



Japan International  
Cooperation Agency

▼ Forestry & Agriculture



▼ Transport



▲ Health and Education



▲ Water

## OPERATIONS AND ACTIVITIES IN **INDIA**

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Photo Courtesy: Odisha Forestry Sector Development Project

## Foreword

**Strengthening the cooperation  
between India & Japan**



**Mr. Katsuo Matsumoto**  
Chief Representative, JICA India

*Actively continue to cooperate with Indian friends for sustainable growth, poverty alleviation, environment conservation, and so on, with mutual trust.*

India is one of the fast growing economies of the world, and it has successfully achieved milestones of development. With the growing population and economic stability, it continues to be a powerhouse for plethora of opportunities.

For India to achieve sustainable overall economic development, it is imperative that improvement of infrastructure such as railways, roads, power and water/sanitation 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.

To ensure this, JICA is committed towards development of both urban and basic infrastructure in various regions of India. We believe in the development on the ground for far-reaching economic and social impact.

Over the last few years, India has expedited several infrastructure projects that have changed the way

world perceives it. In several upcoming Metro Rail projects, forestry and biodiversity projects, water supply and sewerage projects, urban health care, upgrading power transmission and distribution systems, and more – JICA has played a pivotal role by adding to India's growth story.

India has become the largest beneficiary of Official Development Assistance from Japan, under the policy of Government of Japan, JICA has been extending concessional loans, technical cooperation and grant-aid in an integrated manner to facilitate socio-economic development in developing partner countries. JICA is keen to work with the Government of India and share Japan's expertise to mitigate bottlenecks hindering socio-economic growth.

JICA's focus for the future would also be to continue providing support towards sustainable development and inclusive growth, with a goal of poverty reduction. We focus on aligning our projects with India's national priorities and long-term vision. Cross cutting issues such as adequate environmental and social considerations, gender mainstreaming and people to people exchange will also be encouraged.



# 2 JICA & Official Development Assistance

*A bridge linking Japan with the emerging countries*



Child being treated at the Neonatal Care Unit with JICA Equipment at Institute of Child Health and Hospital for Children (ICH), Chennai



Work in progress at the Jaipur site of Dedicated Freight Corridor Project

## 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: Leading the World with Trust

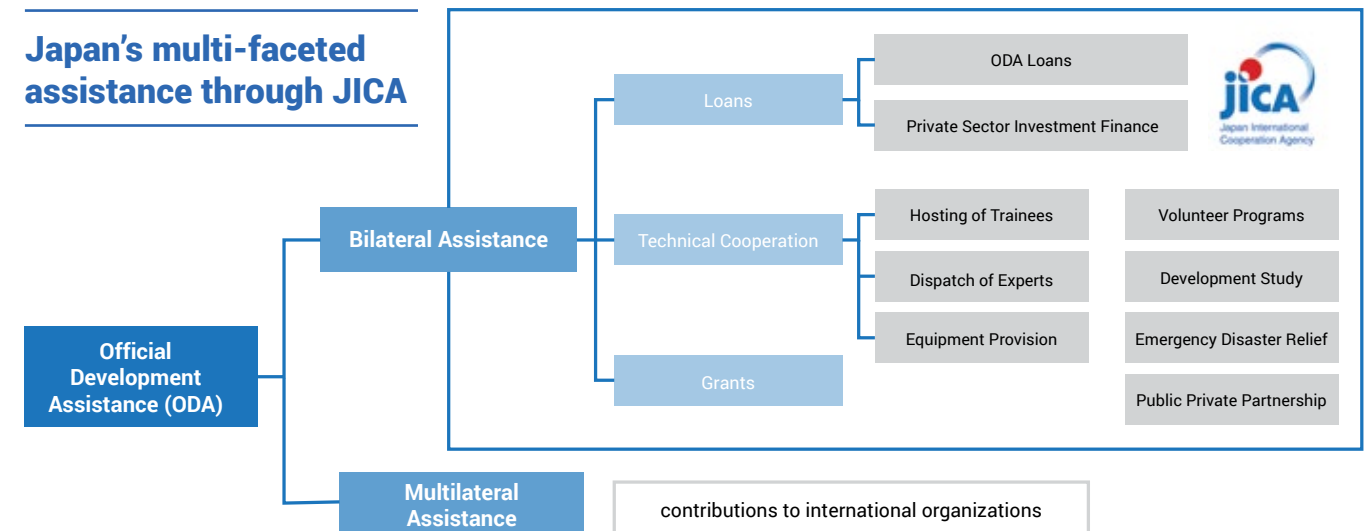
JICA, with its partners, will take the lead in forging bonds of trust across the world, aspiring for a free, peaceful and prosperous world where people can hope for a better future and explore their diverse potentials. The concept of trust is the backbone of Japan's development cooperation. JICA fosters trust with a

range of domestic and international partners by putting themselves in their partners' shoes and thinking with them as equal partners. JICA will explore the diverse potentials of people, countries and private enterprises for a better future. And JICA, with its partners, will create a world where all people and countries are bound together by the trust.

## 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.

## Japan's multi-faceted assistance through JICA



Safe drinking water point at Dharmapuri, Tamil Nadu under Hogennakal Water Supply and Fluorosis Mitigation Project



Tamil Nadu Biodiversity and Greening Project

## ODA Loan

ODA loans support emerging countries by 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 advanced transportation system, 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 for co-creation of knowledge. Cooperation plans can be tailored to address a broad range of issues.

# 3 JICA & INDIA

Japan's partnership with India is for nearly 62 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 5,200 billion Japanese Yen (approximately Rs. 315,150 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 8,300 Indian personnel have participated in training courses in Japan and over 8,600 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 2017-18

### ODA LOAN

#### COMMITMENT

**398.4 billion Japanese Yen**  
(approximately Rs.24,160 crore, World's biggest recipient)

#### DISBURSEMENT

**246 billion Japanese Yen**  
(approximately Rs 14,934 crore World's biggest recipient)

#### NO. OF ONGOING PROJECTS

61

### GRANT AID

**3,516 million Japanese Yen (approx Rs. 213.21 crore)**

**No. of ongoing projects: 2**

\*Currency rate JPY 1.65/INR is applied for the sake of explanation.

