Agency (JICA).

India is one of the most rapidly advancing countries in the world, and is expected to have the highest population in some years. Very evidently India's potential as an economic powerhouse is immense, and is definitely a country which has a bearing on the stability and prosperity of the world at large.

Another aspect to be taken cognizance of is that poverty rate in India is still high, and development needs are varied and huge.

I sincerely would like to utilize my tenure experiences and lessons from the high growth period of Japan and from the legacy of JICA's operations in India and in other countries. Japan and India have been long time friends. I definitely see, both countries' relationship getting closer continuously.

For India to achieve sustainable overall economic development, it is imperative that improvement of infrastructure such as railways, roads, water/sanitation and power are taken up on priority. Further, the manufacturing sector, which plays a pivotal role in economic growth and job creation, requires a greater

impetus, and an enabling environment would facilitate a steady flow of investments.

In addition, both the Government of India and JICA are giving a fillip to inclusive development, wherein local communities actively partake of the process of and fruits of development, with due importance to environmental and social considerations. Cross sectoral issues, such as gender equity and equality, global warming and full utilization of Information & Communications Technology, are required to be addressed as well.

JICA, as the biggest bilateral donor of India, has been actively supporting economic growth, poverty reduction and environment conservation in India, through various forms of assistance including technical cooperation, concessional loan provision, grant finance provision, dispatching volunteers and partnership with the private sector. JICA has facilitated development across sectors, including in transport infrastructure, water and sanitation facilities, power availability, forest resource management, agricultural productivity, healthcare facilities and education facilities, among others.

To take further such robust foundations, JICA would continue to work with the people of India in their quest for sustainable development.

Snapshot of JICA's Cooperation in Transport Sector in India

MITIGATING VEHICULAR CONGESTION IN URBAN AREAS



Facilitating development of over

400 KM of **METRO RAIL NETWORK** across Delhi, Mumbai, Bengaluru, Chennai, Kolkata and Ahmedabad.

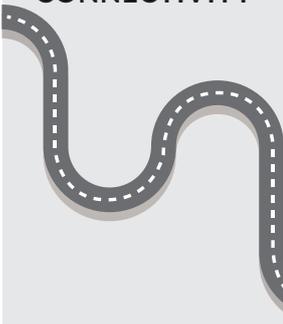


For instance, Delhi Metro has enabled **390,000 VEHICLES** to remain off the roads in 2014, according to **Central Road Research Institute (CRRI)**.

Facilitating construction of over **70 km** of outer ring road at Hyderabad.

Facilitating deployment of **Intelligent Transport System (ITS)** in Hyderabad & Bengaluru.

PROMOTING REGIONAL CONNECTIVITY



Facilitating development of **ROADS AND BRIDGES** in various parts of India.

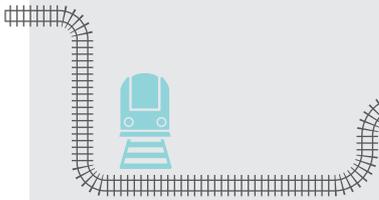
For instance, Facilitated construction for **4-laning of 220 km** approx. of National Highway 82 (NH 82) and National Highway 83 (NH 83) in Bihar.



Conducting Study for development of **ROADS, including BRIDGES AND TUNNELS** in the North East.



CONNECTING PORTS WITH INLAND AREAS



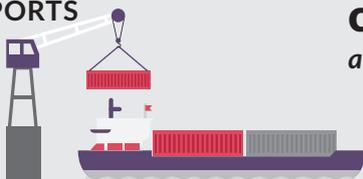
Facilitating development of dedicated railway-freight corridor (**Western DFC**) around **1,500 km** between National Capital Region of Delhi and Mumbai.



100 km per hour is designed for train speeds of

The travelling time has been reduced from **3 days to 1 day.**

ENHANCING CAPACITY OF PORTS



Facilitating increase in **capacity and efficiency** of cargo handling at the Vishakhapatnam & Chennai ports.



INDIAN RAILWAY'S **VISION 2020** ENVISAGES DEVELOPMENT OF **HIGH-SPEED CORRIDORS** FOR SPEEDS UPTO **350 KMPH**

Conducted joint feasibility study with **MINISTRY OF RAILWAYS,** Government of India for high-speed railway system between **Mumbai and Ahmedabad.**



Snapshot of JICA's Cooperation in Water & Sanitation Sector in India

CURRENT SITUATION



Intermittent water supply
(Daily water supply in major cities ranges from 1 hour to 6 hours)



69% of sewerage is discharged to rivers and lakes without any treatment.



11.7 million people are at health risk due to fluoride-affected water.



More than **40%** of non-revenue water loss exist in major cities.



Around **28%** of sewer service reaches across India.



A mere **30 - 40%** of operation and maintenance cost are recovered by utility bills.

WHAT IS JICA DOING



Approved **29** projects amounting to **663 billion** Japanese Yen (approx. **Rs. 39,000 crore**)

across Delhi, Agra, Varanasi, Pune, Amritsar, Bhubaneswar, Cuttack, Guwahati, Hyderabad, Bengaluru, Goa, Guwahati, Nagaur (Rajasthan), Purulia (West Bengal), Kerala & Tamil Nadu.



JICA projects are focusing on

1. Infrastructure development
2. Capacity development of water utilities
3. Access of water & sanitation by urban poor
4. Public awareness



Japanese advanced knowledge and experience are being utilized for water loss reduction in Delhi, Jaipur and Goa.



Fluorosis mitigation activities are carried out such as training to doctors and teachers, raising awareness among rural communities.



Enhancing operation and maintenance capacity and financial sustainability.



EXPECTED RESULTS BY JICA PROJECTS

30
million

People will receive water supply by JICA Projects

15
million

People will be benefitted by JICA sewerage Projects

24
x7

Water supply is expected in parts of Delhi, Goa and Jaipur



Snapshot of JICA's Cooperation in Energy Sector in India

INCREASING POWER GENERATION CAPACITY

Facilitated construction of **hydro and thermal power stations** across India.

9.3 GW POWER GENERATION CAPACITY DEVELOPED

which is about **4%** of total generation capacity



ENHANCING TRANSMISSION & DISTRIBUTION (T&D) NETWORK

FACILITATED ENHANCEMENT OF TRANSMISSION/DISTRIBUTION LINES & SUB-STATIONS across

Haryana, Madhya Pradesh, West Bengal, Odisha, Maharashtra, Andhra Pradesh/Telangana, Tamil Nadu, Bangalore, Hyderabad and so on.

For instance, electricity supply in **Hyderabad** has increased to

16,329 GWh, from **8,860 GWh** earlier.

INCREASING RENEWABLE ENERGY GENERATION CAPACITY

Extended **60 BILLION** Japanese Yen (approx. Rs 3,100 crore) since 2011

DEVELOPMENT OF RENEWABLE ENERGY SOURCES

through **IREDA** (Indian Renewable Energy Development Agency)

RURAL ELECTRIFICATION

FACILITATED DEVELOPMENT OF SUBSTATIONS & ELECTRICITY DISTRIBUTION NETWORK

in rural Madhya Pradesh, Andhra Pradesh/ Telangana and Maharashtra.

For instance, **85%** households in eastern **Madhya Pradesh** have access to electricity, from **37%** earlier.

PROMOTING ENERGY SAVING

Extending **90 BILLION** Japanese Yen (approx. Rs 4,700 crore)

SINCE 2008

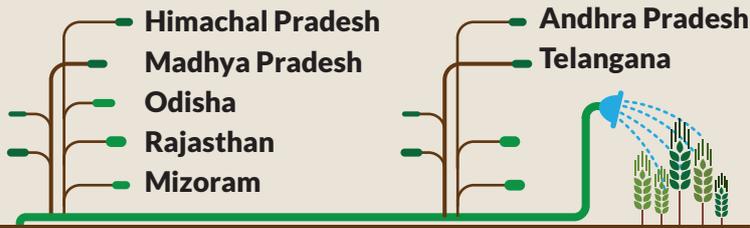
for deployment by Micro, Small & Medium Enterprises of energy efficient systems for power, lighting and manufacturing, through

Small Industries Development Bank of India (SIDBI)

Snapshot of JICA's Cooperation in Agriculture, Irrigation & Forestry Sector

TO INCREASE IRRIGATION FACILITIES TO MITIGATE DEPENDENCE ON RAIN-FED AGRICULTURE

FACILITATED DEVELOPMENT OF IRRIGATION FACILITIES IN



For instance,

Irrigated area will increase by
570,000 HECTARES

(which is nearly 4 times the area of union territory of Delhi)



TO INCREASE PRODUCTION



Facilitated crop diversification in Himachal Pradesh



Enhancement of soybean production in Madhya Pradesh



Enhancement of silk production from bivoltine cocoons in Andhra Pradesh/ Telangana, Karnataka & Tamil Nadu.