### TECHNICAL COOPERATION



**326 Indians visited Japan**



**1,528 Japanese experts dispatched to India**

### CITIZEN PARTICIPATION



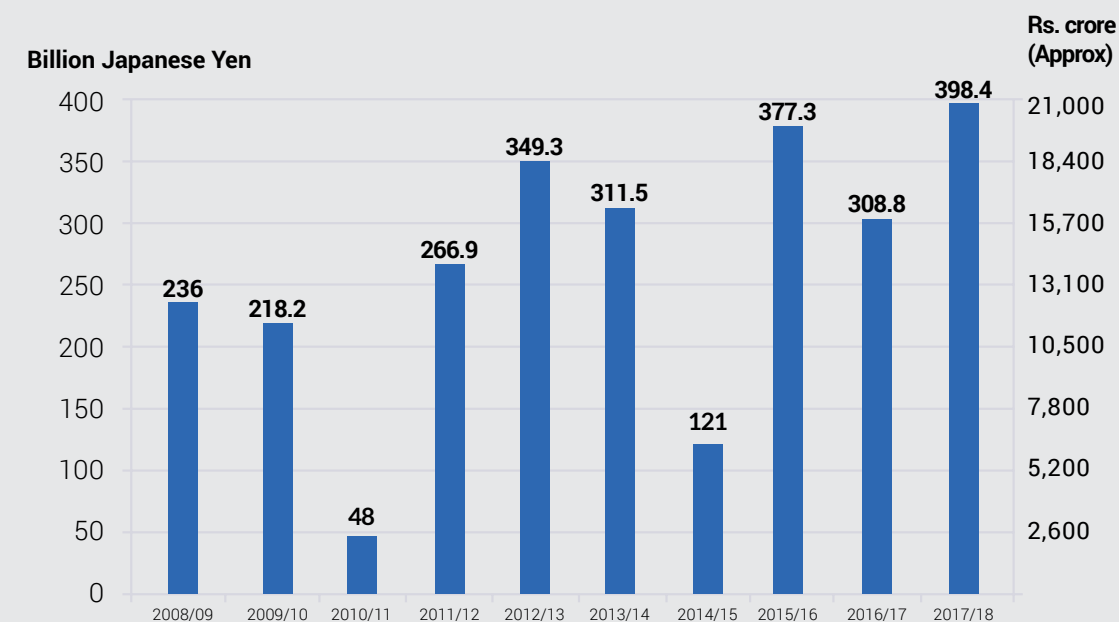
**Japanese Volunteers: 7,**  
for Japanese language education, special education and instructor, community development



**Japanese NGO activities:**  
Working with Indian Partner: 5

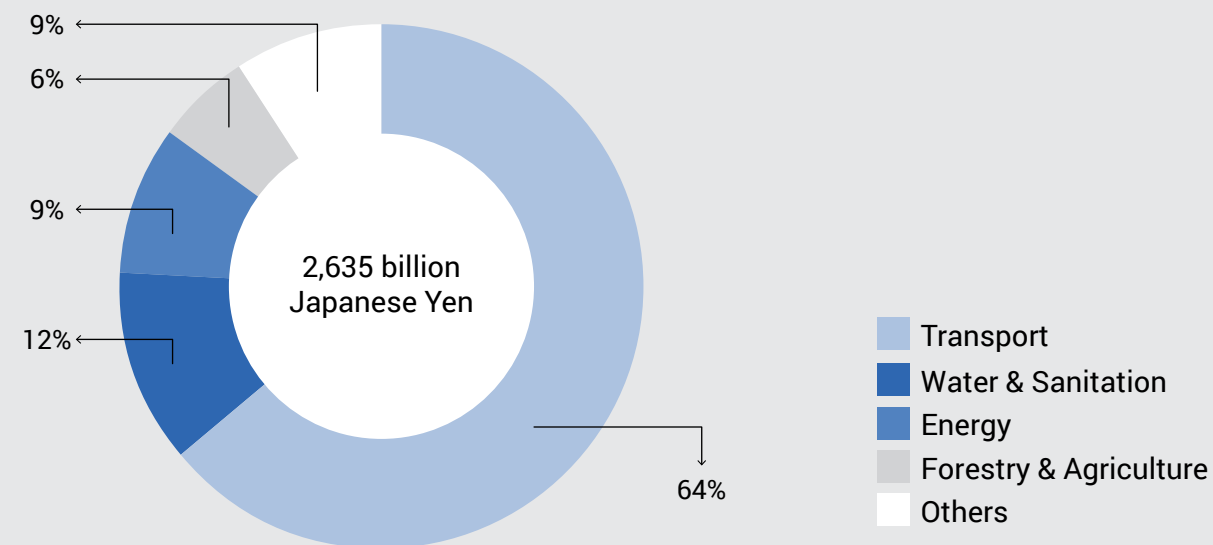
## JICA's Assistance

### Trends in ODA Loan Commitment for the Past 10 Years (FY 2008/09 - 2017/18)



\*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 2007/08-2017/18)





# Ongoing JICA Projects in INDIA: 4 FY 2017-18

**HIMACHAL PRADESH**  
 (L) Himachal Pradesh Crop Diversification Promotion Project  
 (L) The Project for Crop Diversification in Himachal Pradesh (Phase 2)  
 (L) Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods

**UTTARAKHAND**  
 (L) Uttarakhand Forest Resource Management Project  
 (T) The Project for Natural Disaster Management in Forest Areas in Uttarakhand

**HARYANA**  
 (L) Haryana Distribution System Upgradation Project

**DELHI**  
 (L) Delhi Mass Rapid Transport System Project (Phase 3)  
 (L) Delhi Water Supply Improvement Project  
 (L) Delhi Eastern Peripheral Expressway Intelligent Transport Systems Installation Project  
 (L) Yamuna Action Plan Project  
 (T) The Assistance related to Delhi Water Supply Improvement Project  
 (T) Project on "Champions for Societal Manufacturing (CSM)"

**PUNJAB**  
 (L) Amritsar Sewerage Project

**RAJASTHAN**  
 (L) Rajasthan Forestry and Biodiversity Project (Phase 2)  
 (L) Rajasthan Rural Water Supply and Fluorosis Mitigation Project (Nagaur)  
 (L) Rajasthan Water Sector Livelihood Improvement Project

**GUJARAT**  
 (L) Gujarat Forestry Development Project  
 (L) Ahmedabad Metro Project  
 (L) Gujarat Investment Promotion Program  
 (L) Upgradation of Environmental Management for Ship Recycling in Gujarat

**MAHARASHTRA**  
 (L) Mumbai Trans Harbor Link Project  
 (L) Mumbai Metro Line 3 Project  
 (L) Project for Pollution Abatement of River Mula-Mutha in Pune

**MADHYA PRADESH**  
 (L) Madhya Pradesh Transmission System Modernization Project  
 (L) Transmission System Strengthening Project in Madhya Pradesh

**GOA**  
 (L) Goa Water Supply and Sewerage Project

**TAMIL NADU**  
 (L) Tamil Nadu Investment Promotion Program (Phase 2)  
 (L) Hogenakkal Water Supply and Fluorosis Mitigation Project  
 (L) Tamil Nadu Biodiversity Conservation and Greening Project  
 (L) Tamil Nadu Transmission System Improvement Project  
 (L) Chennai Metro Project  
 (L) Tamil Nadu Urban Health Care Project  
 (L) Project for Installation of Chennai Metropolitan Area Intelligent Transport Systems  
 (L) Project for Construction of Chennai Seawater Desalination Plant

**KARNATAKA**  
 (L) Bangalore Water Supply and Sewerage Project  
 (L) Bangalore Metro Rail Project  
 (G) The Project for Implementation of Advanced Traffic Information and Management System in Core Bengaluru

**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  
 (G) The Project for Construction of the International Cooperation and Convention Centre in Varanasi

**BIHAR**  
 (L) Bihar National Highway Improvement Project (Phase 1, 2)

**SIKKIM**  
 (L) Sikkim Biodiversity Conservation and Forest Management Project

**ASSAM**  
 (L) Guwahati Water Supply Project  
 (L) Guwahati Sewerage Project

**MIZORAM**  
 (T) The Project on Capacity Enhancement for Sustainable Agriculture and Irrigation Development in Mizoram

**TRIPURA**  
 (L) Tripura Forest Environmental Improvement and Poverty Alleviation Project

**WEST BENGAL**  
 (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 (Phase 1,2)  
 (L) Odisha Integrated Sanitation Improvement Project  
 (L) Bengali Irrigation Project (Phase II)  
 (L) Odisha Transmission System Improvement Project

**NAGALAND**  
 (L) Nagaland Forestry Management Project

**ANDHRA PRADESH & TELANGANA**  
 (L) Transmission System Modernization and Strengthening Project in Hyderabad Metropolitan Area  
 (L) Andhra Pradesh & Telangana Irrigation and Livelihood Improvement Project (Phase 2)  
 (L) Hyderabad Outer Ring Road Project (Phase 2)  
 (L) Andhra Pradesh & Telangana Rural High Voltage Distribution System Project  
 (L) Campus Development Project of Indian Institute of Technology, Hyderabad (Phase 1,2)  
 (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) Public- Private Partnership Infrastructure Financing Project  
 (L) Dedicated Freight Corridor Project (Phase 1) (Phase 2)  
 (L) North East Road Connectivity Project Phase 2  
 (L) Project for the Construction of Training Institute for Mumbai-Ahmedabad High Speed Rail  
 (T) Capacity Development Project for Highways in Mountainous Regions

■ (T) Technical Cooperation Projects  
■ (L) Loan  
■ (G) Grant Aid

# 5 Transport

## ► Sector Challenges

The transport system in India, comprising of roads, railways, ports and air services, is one of the largest in the world. However, the efficiency of the transport system is low, since the average speed of movement through road, rail and coastal ships are lower than in developed economies. The Union Budget 2018-19 presented in March 2018, mentions that India needs investment worth INR 50 lakh crore in the infrastructure sector. Therefore, JICA's contribution in the sector is of utmost importance.

## ► Overview of Japan's Cooperation

JICA has transport projects all over India, both in mega cities and in rural areas, amounting to ODA loan of over 2,500 billion Japanese Yen, approximately INR 101,250 crore, extended since 1982/83. JICA supports various aspects of transport, such as formulation of masterplans, assistance for introduction of related technologies, construction of roads, bridges, railways and metros, and more.



The Capacity Development Project on Highways in Mountainous Regions



Queuing of the passengers at Rajiv Chawk Metro Station of Delhi Metro

## ► Figures at a Glance



JICA facilitated construction for over 400 km of metro rail network across 6 cities



Facilitated 4-laning of 220 km (approximately) of National Highway 82 (NH 82) and National Highway 83 (NH 83) in Bihar.



54 ODA Loans, 2 Grant Aid and 24 Technical Cooperation's have been extended for the sector in India



Work in progress at Dedicated Freight Corridor, Jaipur

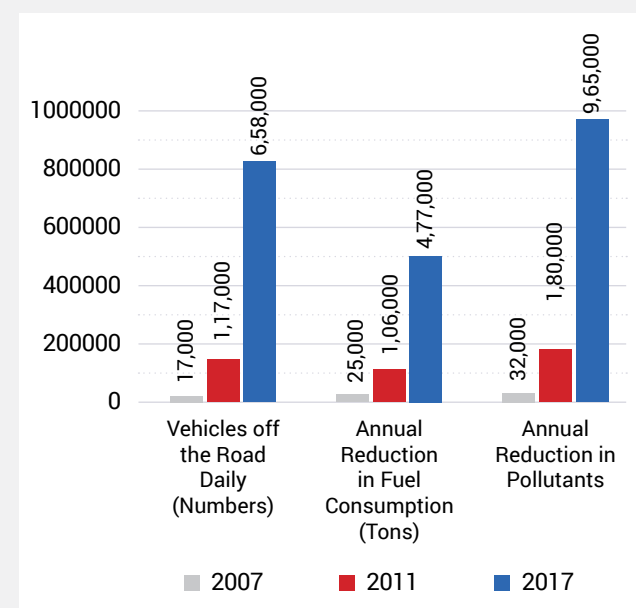
## ► An Example of JICA's Support

JICA is supporting the development of the Delhi Mass Rapid Transit System (MRTS). It is the first rail-based system in the world to claim Carbon Credits for its Regenerative Braking and Modal Shift Projects.