For instance,

Farmer income per acre of **MULBERRY** on which silkworms feed

Cultivation has increased

Rs 50,000 to Rs 150,000



on an average in

Andhra Pradesh/Telangana, Karnataka & Tamil Nadu

MANAGE FOREST RESOURCES FOR SUSTAINABLE DEVELOPMENT

FACILITATING SUSTAINABLE FOREST RESOURCE MANAGEMENT ACROSS

in Rajasthan, Gujarat, Kerala, Tamil Nadu, Punjab, Karnataka, Haryana, Orissa, Tripura, Himachal Pradesh, Uttar Pradesh, Sikkim and West Bengal.



PROJECT FOR CAPACITY ENHANCEMENT FOR FOREST MANAGEMENT

under which training facilities have been refurbished/ newly built, training pedagogy developed and implemented, has received the National Award for 'Excellence in Training in State Forest Training Institutions'.

For instance,

in Uttar Pradesh afforestation of over **80,000 hectares**

of non-timber forest produce such as *Aloe vera, bael and turmeric*

will be achieved to enhance income of forest dependent communities



JICA has extended ODA loan of 487 billion Japanese Yen (approx. Rs 29,000 crore) cumulatively since 1981/82 to enhance agricultural productivity and forest resource management in India.

6 | JICA & Official Development Assistance

A bridge linking Japan with emerging countries



Odisha Forestry Sector Development Project



Chennai Metro Rail Limited

About JICA

JICA is an independent administrative institution under the Government of Japan, established with the aim of promoting international cooperation. JICA works as a bridge between Japan and emerging countries, and provides assistance in forms of loan, grant and technical cooperation in an integrated manner so that the developing countries can strengthen their capacities.

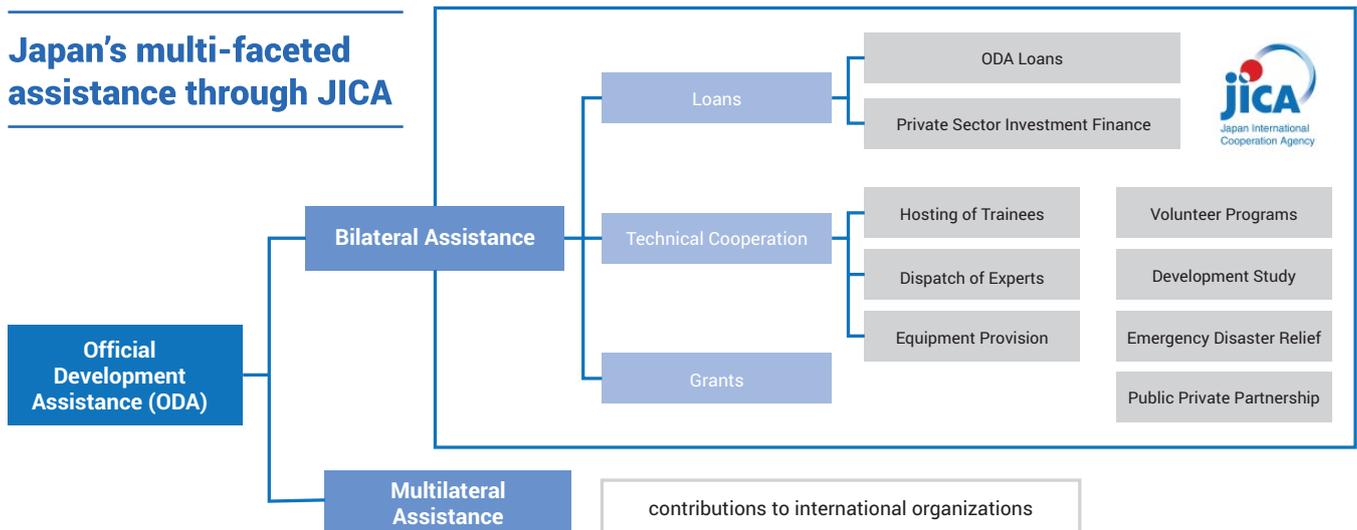
JICA's vision: inclusive & dynamic development

"Inclusive development" represents an approach to development that encourages all people to recognize the development issues they themselves face, participate in addressing them, and enjoy the fruits of such endeavours. The role of JICA is to effectively provide backing for this process.

"Dynamic development" refers to the creation of self-reinforcing virtuous cycles of mid- to long-term economic growth and poverty reduction in a constantly changing environment of emerging countries where a variety of issues arise simultaneously and get entangled with each other. JICA will provide creative, highly effective support toward this end, at times moving swiftly and at times acting from the longer-term perspective as the situation calls for.

What is Official Development Assistance?

Official Development Assistance, ODA, is undertaken by governments or government agencies to promote economic development and welfare in emerging countries. Since 1954, Japan has been providing financial and technical assistance through ODA, and the features of Japanese ODA have been promotion of self-help, sustainable economic growth and human security in emerging countries.



Uttar Pradesh Participatory Forest Management and Poverty Alleviation Project



Outer Ring Road Project, Hyderabad

ODA Loan

ODA loans support emerging countries providing low-interest, long-term and concessional funds to finance their development efforts. ODA loans are normally used for large-scale infrastructure and other forms of development that require substantial funds. ODA loans, which require repayment, promote efficient use of the borrowed funds and appropriate supervision of the project they finance, thereby underpinning emerging countries' ownership in the development process.

Grant Aid

Grant aid is the provision of funds to emerging countries without the obligation for repayment. Grant aid is used for development of social and economic

infrastructure such as for primary and secondary education, health and medical care, the environment and other areas.

Technical Cooperation

For human resources development and formulation of administrative systems of emerging countries, technical cooperation is extended. It involves dispatch of experts, provision of necessary equipment and training of personnel from emerging countries in Japan and other countries. Cooperation plans can be tailored to address a broad range of issues.

7 | JICA & INDIA

Japan's partnership with India for nearly 60 years

Japan's ODA to India started in 1958, when a concessionary ODA loan of 18 billion Japanese Yen was extended to supplement the implementation of the 2nd Five-Year Plan, at the request of the then Prime Minister, Jawaharlal Nehru. India was then the first recipient in the world of Japanese ODA loan. Since then, over 4,500 billion Japanese Yen (approx. Rs. 270,000 crores) in ODA loans have been committed for development across various sectors.

Technical Cooperation with India started in 1966. One of the early instances was establishment of Indo-Japanese Agricultural Extension Centres across the country, in which the Japanese method of paddy

cultivation was introduced and model farms were set up to contribute towards achieving food self-sufficiency in India. Since then, nearly 8,000 Indian personnel have participated in training courses in Japan and over 7,100 Japanese experts have come to India to offer their expertise.

Grant aid has also covered various areas in India including construction of hospitals and health facilities, and providing equipment for educational institutions.

Today, JICA is the world's largest bilateral aid agency and India is its largest development partner.

OPERATIONS IN INDIA: FY 2015-16

ODA LOAN



COMMITMENT

377 billion Japanese Yen

(approx. Rs 22,000 crore, World's biggest recipient)



DISBURSEMENT

186 billion Japanese Yen

(approx. Rs 11,000 crore World's biggest recipient)



NO. OF ONGOING PROJECTS

79

GRANT AID



1.5 billion Japanese Yen (approx Rs. 89.28 crore)

No. of ongoing projects: 1

*Currency rate JPY 1.68/INR is applied for the sake of explanation.

TECHNICAL COOPERATION



257 Indians visited Japan



811 Japanese experts dispatched to India

CITIZEN PARTICIPATION



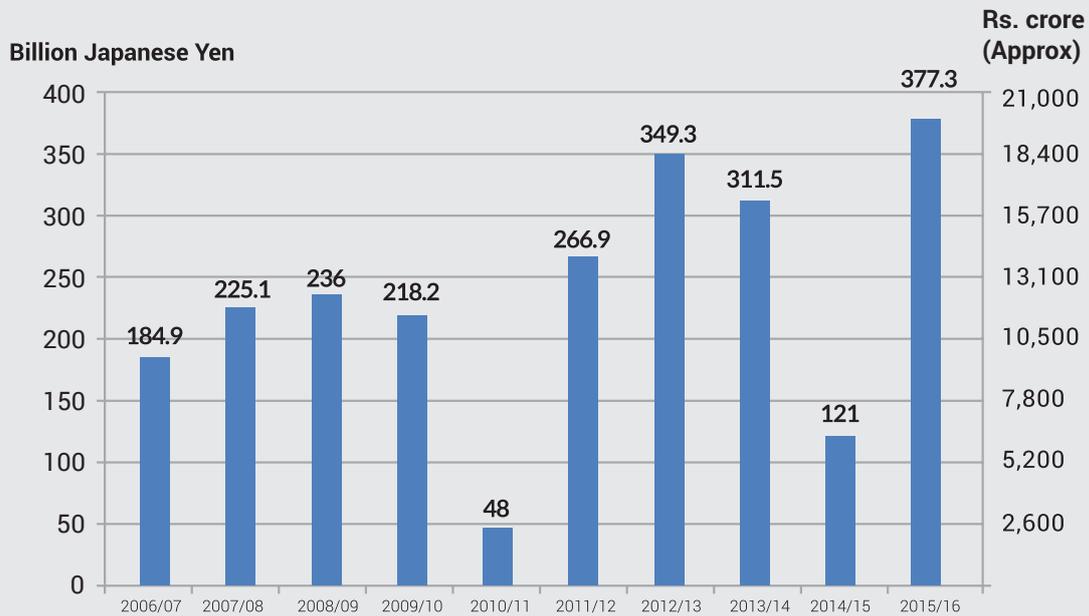
Japanese Volunteers: 24,
for Japanese language education, nursing instructor, community development