It is the highest generator of Solar Power (23 MWp) in the transportation sector in India.

All stations opened so far in Phase-3 have been rated as 'Platinum' by the Indian Green Building Council for adherence to Green Building norms.

### Benefits from JICA funded Delhi Metro



## Achievements

- JICA enabled the development of Delhi Metro which has a daily ridership of 2.7 million passengers.
- JICA has been successfully supporting the dedicated freight corridor between Delhi and Mumbai, which deploys an automated signal and communication system.
- JICA's support for the Bengaluru Intelligent Transport Systems will improve travel speed in the city.
- Through its grant based technical assistance, JICA dispatched Japanese experts to develop an Intelligent Transport System for the Hyderabad outer ring road. Amongst the first in India, a closed type of toll collection system to pay toll for the actual distance travelled is being implemented in Hyderabad under JICA's assistance.



Delhi Metro running on the Blue Line Stretch



Outer Ring Road, Hyderabad

## JICA's Strategy for Future

JICA aims to construct an efficient traffic system to meet increasing traffic demands, mitigate traffic congestion, thereby reducing pollution. JICA has been proactively supporting metro systems in Chennai, Mumbai, Delhi, Bengaluru, Kolkata and Ahmedabad to install a smart way of mobility in the country. JICA's cooperation to develop the state-of-the-art Mumbai-Ahmedabad high speed rail project, is a shining example of JICA's vision for the transportation sector in India. Similarly, JICA has been promoting Intelligent Transport Systems in the country to improve travel speed and reduce queues at intersections.



# 6 Water & Sanitation

## ► Sector Challenges

It's a matter of concern that 600 million people in India face high to extreme water stress in the country. About three-fourth of the households in the country do not have drinking water at their premise. With nearly 70% of water being contaminated, India is placed at 120th amongst 122 countries in the water quality index. India lacks sewerage infrastructure, with a large number of population practicing open defecation. Diarrheal diseases and its complications account for 9% of cause of death of children under five, most caused by oral infection of bacteria in excretion, (2015). It is pertinent

for JICA to contribute to the sector, in order to reduce water-borne diseases and improve drinking water quality in India.

## ► Overview of Japan's Cooperation

Japan's support to India consists of ODA loans of over 722 billion Japanese Yen (approximately INR 42,000 crore) towards Water and Sanitation.

JICA has Water and Sanitation Projects in Assam, Odisha, Goa, Rajasthan, Delhi and Bengaluru amongst other states.



Work in progress at the Rajasthan Fluorosis Mitigation Project



Cleaning of impurities from grid at Agra Water Treatment Plant

## ► Figures at a Glance



Total number of beneficiaries of JICA's projects

Water Supply: approximately 30 million (3 crore) people

Sanitation : approximately 15 million (1.5 crore people)



35 ODA Loans, 4 Grant Aids and 12 Technical Cooperation's have been extended for the sector in India

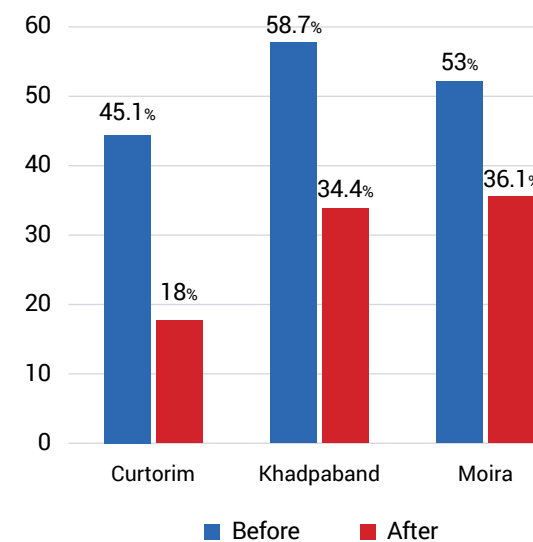


Goa Water Supply Project

## ► An Example of JICA's Support

To reduce non-revenue water, renewal of water pipes and meters and instalment of Supervisory Control And Data Acquisition (SCADA) system are implemented in various JICA projects like the Goa Water Supply & Sewerage Project. Capacity development is also addressed. With JICA's support 3 pilot sites (Curtorim, Khadpaband and Moira) were selected in Goa, where several activities were conducted through the On-the-Job-Training (OJT) method, in order to reduce non-revenue water.

### Reduction in Non-revenue water in JICA – supported Goa Water Supply & Sewerage Project (percentage)



Community toilet constructed under Odisha Integrated Sanitation Improvement Project

## Achievements

- Fluorosis mitigation is one of the key components of the Hogenakkal Water Supply and Fluorosis Mitigation Project, which was successfully implemented on three-pronged well-defined strategies, through school and community based health delivery outlets.
- JICA has been strongly supporting the development of water supply and sewerage treatment through Bangalore Water Supply and Sewerage Project for residential, commercial and industrial areas, together with introduction of volumetric based tariff system, metering system, non-revenue water reduction activities, and promotion of recycle/reuse of wastewater.
- Safe water is now widely distributed in Nagaur, Rajasthan with the JICA supported-Rajasthan Rural Water Supply and Fluorosis Mitigation Project.



Strengthening O&M Capacity for Delhi Water Supply Improvement Project

## JICA's Strategy for Future

Due to acute shortage of water in the country, JICA recognizes the critical need for supplying safe drinking and equitable water to the people. JICA aims to introduce innovative solutions for water treatment in pursuit of finding feasible solutions to diversify water sources in the country. JICA aims to save water by large-scale and long-term rainwater storage and promote effective utilization of underground space for potable water. JICA lays utmost emphasis on Water and Sanitation and is in line with the Prime Minister's Clean India initiative.