Japanese NGO activities:
Working with Indian Partner: 5

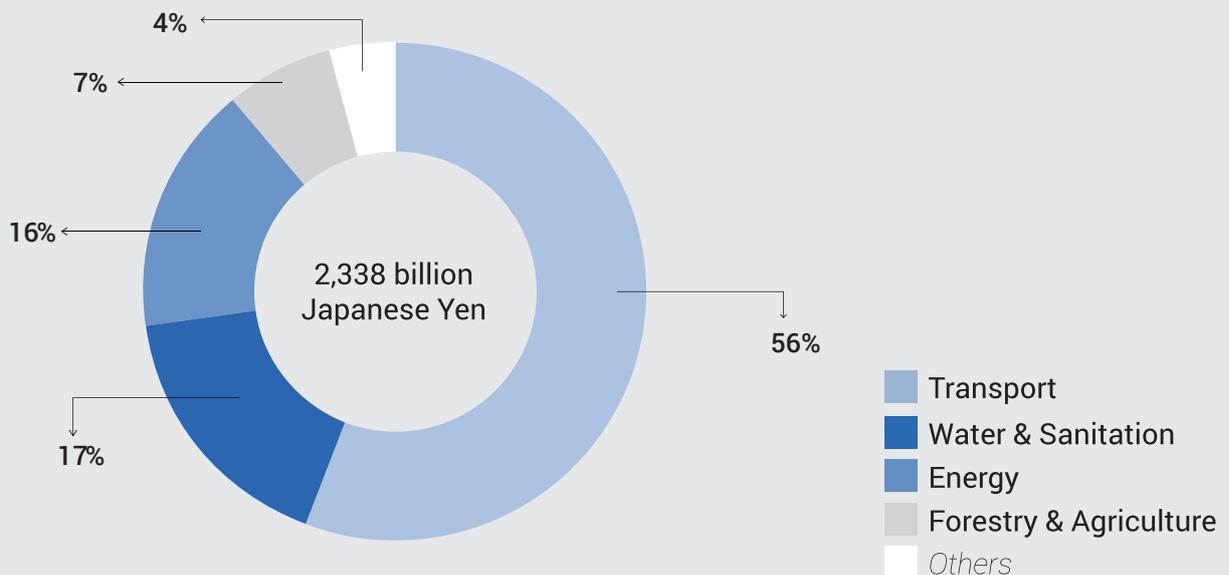
JICA's Assistance

Trends in ODA Loan Commitment for the Past 10 Years (FY 2006/07 - 2015/16)



*The great East Japan Earthquake occurred in FY2010/11
 *Prime Minister Modi's new administration in FY2014/15

Trends in ODA Loan Commitment by Sector (FY 2006/07-2015/16)



8 | ONGOING JICA PROJECTS IN INDIA: FY 2015-16

HIMACHAL PRADESH

- (L) Swan River Integrated Watershed Management Project
- (L) Himachal Pradesh Crop Diversification Promotion Project
- (T) Technical Cooperation Project for Crop Diversification in Himachal Pradesh

UTTARAKHAND

- (L) Uttarakhand Forest Resource Management Project

HARYANA

- (L) Haryana Transmission System Project
- (L) Haryana Distribution System Upgradation Project

PUNJAB

- (L) Amritsar Sewerage Project

DELHI

- (L) Delhi Mass Rapid Transport System Project
- (L) Delhi Water Supply Improvement Project
- (T) The Assistance related to Delhi Water Supply Improvement Project

RAJASTHAN

- (L) Rajasthan Minor Irrigation Improvement Project
- (L) Rajasthan Forestry and Biodiversity Project
- (L) Rajasthan Rural Water Supply and Fluorosis Mitigation Project (Nagaur)
- (T) Capacity Development Project For Non Revenue Water Reduction in Jaipur

MADHYA PRADESH

- (L) Madhya Pradesh Transmission System Project
- (T) Technical Cooperation Project on Milk Production in Madhya Pradesh

GUJARAT

- (L) Gujarat Forestry Development Project
- (L) Ahmedabad Metro Project (I)

MAHARASHTRA

- (L) Mumbai Metro Line 3 Project
- (L) Project for Pollution Abatement of River Mula-Mutha in Pune

GOA

- (L) Goa Water Supply and Sewerage Project

KARNATAKA

- (L) Bangalore Water Supply and Sewerage Project
- (L) Bangalore Metro Rail Project
- (L) Bangalore Distribution Upgradation Project
- (T) Master Plan Study on Intelligent Transport System (ITS) in Bengaluru & Mysore

TAMIL NADU

- (L) Tamil Nadu Investment Promotion Program
- (L) Tamil Nadu Afforestation Project
- (L) Hogenakkal Water Supply and Fluorosis Mitigation Project
- (L) Tamil Nadu Urban Infrastructure Project
- (L) Tamil Nadu Biodiversity Conservation and Greening Project
- (L) Tamil Nadu Transmission System Improvement Project
- (L) Chennai Metro Project (IV)
- (L) Tamil Nadu Urban Health Care Project
- (G) The Project for Improvement of the Institute of Child Health and Hospital for Children, Chennai
- (T) JICA Experts on the Improvement of Chennai Port Operation Project

KERALA

- (L) Kerala Water Supply Project

JHARKHAND

- (L) Jharkhand Horticulture Intensification by Micro Drip Irrigation Project

UTTAR PRADESH

- (L) Ganga Action Plan Project (Varanasi)
- (L) Agra Water Supply Project
- (L) Uttar Pradesh Participatory Forest Management and Poverty Alleviation Project
- (T) UASB-DHS Integrated System - a Sustainable Sewage Treatment Technology

BIHAR

- (L) Bihar National Highway Improvement Project

SIKKIM

- (L) Sikkim Biodiversity Conservation and Forest Management Project

ASSAM

- (L) Guwahati Water Supply Project
- (L) Guwahati Sewerage Project

MIZORAM

- (T) The Study on Development and Management of Land and Water Resources for Sustainable Agriculture in Mizoram

TRIPURA

- (L) Tripura Forest Environmental Improvement and Poverty Alleviation Project

WEST BENGAL

- (L) Purulia Pumped Storage Project
- (L) Kolkata Solid Waste Management Improvement Project
- (L) Kolkata East-West Metro Project
- (L) West Bengal Forest and Biodiversity Conservation Project
- (L) West Bengal Piped Water Supply Project (Purulia)

ODISHA

- (L) Odisha Forestry Sector Development Project
- (L) Odisha Integrated Sanitation Improvement Project
- (L) Rengali Irrigation Project
- (L) Odisha Transmission System Improvement Project
- (L) Odisha Integrated Sanitation Improvement Project (II)

em Modernization Project
maximizing Soybean

ANDHRA PRADESH & TELANGANA

- (L) Hussain Sagar Lake and Catchment Area Improvement Project
- (L) Transmission System Modernization and Strengthening Project in Hyderabad Metropolitan Area
- (L) Vishakhapatnam Port Expansion Project
- (L) Andhra Pradesh & Telangana Irrigation and Livelihood Improvement Project
- (L) Hyderabad Outer Ring Road Project
- (L) Andhra Pradesh & Telangana Rural High Voltage Distribution System Project
- (L) Campus Development Project of Indian Institute of Technology, Hyderabad
- (T) Campus Design Project for Indian Institute of Technology, Hyderabad through Academic Exchange and Interdisciplinary Collaboration
- (T) Project for Future Researchers at IIT Hyderabad to Enhance Network Development with Scholarship of Japan (FRIENDSHIP)

ACROSS VARIOUS PARTS OF INDIA

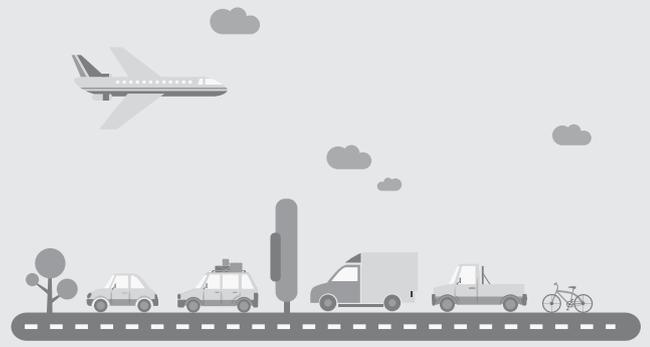
- (L) Capacity Development for Forest Management and Personnel Training Project
- (L) Micro, Small and Medium Enterprises Energy Saving Project (Phase 3)
- (L) New and Renewable Energy Development Project (Phase 2)
- (L) Yamuna Action Plan Project
- (L) PPP Infrastructure Financing Project
- (L) Dedicated Freight Corridor Project (Phase 1) (III)
- (T) Project for Information Network for Natural disaster Mitigation and Recovery (DISANET)
- (T) Advisor on Infrastructure Development and Investment Promotion
- (T) Institutional Development Project on the Supervision for Highway and Expressway Operation, Maintenance and Management
- (T) Project on Champions for Societal Manufacturing (CSM)
- (T) Joint Feasibility Study for Mumbai Ahmedabad High Speed Railway Corridor
- (T) Comprehensive Integrated Master Plan Study for Chennai Bengaluru Industrial Corridor
- (T) Energy Conservation Techniques for India

■ (T) Technical Cooperation Projects

■ (L) Loan

■ (G) Grant Aid

9 | TRANSPORT



Sector Background & Challenges

Transport system in India, comprising roads, railways, ports and air services, is one of the largest in the world. However, efficiency of the transport system is low, in part because the average speed of movement through road, rail and coastal ships is lower than in emerging economies. The 12th Five-Year Plan (2012-17) estimates investment of over Rs 56 lakh crore under the Plan for development of infrastructure capacity to support economic growth.

Figures at a Glance

2-wheeler & car ownership (per 1,000 people)



112 Year | 1994 **393 Year** | 2021 *estimated*

14 Year | 1994 **48 Year** | 2021 *estimated*

(source: Government of India Fact Sheet on Urban Development & Poverty Alleviation)

Daily trips by various vehicles



Year 2001 **92 million**

Year 2021 **216 million** *estimated*



Railways

Average speed of freight trains
25 km per hour

(source: 12th Five-Year Plan, volume 2)



Metro Staff Performing Security Check at Chennai Metro Station

use of ICT based applications is recommended to make public transport more efficient.

For railways, development of dedicated freight corridors to enable higher freight carrying capacity of trains and faster movement of such trains is clearly prioritized by the Government of India. Furthermore, the Indian Railways' vision 2020 envisages development by year 2020 of at least four state-of-the-art high-speed corridors of 2,000 km on which trains would travel at speeds up to 350 km per hour.

For the North-East India, development of connectivity within the region and of the region with the neighbouring countries, as a means of expanding economic activities and development in the region is strongly anticipated.

Government of India's Strategy

For urban transportation, Government of India recommends development of metro system in cities which have over 2 million population, among other determinants, as metro system is proving to be a successful mode of public transport. Additionally,

In short, safe, timely and comfortable move is absolutely essential both for economic development and quality of life improvement, and obviously development needs for the transport field in India is still large.

Overview of Japan's Assistance

Assist for realizing "Safe, Timely, and Comfortable Move for better life" with "Quality Infrastructure" in transport system to facilitate sustained economic development.

ODA loans of 1,804 billion Japanese Yen, over Rs 100,000 crore, extended since 1982/83.

JICA's Assistance Strategy

JICA is supporting improvement of urban transport system through development of high-speed mass transportation systems (metros), feeder lines connecting the system (monorails, Light Railway Transport, etc.), ring & radial roads and intelligent transport systems (ITS).

JICA is supporting strengthening of arterial transport networks, including railways, roads, airports and ports, along the 'industrial corridors' between Delhi and Mumbai (Delhi Mumbai Industrial Corridor, DMIC) and between Chennai and Bengaluru (Chennai Bangalore Industrial Corridor, CBIC).

JICA is supporting improvement of transport infrastructure in North-East India, including roads, bridges and tunnels, for improved connectivity within the region and with adjoining countries.

Achievements



JICA facilitated development of Delhi Metro now enables 2.7 million passengers to commute on the system each day. Furthermore, Delhi Metro reduces green house gas emissions by 6.3 lakh tonnes annually, and has been certified by the United Nations to receive carbon credits which is the first in the world for a rail-based system.

JICA is facilitating development of Intelligent Transport System (ITS) in Hyderabad and Bengaluru.

JICA is facilitating development of dedicated freight corridor between Delhi and Mumbai, which would deploy automated signal and communication system and high-speed, high-capacity locomotives. JICA conducted feasibility study, jointly with Indian

Railways, for high-speed rail corridor between Mumbai and Ahmedabad. Following the study, constructive discussions had been conducted between two governments, resulting that, at the summit meeting in December 2015, both the Government have agreed to cooperate on the development of the Mumbai-Ahmedabad high speed rail corridor, which will be developed with the use of Japanese high speed rail technologies (i.e. Japanese Shinkansen system) and experiences. Following the feasibility study, JICA has been conducting the Follow-Up Study for Mumbai-Ahmedabad High Speed Railway Corridor.

An Example of JICA's Assistance:



Delhi Metro

The economic growth is a stimulus in migration of people to metros like Delhi, in search of better opportunities. In turn Delhi's population has been increasing, from 16.8 million in 2011 to an estimated 23 million in 2021, with attendant increase in vehicles. This has led to decrease in vehicular speed and increase in traffic congestion and vehicular pollution.

As there is limited scope for enhancing capacity of existing road network, the local government proposed development of a multi-modal transport system which became the genesis for the Delhi Metro Rail Corporation.

For development of the Delhi Metro, JICA has extended ODA loan of 652 billion Japanese Yen (approx. Rs 38,300 crore) in phases. Under the first and the second phases of the Delhi Metro developed by 2011, 190 km serving 142 destinations in Delhi and neighbouring areas of Gurgaon, Noida, Ghaziabad and Faridabad were built. In the third phase, additional 116 km serving 76 destinations across Delhi and neighbouring areas would be added, majorly under JICA assistance. JICA's assistance is not only for the system and facility improvement but also for people's mindset change, such as safety measures, timely operation, and consideration to female passengers, which will provide women more mobility and would lead to their social advancement in the society.

10 | WATER & SANITATION



Sector Background & Challenges

As per 2011 census, about 70 percent of urban population is covered by individual water connections. However, water supply is inadequate, inconsistent and unequally distributed, and there is disparity in service level among regions. In urban areas, water supply is available between 37 to 298 litre per capita per day (lpcpd) for limited hours and metering for residential water connections is inadequate due to malfunctioning water meters, with the result that 70 percent of water leakages occur from consumer connections.

As per 2011 census, about 13 percent of urban households do not have access to any form of latrine facility and defecate in the open, and about 37 percent of urban households are connected with open drainage.

Government of India's Strategy

Capital expenditure of Rs 99,187 crore for development of urban water supply, sewerage, solid waste management and storm water drains was envisaged from 2012-2015. Achieving 100% water supply and sanitation in all urban areas of the country and eliminate open defecation. It is strongly anticipated to increase provision of public toilets for floating populations, improved sewage collection, conveyance and treatment services is also necessary. The 'Swachh Bharat Abhiyan' launched in 2014 seeks to eradicate manual scavenging and generate support for urban local bodies in designing, executing and operating waste disposal systems, among other initiatives, to achieve the mission of 'Clean India' by 2019.

Figures at a Glance



1 to 6 hours a day

Water supplied by local municipal corporations in major cities

Source: Service level benchmark indicators, Ministry of Urban Development



40 to 50%

Non-revenue water, water lost in distribution system, in most cities

Source: 12th Five-Year Plan, volume 1



72%

Sewage discharge not connected to any sewer network in India

Source: Central Pollution Control Board, 2009



80%

Sewage not treated before disposal in Class I & Class II cities

Source: Central Pollution Control Board, 2009



11.7 million

People at health risk due to fluoride affected water

Source: National Program for Prevention and Control of Fluorosis, Ministry of Health & Family Welfare



Rs 2,180

per capita annual economic cost of inadequate sanitation

Source: 12th Five Year Plan, volume 2



Cleaning of Impurities from Grid at Agra Water Treatment Plant

Overview of Japan's Assistance

Assist development of water supply and sanitation facilities for improved living environment and economic development.

ODA loan of 663 billion Japanese Yen, approx. Rs. 39,000 crore, extended since 1991/92.

JICA's Assistance Strategy

JICA is supporting the development of water supply and sewerage treatment infrastructure for residential, commercial and industrial areas, together with introduction of volumetric based tariff system, metering system, improved billing, efficient tariff collection, non-revenue water reduction activities, promotion of water saving practices and promotion of recycle/reuse of wastewater.

JICA is also supporting water supply and sewerage infrastructure improvement in rural areas facing serious health issues such as fluoride and arsenic contamination in groundwater.

Achievements



30 million people will receive water supply from JICA supported projects. 15 million people will benefit from JICA supported sewerage projects. 24x7 water supply is expected in parts of Delhi, Goa and Jaipur through JICA supported projects.