# 7 Energy

## ► Sector Challenges

In order to meet the increasing demand for electricity in the country, massive addition to the installed generating capacity is required in the Energy Sector, in India.

Despite the fact that India has surplus energy, it is facing huge problems which serve as an obstacle for supplying electricity to all needy people. Around 25% of the generated power is lost in transmission in India, making it difficult for distribution.

Despite the fact that India has the third largest coal reserves in the world, most of the domestic requirements are met through imports due to

poor quality of coal, increasing renewable energy requirement. JICA's support in the sector improves energy production, thereby bridging the gap.

## ► Overview of Japan's Cooperation

JICA has extended Official Development Assistance loan of 1,524 (approximately INR 95,200 crore) billion Japanese Yen cumulatively since 1958/59 to enhance energy availability in India.

JICA is supporting Energy Projects in India across Andhra Pradesh, Telangana, Haryana, Madhya Pradesh, Tamil Nadu, Odisha, Meghalaya, West Bengal and other various cities.



Bakreshwar Thermal Power Plant, West Bengal



Simhadri Thermal Power Plant, Andhra Pradesh

## ► Figures at a Glance



JICA's ODA loan to Indian Renewable Energy Development Agency (IREDA) provided financial assistance to 36 sub-projects including solar, wind and small hydro projects.



JICA supports more than 5,000 energy efficiency projects.



88 ODA Loan Projects and 6 Grant Aids have been extended for the sector in India.



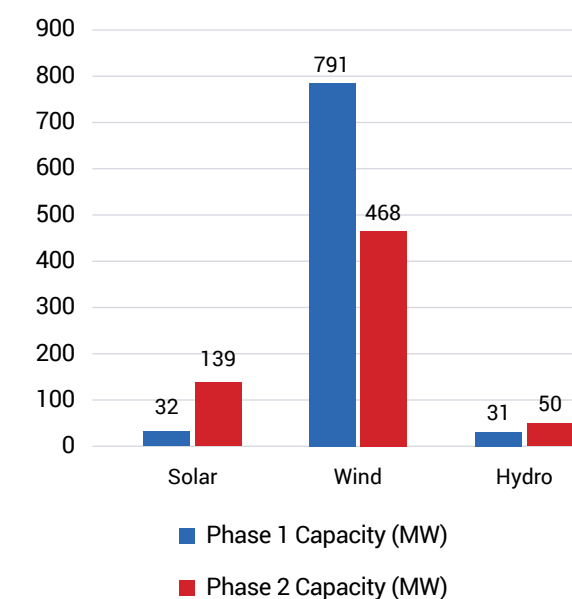
The wind power project funded under IREDA at Rajasthan

## ► An Example of JICA's Support

JICA has extended 18,590 million Japanese Yen (approximately INR 1,110 crore) in ODA loan to facilitate reliable power supply for agriculture in Andhra Pradesh & Telangana, across 16 rural districts.

JICA believes that Japan's expertise in the energy sector and renewable energy systems can help India in becoming self – sustainable and energy efficient. Therefore JICA has been extending support towards Solar, Wind and Hydro Energy through IREDA.

### Outline of JICA's support through IREDA



## Achievements

- JICA supported projects have contributed about 9.3GW to India's total installed capacity of about 350GW.
- With JICA's support the Haryana Transmission System Project has been setting examples of good practices in the sector by achieving the lowest transmission loss of 2.2% (lowest in India), which was 2.7% before the Project started.
- JICA supported the Purulia Pumped Storage Project which has maximum output of 900MW and holds about 12% of peak-time output for West Bengal.
- Under the Andhra Pradesh & Telangana Rural High Voltage Distribution System Project over 31,000 km of high voltage Direct Current lines.



Sub-Station to improve electricity supply, Tamil Nadu Investment Promotion Program



LBS automatically isolate faulted sections of electrical distribution system, Bangalore Distribution Upgradation Project

## JICA's Strategy for Future

JICA recognizes the need for robust growth in the energy sector in a sustainable manner. It aims to promote the modernizing energy sector in India through renewable energy and energy efficiency. JICA's vision is in line with the Government of India's 'Vision 2022'. JICA will also continue supporting the sector by modernization of transmission & distribution lines, promotion of energy efficiency & conservation projects, new and renewable energy initiatives and grid stabilization in the country.



# 8 Forestry

## ► Sector Challenges

The livelihood of most inhabitants in rural and tribal area 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. JICA's support in the sector helps in upgradation and renovation of these forest lands, thereby improving forest resources.



A Quality Plantation of 'Neem' at West Bengal Forest and Biodiversity Conservation Project

## ► Overview of Japan's Cooperation

Japan's support to India consists of ODA loans of 257.7 (approximately INR 16,100 crore) billion Japanese Yen since 1991/92 towards the Forestry Sector.

JICA has extended loans for the forestry sector across Gujarat, Haryana, Himachal Pradesh, Karnataka, Tamil Nadu, Nagaland, Odisha, Sikkim, Rajasthan, Uttarakhand, West Bengal, Punjab, Uttar Pradesh and Tripura.



GIS laboratory in Chennai

## ► Figures at a Glance

-  JICA has 27 forestry and natural resource management projects in India
-  Plantation activities under JICA supported projects have covered close to 3 million hectares across 14 states
-  Over 18,000 Joint Forest Management (JFM) committees and 24,000 Self-Help Groups (SHGs) have been formed under JICA projects



Red Panda: One of the flagship species unique to Himalayan ecosystem. JICA supports conservation activities of such species.

## ► An Example of JICA's Support

Odisha Forestry Sector Development Project (OFSDP) (2006-2015) by JICA has facilitated sustainable forest resource management across the state. Under the Project, 210,405 hectares of degraded forests have been restored and 2,920 hectares of coastal plantations undertaken. The Project aims to restore degraded forests and improve the income level of the villagers by promoting sustainable forest management.