An Example of JICA's Assistance:



Hogenakkal Water Supply and Fluorosis Mitigation Project (Phase 1 & 2)

JICA has extended 39,482 million Japanese Yen in ODA loan to Hogenakkal Water Supply and Fluorosis Mitigation



Water Treatment Plant (160 MLD) at Hogenakkal Water Supply and Fluorosis Mitigation Project

Project in Tamil Nadu. The project aims at meeting the surging demands of water and improving health conditions of local residents, by constructing water supply facilities and by mitigating the health damage caused by excess fluoride contents in the groundwater in Dharmapuri and Krishnagiri, the two areas in Tamil Nadu which have the most serious cases of water shortage and fluoride contaminated groundwater by fluoride. Through this project JICA aims to provide safe and stable water supply for a population of approximately 3 million people in Dharmapuri and Krishnagiri districts of Tamil Nadu State.

The project comprises of three major components - Water Supply Facilities, Fluorosis Mitigation, and Capacity Building for the Rural Local Bodies. Under the water supply facilities component of the project a Water Treatment Plant with the capacity of 160 Million Litres per Day (MLD) was inaugurated in May 2013. Raw water tapped from the river Cauvery at Hogenakkal is being treated at the WTP and distributed to people in Dharmapuri and Krishnagiri districts.

Fluorosis Mitigation is one of the key components of the project, which is being implemented on comprehensive three-pronged well-defined strategies, though health delivery outlets, school and community based approaches. The main objective of Fluorosis Mitigation component is to create awareness among residents about fluorosis and to reduce the health related cases as well.



Source Segregation by Women Group under Slum Development Activities, Hussainsagar Lake and Catchment Area Development Project

11 | ENERGY



Sector Background & Challenges

Resulting from its rapid economic growth and quality of life improvement electricity consumption in India has been increasing by 7% each year in the last 10 years. India's main challenges in the energy sector include ensuring energy supply, enhancing energy efficiency, diversifying energy resource and mitigating regional difference in energy availability. In addition, grid stability is required to be addressed as sources of new and renewable energy increase. During the period of 2012-17, 88,537 MW in power generation capacity addition is targeted.

Figures at a Glance



302,088 MW

Installed Capacity (as of March 2016)

Coal: **61%**; Gas: **8%**; Hydro: **14%**; Nuclear: **2%**;
Renewable: **14%**



Demand-supply gap

2.1% in energy supply:
supply 1,090,851 MU; demand: 1,114,408 MU

3.2% in peak demand:
supply 148,463 MW;
demand: 153,366 MW (in 2015-16)

1,010 kWh: Electricity consumption per capita
(in FY 2014-15)

21.5%: T&D losses (in 2013-14)

97.4%: Rural areas electrified
(as of November 2015)

Source: Central Electricity Authority

Government of India's Strategy

The Government of India's mission is 24x7 power for all by 2019. To achieve this mission, the Government of India is targeting doubling of coal production to 100 crore tonnes per year by 2020, increasing power generation by 50% by 2020, increasing renewable energy generation capacity 5 times to 175,000 MW by 2022 and increasing energy savings to 10% of current consumption. Additionally, the Transmission and Distribution (T&D) losses could reduce to the global benchmark of 7% by 2047, in the scenario of India moving aggressively towards energy independence and energy security, as per NITI Aayog estimates.

Overview of Japan's Assistance

Assist development of stable electricity supply to facilitate economic growth well into the future.

ODA loans of 1,490 billion Japanese Yen, approx. Rs. 89,000 crore, extended since 1958/59.



Load Break Switch (LBS) – automatically Isolate Faulted Sections of Electrical Distribution Systems at Bangalore District Upgradation Project

JICA's Assistance Strategy

JICA's assistance to develop stable electricity supply is substantially dedicated towards enhancing energy availability through deployment of state-of-the-art energy efficient technologies for power plants, transmission systems and distribution networks.

At present, about 77% of the electricity consumed in India is generated through thermal power plants. JICA is facilitating improving energy efficiency by reducing transmission and distribution loss and more efficient usage of coal. JICA is enhancing diversification of energy generation, including renewable energy such as solar and wind, which will also serve to lower greenhouse gas emissions. Recently, further utilization of new and renewable energy caused grid stabilization issue, therefore JICA is facilitating installation of grid stabilization technologies as well.

Among the measures to improve energy efficiency, JICA has been supporting energy efficiency among Micro, Small & Medium Enterprises (MSMEs), through ODA loans and Technical Cooperation to Small Industries Development Bank of India (SIDBI).

Achievements



JICA supported projects have contributed about 9.3 GW to India's total installed capacity of about 305 GW.



As part of SIDBI's project, group of workers in a Small Scale Corrugated Box making Plant in Noida



Bakreswar Thermal Power Project, West Bengal

An example of JICA's Assistance:



Andhra Pradesh & Telangana Rural High Voltage Distribution System Project

JICA has extended 18,590 million Japanese Yen (about Rs 1, 107 crore) in ODA loan to facilitate reliable power supply for agriculture in Andhra Pradesh & Telangana, across 16 rural districts there.

In Andhra Pradesh & Telangana, agriculture consumes about one-third of the power supplied, essentially to operate over 2.7 million irrigation pumps. The power is being supplied using Low Voltage Distribution System (LVDS) comprising high-capacity transformers, which tended to cause pilferage and distribution losses. In addition, there have been voltage fluctuations causing damage to the irrigation pumps, which hinders farm work and burdens farmers with pump repair costs. Converting LVDS to HVDS (High Voltage Distribution System) through JICA's assistance is leading to stabilization of power supply, and in turn agricultural production there.

Under the project over 69,000 km of high voltage Direct Current lines and over 195,000 low-capacity transformer units are being installed. The project is being executed by Central, Northern and Southern Power Distribution Companies of Andhra Pradesh Limited, and is scheduled for completion by the end of FY2017/18.



12 | FORESTRY

Sector Background & Challenges

The livelihood of most inhabitants in rural and tribal areas is heavily dependent directly or indirectly upon forest resources. They largely live off the land, putting undue pressure on the natural forests around them. This has led to degradation of forests and depletion of forest resources across the country.

due to climate change for faster and equitable growth, where ecological security for sustainability and inclusiveness is restored, equity in access to all environmental goods and eco-system service is assured through institutionalization of people's participation'.

Overview of Japan's Cooperation

Assist forest resource management and livelihood improvement of forest dependent communities.

ODA loans of 225 billion Japanese Yen, approx. Rs 13,000 crore, extended since 1991/92.

JICA's Assistance Strategy

JICA's assistance is directed at striking equilibrium between afforestation and sustained livelihood improvement of the local communities through Joint Forest Management (JFM). JICA assistance also provides for biodiversity conservation, institutional capacity building of forest departments, soil and water conservation measures, research and extension and involvement of NGOs.

Figures at a Glance



21.3%

Forest cover in India

(India State of Forest Report 2015)



30.6%

Forest cover globally

(FAO 2015 fact sheet)



7,044 million tonnes

Carbon stock in India's forests

(India State of Forest Report 2015)



36%

Cattle depending partially or completely on forest for sustenance

(India State of Forest Report 2011)



200 million

15% of India's population using wood as fuel

(India State of Forest Report 2011)

Government of India's Strategy

Government of India's policy on the sector is to 'manage environment, forests, wildlife and challenges



Self Help Group Meetings for Micro Financing, Kolar - Karnataka Sustainable Forest Management and Biodiversity Conservation Project

JICA promotes use of technology, such as Geographic Information System (GIS) & Management Information System (MIS) for planning and real-time monitoring; linking of Self-Help Groups (SHGs) directly to markets; Carbon Financing and Reducing Emissions from Deforestation & Forest Degradation (REDD+) readiness.

JICA's assistance started in 1991 when JFM was in the stage of evolution. Projects supported by JICA then focused on afforestation, soil and water conservation, training, extension, and procurement of equipment. In 2000, a study was instituted by JICA to review the 'Forestry Sector Policy Issues' wherein the then ongoing projects were examined in terms of design, implementation, effectiveness and sustainability.

Projects from 2002 have aimed at equilibrium between afforestation and sustainable livelihood improvement of the local communities through JFM, under which sustainable poverty alleviation and socio economic development activities have been undertaken. Going forward, projects will include technology based planning and monitoring, and REDD+ readiness.

Additionally, JICA is facilitating capacity development of the frontline staff at Directorate of Forest Education (DFE) & Central Academy for State Forest Service (CASFOS), Dehradun, in collaboration with the Ministry of Environment, Forest & Climate Change.

JICA also supports eco/environment awareness activities, including environmental education at thousands of schools, in JICA-assisted projects.

Achievements



Plantation/regeneration activities under JICA supported projects have covered more than 2 million hectares (which is nearly half the area of Haryana state), across 13 states, namely Gujarat, Haryana, Himachal Pradesh, Karnataka, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal, and another 0.5 million hectares are expected to be covered in the next 5 years.

Over 16,000 JFM committees and 24,000 SHGs

have been formed under JICA projects.

JICA assisted project for 'Capacity Development for Forest Management and Personnel Training' has received the National Award for Excellence in Training at the inaugural National Symposium on Excellence in Training (NSET).

An Example of JICA's Assistance:



Tripura Forest Environment Improvement and Poverty Alleviation Project

In Tripura, a high proportion of local communities rely on forests for livelihood. To regenerate degraded forests and improve livelihood opportunities, Government of Tripura's Department of Forest and JICA have partnered in 2007 to initiate the Tripura Forest Environment Improvement and Poverty Alleviation Project. The project is being implemented through 463 Joint Forest Management Committees (JFMC) and Eco-Development Committees (ECDs), whose members are drawn from over 36,000 local forest dependent families.

Under the project, 61,754 hectares have been afforested and 8,533 hectares has been brought under agroforestry. Over 2,504 check-dams of different configurations have also been laid for soil and water conservation. The check-dams have facilitated creation of 1,362 hectares of water area, which has led also to fishery potential of 2,631,000 kg.

In addition, plantation of broom-grass, black cardamom and gandhaki have been undertaken to create a resource base for forest based Income Generating Activities (IGA).

In 2015 -16, 771,000 kg of broom grass was harnessed from the forest by 4,500 forest dependent households and they collectively earned INR 420 lacs from sale of broom grass. 500 artisans have been intensively trained in handloom, bamboo furniture, basketry and other bamboo products. Further incense stick making and broom making are IGA taken up on large scale under the project. The project has developed a brand named "craft and more" to market products developed by artisans and other community members.

13 | AGRICULTURE



Sector Background & Challenges

In India, about 70% of the population lives in rural areas and 49% of the work force is employed in agriculture. Agriculture accounts for 14% of GDP, its annual employment growth rate is less than 1% and agricultural productivity varies across India. The Government of India is targeting 4% growth in agriculture sector during 2012-17, to improve agricultural production and livelihood opportunities in rural areas.

farm inputs and management, agriculture credit, post-harvest management and value addition, agriculture research and extension, and watershed development. For instance, the National Food Security Mission is implemented to enhance the production of rice, wheat and pulses, and Rs 50,000 crore is allocated over 5 years for development of irrigation facilities under the scheme.

Overview of Japan's Assistance

Assist enhancement of agricultural productivity and livelihood improvement in rural areas.

ODA loans of 262 billion Japanese Yen, approx. Rs 16,000 crore, extended since 1981/82.

Figures at a Glance



328 million hectares

Geographical area of India



140 million hectares

Net sown area



65 million hectares

Net irrigated area (only 46% of net sown area is irrigated, 54% is rainfed)



Rs 162,000 crore

Net investment (gross capital formation) in agriculture & allied sectors in 2012-13

Source: Ministry of Agriculture, 2014-15 annual report



Project for Maximization of Soyabean Production in Madhya Pradesh

Government of India's Strategy

The Government policy lays emphasis on improving the economic viability of farming as well as protection and improvement of land, water, biodiversity and genetic resources. A wide array of programs have been initiated and supported by various Ministries covering all the facets of agriculture including agriculture production,

JICA's Assistance Strategy

JICA has been focussing on uplifting and stabilizing farmers' income, and improving agricultural productivity through construction/renovation of irrigation facilities, enhancement of 'Water Users Association' (WUA), improvement of cultivation technology, crop diversification and strengthening of



Rajasthan Minor Improvement Project

Achievements



JICA's association since 1991 with sericulture farmers of Karnataka, Tamil Nadu, Andhra Pradesh & Telangana has led to improvement in their skills in producing locally higher quality bivoltine cocoons. The demand for such cocoons is increasing, and in turn related employment opportunities are increasing.



Left Bank Canal at Samal Barrage for Generation of Electricity upto 10 MW, Rengali Irrigation Project.

An Example of JICA's Assistance:



Himachal Pradesh Crop Diversification Promotion Project

In Himachal Pradesh, over 70% of the working population is engaged in farming. However, 80% of the farmers are small landholders with 1.0 hectares (ha) or less in landholding, resulting in self-subsistence crop cultivation, and only 18% of the cultivated land of 583,000 ha in the state is under irrigation due to steep topography.

With the aim of securing food self-sufficiency and improving livelihood for small farmers through crop-diversification, the 'Himachal Pradesh Crop Diversification Promotion' project was started by Department of Agriculture, Government of Himachal Pradesh with support from JICA. JICA has extended a technical cooperation project and an ODA loan of 5,001 million Japanese Yen (approx. Rs 280 crore) synergistically to maximize outcomes.

The ODA loan has facilitated development of agricultural infrastructure such as irrigation facilities, roads to access farms and post-harvest facilities, and the technical cooperation project has facilitated 'capacity building' through dispatch of experts from Japan to provide training on vegetable cultivation, processing and marketing to agricultural extension officers and farmers, and develop "Crop Diversification Guideline".



Progressive farmer and JICA expert in the On-Farm Trial field at Project for Maximization of Soybean Production at Madhya Pradesh.

14 | HUMAN RESOURCE DEVELOPMENT

Sector Background & Challenges

Development of human resource should be nurtured to the pace and scale of population increase in India, to maintain and accelerate economic growth in industrial and commercial fields. In addition to providing contemporary education and skills for the youth for enhanced career opportunities, there is an increasing need for developing higher education institutions in the areas of science and technology to address needs of the industrial sector and society, through technical innovation. Capacity development of senior and middle managers in the manufacturing sector is also needed for accelerating growth of this sector, which has remained flat for several decades at around 15% of Gross Domestic Product (GDP).

Government of India's Strategy

The enrolment in higher educational institutes is 18.8% of potential students (Gross Enrolment Ratio (GER)), which is below the world average of 26%. The Government of India intends to improve the ratio up to 25.2% by 2017, by achieving additional enrolment of 10 million students. Additionally, the Government of India has the vision of imparting skills and knowledge which not only meet the challenges of global competition but also contribute to improving the quality of life of the community.



Project for the Visionary Leaders For Manufacturing Program

Overview of Japan's Assistance

Assist development of education facilities, and human resource for manufacturing.

31 billion Japanese Yen, approx. Rs 1,600 crore, (ODA Loan: 23 billion Japanese Yen, Grant Aid: 7.8 billion Japanese Yen) extended since 1988/89.



Campus Design Project of IITH

JICA's Assistance Strategy

JICA has been supporting development of facilities for higher education and development of human resource to propel the manufacturing sector in India.

JICA has been extending ODA loan and Technical Cooperation synergistically for development of Indian Institute of Technology, Hyderabad (IITH) as a hub of academic and industrial collaboration between India and Japan.

JICA has been supporting distance education through a series of grant aids to Indira Gandhi National Open University (IGNOU), which has facilitated enhanced quality of teaching-program production and its reach across India.

JICA's 'Visionary Leaders For Manufacturing (VLFM)' program implemented from 2007 to 2013 and succeeding 'Champions for Societal Manufacturing (CSM)' program has aimed at creating visionary leaders in the manufacturing sector in India.

Achievements



JICA's ODA loan for IITH is facilitating development of infrastructure including International Guest House, Sports and Cultural Complex, Knowledge Center (Library), Research Center Complex, Technology Incubation Park, Convention Village, etc. and procurement of research equipment. Technical cooperation with IITH is facilitating linkages between IITH and academic institutions and private companies in Japan.

JICA's assistance to IGNOU has facilitated upgrade of equipment for satellite broadcasting, from standard definition to high definition. As satellite broadcasting forms integral part of IGNOU teaching, this is benefiting several thousand students across India.

An Example of JICA's Assistance:



Champions for Societal Manufacturing' (CSM), Project

The VLFM (Visionary Leaders For Manufacturing) Project started in 2007 to disseminate the essence of Japanese manufacturing, which is driven by innovations, and establish an Indian way of management. From 2013, the VLFM Project has been extended and enhanced to 'Champions for Societal Manufacturing' (CSM) Project.

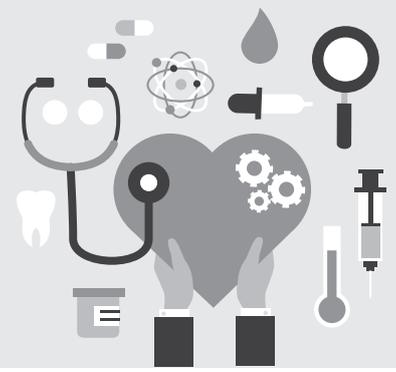
To conduct the CSM Project, a unique partnership has been forged between the government, industry and academia through Department of Industrial Policy and Promotion (DIPP) and Ministry of Human Resource Development of the Government of India, Confederation of Indian Industry (CII), Indian Institute of Technology, Kanpur (IITK), Indian Institute of Technology, Madras (IITM) and Indian Institute of Management, Calcutta (IIMC).

The CSM Project has led to a number of successes across development of new products, new markets, new business processes and new business models, and training of over 4,600 executives to serve as visionary leaders of Indian manufacturing. The successes include development by Sona-Koyo of an electronic steering system for off-road vehicles like golf carts & tractors, and development by Godrej & Boyce of 'ChotuKool' portable refrigerator, which uses a thermochip rather than a traditional compressor and doesn't require constant electricity to operate. In addition to the leadership and management training, CSM Project introduced new aspect of training for rural development named 'Village Buddha'. In this very unique course, participants will be equipped of the effective way to catch the village people's insight and scratch new products / business model to solve the social challenges which rural people are facing.