### OFSDP's Impact Study : Project Targets vs. Achievements

Component	Project Target	Project Achievements
Restoration of Degraded Forests	196,650 hectares	210,405 hectares
Coastal Plantation	2,810 hectares	2,920 hectares
Ecotourism Destination Development	5 Sites	7 Sites
Income Generation Activities (No. of Self Help Groups)	4,450	7,358

## Achievements

- Under the Tripura Forest Environment Improvement and Poverty Alleviation 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.
- Odisha Forestry Sector Development Project phase 1 was successfully implemented and after its success, the Government of Odisha replicated a similar program and introduced it as "AMA Jangala Yojana".
- 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).



Members of Mahamangla SHG making small hand crafts from bamboo in Bardasahi



Man animal conflict, Parakkadavu, Tamil Nadu Biodiversity Conservation and Greening Project

## JICA's Strategy for Future

JICA aims to introduce innovative solutions for plantation/regeneration activities in forest areas in India. JICA's objective is to improve the livelihoods of people dependent on these forest activities for employment and income generation. In order to increase the forest cover in India, JICA aims to continue granting ODA loans in the forestry sector.



# 9 Agriculture

## ► Sector Challenges

Growth of Indian agriculture has historically been low, share of primary sectors (agriculture and allied sectors) is estimated at 17.4 per cent of the Gross Value Added (GVA) during 2016-17.

Net returns from major crops have been either falling or very volatile in recent years. The average annual increase in costs for crops exceeds the rise in prices.

India's farm yield is 30-50% lower than that of developed nations. Low use of farm technologies and farming techniques, decrease of soil fertility due to over fertilization and sustained pesticide use, and lead to low agricultural productivity. JICA's support in the sector helps in solving such production challenges and improving farming techniques.



Left Bank Canal at Samal Barrage generation of electricity upto 10 MW, Rengali Irrigation Project

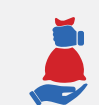
## ► Figures at a Glance



24 Agriculture Projects have been supported in India with JICA's help



By Way Of JICA's Projects, Irrigated area has increased by 933,000 Hectares



19 ODA Loans, 14 Grant Aids and 17 Technical Cooperation's have been extended for the sector in India

## ► Overview of Japan's Cooperation

JICA has extended ODA loans of 271 billion Japanese Yen, approximately INR 16,000 crore towards the Agriculture Sector since 1981/82.

JICA is supporting agricultural projects across Himachal Pradesh, Mizoram, Odisha, Rajasthan, Jharkhand, Andhra Pradesh and Telangana.



Overseas training in Himachal Pradesh Crop Diversification Project



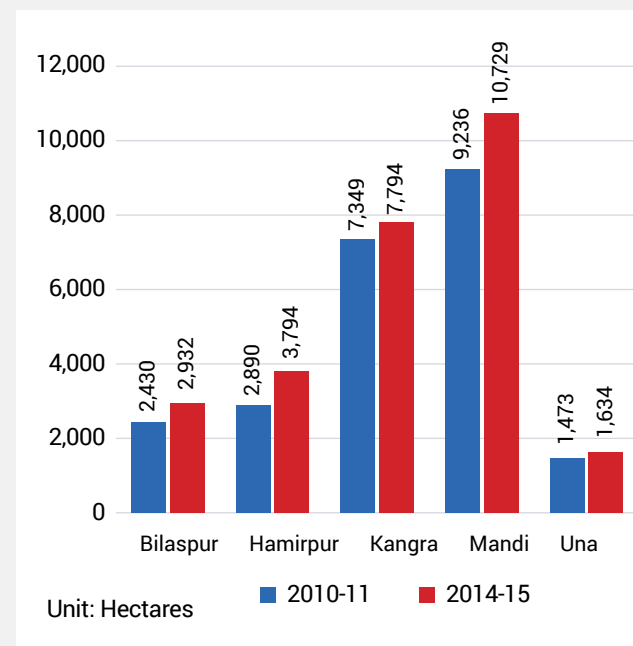
The Project on Capacity Enhancement for Sustainable Agriculture and Irrigation Development in Mizoram

## ► An Example of JICA's Support

With the aim of ensuring food self-sufficiency and improving livelihood for small farmers through crop-diversification, the 'Himachal Pradesh Crop Diversification Promotion' project (HPCDP) was started by Department of Agriculture, Government of Himachal Pradesh with support from JICA.

The Himachal Pradesh Crop Diversification Promotion' project has helped in increasing Vegetable Production Land in Bilaspur, Hamirpur, Kangra, Mandi and Una.

### Increase in the vegetable production land in various districts under HPCDP



Progressive farmers and JICA expert during the On-Farm Trial filed of Project for Maximization of Soybean Production, Madhya Pradesh

## Achievements

- In the JICA-supported Project for maximisation of Soybean Production in Madhya Pradesh, JICA supported to develop soybean cultivation technologies for small and underprivileged farmers, which doubled the productivity of soybean cultivation from 1 t/ha to 2 t/ha.
- 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 Jharkhand Horticulture Intensification by Micro Drip Irrigation (MDI) Project with an aim to promote empowerment of women is in the initial implementation stage. Out of the targeted number, so far MDI system has been installed to over 1,000.



Technical Cooperation Project Phase II for Crop Diversification in Himachal Pradesh (Stage-1)

## JICA's Strategy for Future

In the future, JICA aims to continue to contribute to the sector by enhancing agricultural land in the country using sustainable production solutions and self-sufficient measures. JICA's objective is to uplift and stabilize farmers' income, by improving agricultural productivity through construction/renovation of irrigation facilities. JICA will continue to train farmers with best farming techniques which aims to improve food sufficiency in the country and alleviate poverty, by providing employment to agriculture dependent communities. The aim is to make farmers self-sufficient by increasing vegetation land and earn higher income.



# 10 Human Resource Development

## ► Sector 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).



Campus Design Project of IITH

## ► Figures at a Glance



Number of the Graduated Students of Senior Managers Course supported by JICA accumulate to 698 (from 2007-2018)



Number of the Graduated Students of Middle Managers Course supported by JICA accumulate to 419 (from 2007-2018)

## ► Overview of Japan's Cooperation

JICA has extended 31 billion Japanese Yen, approx. Rs 1,600 crore, (ODA Loan: 23 billion Japanese Yen, Grant Aid: 7.8 billion Japanese Yen) since 1988/89 towards the sector. JICA has also contributed towards Champions for Societal Manufacturing (CSM) Project, which has led to development of news business models and training of over 5,000 executives.