JICA's expert, Shoji Shiba, professor emeritus, Tsukuba University, Japan has guided the structure and implementation of the VLFM and CSM Projects from the beginning. The Government of India conferred 'Padma Shri' award on him in 2012 for his contribution to transforming India's manufacturing sector to become globally competitive. In 2015, the Government of Japan conferred 'Grand Cordon of the Order of the Rising Sun' on Dr. Sarita Nagpal, Principal Advisor, CII, for her contribution to the VLFM and CSM Projects, thereby promoting cooperation and friendly relations between Japan and India.



Information Network for Natural Disaster Mitigation and Recovery (DISANET) Research Project at IITH



15 | HEALTH

Sector Background & Challenges

Development assistance for healthcare is of paramount importance because it serves a humanitarian purpose and supports good health for citizens, which is the basis for economic and social development. The United Nations had set eight Millennium Development Goals (MDGs) in 2000 for their achievement by 2015, among which the health related MDGs were considered important in achieving all the eight MDGs. The MDGs have been expanded into Sustainable Development Goals (SDGs) which are targeted for achievement by 2030.

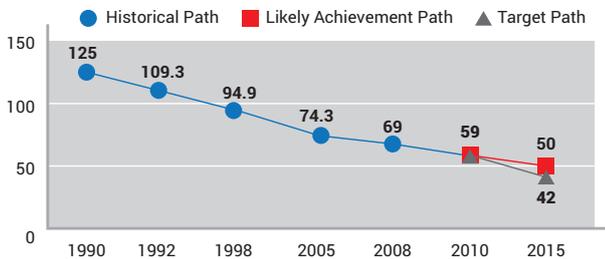
	2011-12	Targeted by 2017
Public expenditure in India on health	1.04% of GDP	1.87% of GDP

Source: *Towards Achieving Millennium Development Goals India 2013*, Social Statistics Division, Ministry of Statistics and Programme Implementation GOI; *12th Five Year Plan (FYP)*, volume 3 for Social Sectors

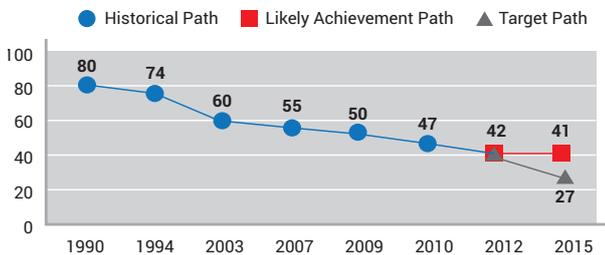
Government of India's Strategy

Since the year 2002, India has identified the health sector as one of the priority areas to be addressed in order to achieve the MDGs. Currently, it is emphasized to reinforce public health service provision and to achieve Universal Health Coverage by 2020 in order to ensure that all people can use promotional, preventive, curative and rehabilitative health service as needed and at affordable cost.

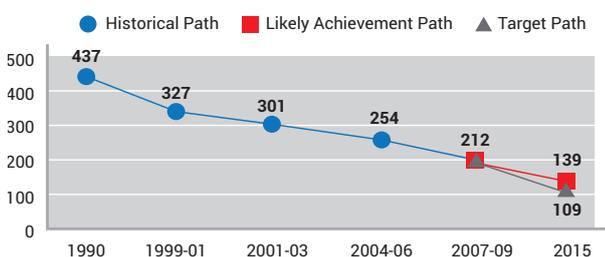
Figures at a glance



Maternal Mortality Ratio (per 100,000 live births)



Infant Mortality Rate (per 1,000 live births)



Under Five Mortality Rate (per 1,000)



Grant Agreement for the Project of Eradication of Poliomyelitis in India (through UNICEF).

Overview of Japan's Assistance

**Provision of quality healthcare services:
Reaching out to vulnerable population**

ODA loans of 42 billion Japanese Yen, approx.
Rs 2,500 crore, extended since 1995/96.

JICA's Assistance Strategy

Given that India has a vast geographical area with a large population below the poverty line, JICA sees the following three areas as priorities: 1) Decrease infant mortality rate and maternal mortality rate, 2) Strengthen strategy for controlling infectious diseases, and 3) Improve access to health services for the underprivileged.

The major forms of JICA's assistance in health sector have been technical cooperation and grant aid.

JICA's grant aid focuses on improvement of medical facilities and technical cooperation focuses on enhancement of skills, knowledge and expertise of health sector personnel in various segments, from grass-roots health workers to researchers.

Achievements

JICA's financial support to UNICEF for Polio Eradication Program in high risk states started in 1996 and has succeeded in making India polio free. In March 2014, the World Health Organisation certified India 'polio-free' after three years of no new case being reported.

JICA has supported capacity building of Auxiliary Nurse Midwives (ANMs) in remote areas under the National Rural Health Mission (NRHM).

JICA has assisted in the improvement of medical facilities at key tertiary care hospitals in major



Grant aid to Institute of Children Hospital (ICH), Chennai

centres like Delhi, Mumbai, Chennai, Kolkata and Cuttack, which has significantly enhanced access to health services especially among the underprivileged and improved quality of health care.

JICA had signed an agreement with the Government of India in February 2014 to provide grant-aid of up to 1,495 million Yen (approx. INR 88 crore) for improvement of the Institute of Child & Hospital for Children (ICH), Chennai, a public tertiary-care hospital that provides services without charge and currently caters to over 2,500 children from the region encompassing Tamil Nadu, Karnataka and Andhra Pradesh daily in the Out Patient Department (OPD).

An Example of JICA's Assistance:

Urban Healthcare Project in Tamil Nadu

The Urban Healthcare Project will strengthen the capacity of key hospitals by upgrading facilities and equipment, and human resources with the focus on Non Communicable Diseases (NCD), contributing to the improvement of the health sector in Tamil Nadu. The project is being implemented in 17 cities in Tamil Nadu with five major components at the core of the venture. The components and the cities have been decided based on the population size, needs, and priority for the health facility development.

JICA is providing 25,537 million Japanese Yen (approx. INR 1,548 crore) Japanese Official Development Assistance (ODA) loan to improve the quality of urban healthcare services in Tamil Nadu.



Follow-up Cooperation for Improvement of Medical Equipment at Karawati Saran Children's Hospital, Delhi.

16 | KNOWLEDGE CO-CREATION PROGRAMS

MULTIFACETED GROWTH AND DEVELOPMENT

Knowledge Co-Creation contributes to human resource development utilizing Japan's technology, skills & knowledge.



Participants from various countries during a Knowledge Co-Creation Program.

JICA uses various forms of development assistance schemes to meet diverse needs of developing countries around the world. As one of the schemes, technical cooperation contributes to human resource development through utilizing Japan's technology, skills and knowledge. JICA's Knowledge Co-Creation programs are a form of technical cooperation that JICA carries out in Japan and in the third countries.

An example of this is the unique way of forming social systems and organizational structures, the so-called "Japanese model". If "seeing is believing", then experiencing is understanding. By joining JICA's program Japan, people from emerging countries come to a setting surrounded by Japanese society and its organizations, where they can discuss the circumstances in their home countries and develop an understanding of social conditions and values very different from their own.



Mr. G.P. UPADHYAYA, Principal Secretary, MHRD attending KCCP on Improvement of Education in Remote Areas-For the Achievement of MDGs and EFA (A) during workshop in Shikoka Branch Office, Japan



Participants on a field-visit during a Knowledge Co-Creation Program.

This experience imparts valuable knowledge that could be obtained in no other way.

In addition to providing unique knowledge to personnel, this sort of technical cooperation stimulates people to make their own decisions, which is a crucial element for human resource development along with other assistance schemes. JICA's Knowledge Co-Creation programs are therefore a major component of Japan's international cooperation programs, receiving nearly 10,000 participants each year from all over the world. The majority of the participants are from governmental

or public organizations. However, there have also been participants from non-governmental organizations (NGOs) and private companies.

In terms of scale and available resources, there is no other program in the world that can compare to JICA's Knowledge Co-Creation programs, which have become one of the cornerstones of Japan's international cooperation.



Participants undergoing a Knowledge Co-Creation Program.



Trainers with a participant during a Knowledge Co-Creation Program.

JICA's Knowledge Co-Creation programs is a form of Technical Cooperation which shares Japan's experiences.

17 | VOLUNTEERS

CREATING LASTING VALUES

Japan Overseas Cooperation Volunteer (JOCV) and Senior Volunteer (SV)

JICA's volunteer will advance international cooperation through the sharing of knowledge and experience, and work to build a more peaceful and prosperous world as a bridge between the people of India and Japan.



A JOCV in Discussion with Local Teachers during Garden of Peace Event, Vellore



A JOCV working as a Football Coach in an NGO in Ghaziabad

JICA's volunteer programs, such as Japan Overseas Cooperation Volunteer (JOCV) and Senior Volunteer (SV), support a wide range of local activities by Japanese citizens who wish to cooperate in the economic and social development as well as the reconstruction of emerging countries. Through these cooperation activities, participating volunteers can, not only contribute to the development of partner countries but also gain valuable experience in terms of international goodwill, mutual understanding and an expansion in their international perspectives. Widely recognized as a representative Japanese international cooperation program in the world, JICA's

volunteer activities have not only earned high acclaim from partner countries but are also receiving increased praise in Japan, where expectations for these programs are also rising.

JICA's volunteers have backgrounds, knowledge and experiences relating to requirements from organizations as well as strong desires to participate in cooperative activities. Also, they live and work together with communities, speak local languages, and carry out activities with an emphasis on raising self-reliant efforts while fostering mutual understanding. "Together with the local community" is the motto of JICA's volunteer programs.

Strength of JICA's Volunteers

- Being dispatched based on host countries' and organization's requests.
- Developing work plans with counterparts, reflecting their needs and interests.
- Having voluntary mind, technical skills and practical experiences.
- Working together with local communities (grass-root activities).



JOCV Teaching Japanese in Bluebells International School



JICA Volunteer with Sericulture farmers at Hindupur, Andhra Pradesh (Photo Courtesy: Shinichi Kuno)

JICA's volunteer programs in India

India is one of the first countries where the JOCV program started in 1966. From the commencement of the program until 1978, about 130 JOCVs were dispatched across India, mainly to assist in better living, basic human needs and industrial development in India, and more than 70 volunteers in the field of education, health, agriculture, community development and sports have been dispatched after the program resumed in 2006. Recognizing the importance of further promoting technical cooperation through people-to-people exchange, the JOCV program since 2014 has expanded to include other activities and the SV program.

Comment from a counterpart of a JOCV

"Mr. YAMANAKA is working with us to organize groups of silk-raising farmers in Hindupur. He is a very active and energetic person. Also his attitude to his job is very positive. He is always assertively trying to communicate with the farmers to know more about them and speaking in Telugu language with sincerity. Therefore, he is trusted by them regardless of nationality. Moreover, he timely offers advice and helps organizing the farmers so that we can effectively hold a workshop to share the knowledge and know-how of the modernistic way in the sericulture industry which was introduced from Japan before. Actually, this is a very useful opportunity for all farmers and their better livings."

- Dr. Satyanarayana Raju, Scientist, Regional Sericultural Research Station, Central Silk Board, Anantapuramu, Andhra Pradesh



A JOCV working as a Nurse in an NGO in Ghaziabad, Uttar Pradesh



JOCV Teaching Japanese in Muni International School

18 | JICA PARTNERSHIP PROGRAM

PARTNERS IN GROWTH AND SUCCESS

Partnership program was introduced in 2002 to support and cooperate with the implementation of projects formulated by Japanese NGOs, Japanese local governments, and Japanese universities.

Recognizing the growing importance of civil societies in international cooperation, the JICA Partnership Program (JPP) was introduced in 2002. The program supports the implementation of projects formulated by Japanese NGOs, Japanese local governments and Japanese universities to utilize their accumulated knowledge and experience in activities for developing countries. JPP projects aim to meet the diverse needs

of developing countries and to strengthen collaboration between communities in both developing countries and Japan. In India, JPP was started in 2004 and various projects have been implemented in the field of Agriculture, Rural development, Health, Women's empowerment and Tourism to contribute towards social and economic development at the grassroots level.



Photo courtesy: Naoshi Terasaki



Photo courtesy: Naoshi Terasaki

Vocational education support project for the visually impaired in Dehradun, Uttarakhand and Ahemdabad, Gujrat

"Project for Vocational Education Support for the Visually Impaired"/Special Needs Education School for the Visually Impaired, University of Tsukuba



Photo courtesy: TPAK

Maternal and Child Health Project in Allahabad, Uttar Pradesh

"Improvement of Integrated Mother and Child Health by Collaboration between Rural Health Volunteers (VHV) and Government Health Staff" / ASHA=Asian Sustainable Holistic Approach



Women's Safety Net Project in Dehradun, Uttarakhand

"Establishment of Prevention Programs against Gender-based Violence and Safety Net in High-Poverty Rural Settlements" / Terra People ACT Kanagawa (TPAK)

Japanese NGOs, Japanese local governments and Japanese universities utilize their accumulated knowledge and experience in activities for developing countries.

JAPANESE ASSISTANCE TO INDIA: TIMELINE

1958

First ODA loan to India to support 2nd 5-Year Plan.

1966

First Technical Cooperation to India, for paddy cultivation.

First Japan Overseas Cooperation Volunteers to India.

1981

First loan to agriculture sector, for fertilizer project at Hazira, Gujarat.

1982

First loan to transport sector, for Bombay suburban railways modernization.

1988

First assistance (grant aid) to education sector, for upgrading broadcast equipment at Indira Gandhi National Open University (IGNOU), Delhi.

First loan for energy savings, in Micro, Small & Medium Enterprises (MSMEs). Seven loan commitments made subsequently to continue this assistance until 2019.

First loan for irrigation, for 71 km canal development at Upper Kolab, Odisha.



1991

Emergency loan to mitigate economic crisis.

First loan to forestry sector, for afforestation along Indira Gandhi canal, Rajasthan.

First assistance (Technical Cooperation) for silk-farming in Karnataka, Tamil Nadu, Andhra Pradesh & Telangana. The assistance continued till 2015.



1992

First loan to Yamuna Action Plan (YAP), for sewage treatment capacity augmentation. Two loan commitments made subsequently to continue this assistance until 2017.

1995

First assistance (grant aid) to health sector, for improving medical equipment at Karawati Saran Children's hospital, Delhi.

1997

First loan to Delhi Metro. 13 loan commitments made subsequently for development of 306 km of this metro.



2005

First loan for Ganga Action Plan at Varanasi.

2006

Loan for rural electrification in Andhra Pradesh, Telangana, Madhya Pradesh & Maharashtra.

First loan to Bangalore Metro. Two loan commitments made subsequently for development of 60 km of this metro.

Resumption of Japan Overseas Cooperation Volunteers program.



2007

Start of technical cooperation for Visionary Leaders For Manufacturing (VLFM) project, to strengthen Indian manufacturing sector.

2008

First loan to Chennai Metro. Three loan commitments made subsequently for development of 46 km of this metro.

First loan to Kolkata East West Metro for development of 27 km of this metro.

Loan for reducing dependence on fluorosis causing groundwater in Tamil Nadu.



2009



First loan for dedicated railway freight corridor between Delhi & Mumbai. Three loan commitments made subsequently for development of 1,500 km of this corridor.

2011

First loan for development of renewable energy sources. A loan commitment made subsequently to continue this assistance till 2020.

2013

Loan for innovative Tamil Nadu Investment Promotion Program to improve investment climate in Tamil Nadu.

Start of study for Intelligent Transport System in Bengaluru & Mysore.

Expansion of VLFM to Champions for Societal Manufacturing (CSM) project.

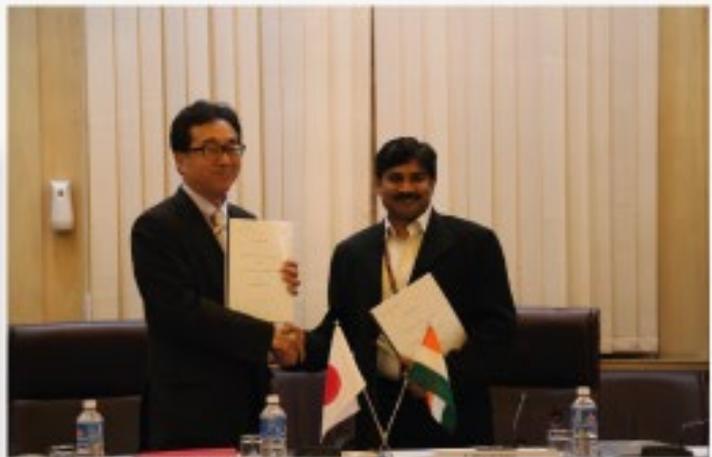


2016

First time Senior Volunteers (SV) were dispatched to India as Japanese Language Teachers.

Loan agreements signed for various projects such as Chennai Metro Project (IV) and Ahmedabad Metro Project (I).

JICA signed agreements with the Government of India to provide Official Development Assistance (ODA) loan for various projects such as the development of the metro rail system in Ahmedabad, Gujarat and Chennai, Tamil Nadu.



Chennai & Ahmedabad Metro Loan Agreements Signing

2014

Loan & technical cooperation for development of Indian Institute of Technology Hyderabad.

Loan for development of Mumbai Metro Line III.

2015

Preparation of Master Plan for Chennai-Bengaluru Industrial Corridor.

Completion of feasibility study, jointly with Government of India, for high speed railway system between Mumbai & Ahmedabad.



ODA Loans of **4,621 billion Japanese Yen** (approx. Rs. 275,000 crore) have been extended to India since **1958**.

The timeline represents a cross-section of projects supported through Japanese assistance over the last 58 years, and accompanying photos have been taken at various stages of implementation of the projects.

For complete list of projects, please refer to the *Projects in India* booklet.



Tel: (91-11) 47685500 | Fax: (91-11) 47685555

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