Project for Visionary Leaders for Manufacturing Program

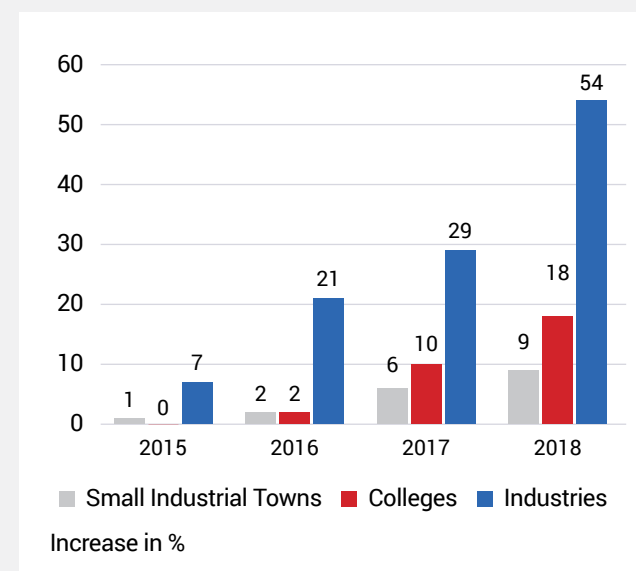


Information Network for Natural Disaster Mitigation and Recovery (DISANET) Research Project at IITH

## ► An Example of JICA's Support

JICA has contributed to empower more than 1,200 Small and Micro Industries through Visionary SME (VSME) activities. JICA has contributed to empower Visionary Learning Community of India (VLCI), which is a unique program under Visionary Leaders For Manufacturing Program (VLFM)/CSM community activity. It is implemented by strong community of Engineering College and Local SMEs leaders to provide practical engineering education to the students. This program enables students to be trained by/with SMEs which makes them industry ready and also gives an opportunity to the SMEs to permanently retain capable students with them, thus making it a win-win collaboration.

### Year on Year comparison of Visionary Learning Community in India (VLCI) activities



Participants of Senior Management Course attending the 12th Anniversary of VLFM / CSM Learning Convention

## Achievements

- JICA's ODA loan for Indian Institute of Technology Hyderabad (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 the Indira Gandhi Open University (IGNOU) has facilitated upgradation 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.
- The Champions for Societal Manufacturing (CSM) Project has led to a number of successes across development of new products, new markets, new business processes and new business models, through training of over 5,000 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.

## JICA's Strategy for Future

JICA's support to India is diversified to various areas of human resource development to contribute economic and social development of the country. JICA aims to empower the young talent of India, to learn from Japan's techniques and find innovative solutions for India. The projects funded by JICA aim to boost capacity development of senior and middle managers in the manufacturing sector, thereby improving quality of life and living standards.



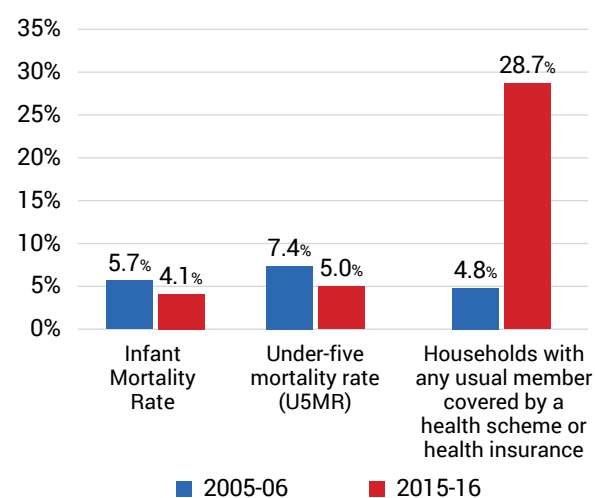
# 11 Health

## ► Sector Challenges

The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players. Even though the public health system in India is largely under funded with only 1.2% of GDP expenditure on healthcare, India's competitive advantage lies in its large pool of well-trained medical professionals. Infant Mortality Rate (IMR) has registered 1.6% decline to 4.1% in 2015-16 from 5.7% in 2005-06.

JICA's intervention in the healthcare sector helps improve medical facilities in the country, thereby keeping a check on the key health indicators in the country.

### Key Health Indicators in India



## ► Figures at a Glance



1 ODA Loan, 7 Grant Aids and 2 Technical Cooperations have been extended for the sector in India



Japan and India signed a memorandum of cooperation on October 29, 2018 in the field of Healthcare and Wellness with an aim to centralize management of healthcare distribution centers and improve access to hygienic/affordable toilets

## ► Overview of Japan's Cooperation

Assisting for provision of quality healthcare services to socially vulnerable groups. Official Development Assistance loans of 42.5 billion Japanese Yen, approximately INR 2,656 crore, extended since 1995/96. JICA has Health Projects in Tamil Nadu and Odisha amongst other states.



Grant Aid to Institute of Child Health (ICH) and Hospital for children, Chennai



JICA supported the Polio Eradication Program in India and contributed in making India Polio free

## ► An Example of JICA's Support

JICA is providing 25, 537 million Japanese Yen (approximately INR 1,548 crore) Official Development Assistance (ODA) loan to improve the quality of urban healthcare services in Tamil Nadu. Urban Healthcare Project in Tamil Nadu is aiming at strengthening 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. The components and the cities have been decided based on the population size, needs, and priority for the health facility development.

Through the project, JICA aims to scale-up access to the quality healthcare for all in a very close collaboration with Health and Family Welfare (H&FW), Government of Tamil Nadu (GoTN).



Mother and child for a health check-up at ICH, Chennai



Prof Kakehi, JICA Expert, discussing the design of tertiary care hospitals under Tamil Nadu Urban Healthcare Project

## Achievements

- JICA has played an instrumental role in providing better access to innovative healthcare services in urban areas and promotes a healthy lifestyle in the state of Tamil Nadu.
- At the Institute of Child Health (ICH) and Hospital for children in Chennai, the new "user-friendly" Outpatient Department (OPD) building, minimizes the movement of patients and medical personnel and reinforces the life-saving functions through improved emergency department and provision of updated specialized equipment.
- Everyday, 2,000 patients visit the JICA supported OPD in Tamil Nadu, scaling up access to quality healthcare for all, especially to the underprivileged, who have been bereft of such services.



Doctors attending patients at ICH, Tamil Nadu

## JICA's Strategy for Future

The healthcare sector in India is booming and JICA believes that the three core areas that need to be addressed on priority are: 1) Controlling infectious diseases, 2) Controlling Infant and maternal mortality rate and 3) Providing easy access to health care facilities for the underprivileged. To ensure the overall development of health care in India, JICA is working towards promoting excellence in training the medical staff, providing equipment to hospitals and strengthening capacity of human resources with the focus on Non-Communicable Diseases.



# 12 Knowledge Co-Creation Programs

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

## ► About JICA KNOWLEDGE CO-CREATION PROGRAMS (KCCP)

JICA's Knowledge Co-Creation Programs are a form of technical cooperation that JICA carries out in Japan and other countries.

Japan has formed its social system and organizational structure in such a way, which is called "Japanese model". If "seeing is believing", then experiencing is

understanding. By joining JICA's program in 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.



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



Participants from Various Countries during Knowledge Co-Creation Program organized by JICA



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

## The 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. Japan has enlisted cooperation from a wide range of levels including government, universities, companies and NGOs, creating a system capable of responding to any sort of need for advanced technology to expertise in vitalising villages. 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.*



# 13 Volunteers

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

*The JICA Volunteers promote international cooperation through the sharing of knowledge and experience and work as a bridge between the people of India and Japan.*

## ► About the JOCV and SV Programme

The JICA Volunteer and Senior Volunteer programs support a wide range of activities by Japanese citizens who intend to cooperate in the economic and social development as well as in the reconstruction of emerging countries. Through such activities, the Volunteers can not only contribute to the development of the recipient countries but also gain valuable experience in terms of international goodwill, mutual understanding and they are also able to widen their international perspectives. The JICA Volunteer

activities have earned high acclaim from the recipient countries and are also being praised in Japan. The JICA Volunteers possess backgrounds, knowledge and experience related to the requirements of the recipient countries. They live and work together with the local communities, speak their local languages and carry out activities with emphasis on self-reliant efforts and fostering mutual understanding. "Together with the local community" is the motto of JICA Volunteer programs.



JOCV working on raising awareness of appropriate silkworm rearing techniques to the farmers in Dehradun



JOCV swimming coach training students

## Salient Features of JICA Volunteers

- They are dispatched based on the requests from the recipient countries.
- They have a voluntary mind and possess technical skills and practical experience.
- They develop work plans with their local counterparts, which reflect the needs and interests of the counterparts
- They work together with the local communities at the grass root level.



Japanese language teacher teaching Japanese to her student in Dehradun



Acupressure teacher working with an Indian counterpart

## JOCV in India

In India, the JICA Volunteer programme commenced in 1966. From the time of commencement till the present time, over 200 volunteers have been dispatched across India in various fields such as education, health, agriculture, community development, sports etc. Since the year 2014, the Senior Volunteer (SV) programme has been introduced in India.

## Contribution through Rugby

JICA has been actively dispatching JOCV as rugby coach all over the world since Japan Rugby Football Union (JRFU) and JICA started 'JICA-JRFU Scrum Project' in July 2013, for the development of rugby in the Asian countries.

Simultaneously, as a member of a Japanese-Government initiative, 'Sport for Tomorrow' (SFT), JICA aims at promotion of sports for peace and development as well as for people-to-people exchange in the world, utilizing the power of sports.

In 2019, JICA starts a JOCV University Partnership programme with Doshisha University, where Doshisha will be sending their rugby-player students to India as JOCV for the coming years, to help the development of rugby in India and also to enhance the cultural exchange between the two countries.



JOCV rugby coach training players in Odisha



# 14 JICA Partnership Program

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.

## ▶ About JICA Partnership Program (JPP)

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: ASHA



Photo Courtesy: JICA



Photo Courtesy: TPAK



### 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)

### Maternal and Child Health Project in Allahabad, Uttar Pradesh

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

Japanese NGOs, Japanese local governments and Japanese universities utilize their accumulated knowledge and experience in assistance 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

## 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.



Courtesy: Shinichi Kuno

## 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.



## 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.

## 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.

Signing the Memorandum for the General Consultancy of the Mumbai - Ahmedabad High Speed Railway Construction Project



## 2017

Loan Agreement Signed with the Mumbai Metropolitan Region Development Authority (MMRDA) to Implement the Trans-Harbour Link Project in Mumbai.

Loan Agreement to Provide Assistance for North-East Road Network Connectivity Improvement Project (Phase 1)

## 2018

Loan Agreement Signed with the Department of Economic Affairs (DEA), Ministry of Finance, Government of India for the Mumbai - Ahmedabad High-Speed Rail Project.

Mumbai - Ahmedabad High-Speed Rail Project Loan Agreement Signing





# References

## ▶ Water and Sanitation:

- **Composite Water Management Index (June 2018)**  
NITI AAYOG  
[http://niti.gov.in/writereaddata/files/document\\_publication/2018-05-18-Water-Index-Report\\_vS8-compressed.pdf](http://niti.gov.in/writereaddata/files/document_publication/2018-05-18-Water-Index-Report_vS8-compressed.pdf)
- **Japan-India Friendship: Activities of JICA in India (April 2018)** JICA  
[https://www.jica.go.jp/india/english/office/others/c8h0vm00009ylo4c-att/presentations\\_20.pdf](https://www.jica.go.jp/india/english/office/others/c8h0vm00009ylo4c-att/presentations_20.pdf)

## ▶ Healthcare:

- **Executive Summary Census India (2016)**  
[http://www.censusindia.gov.in/vital\\_statistics/SRS\\_Report\\_2016/4.Executive\\_Summary\\_2016.pdf](http://www.censusindia.gov.in/vital_statistics/SRS_Report_2016/4.Executive_Summary_2016.pdf)
- **National Family Health Survey 2015-16**  
Ministry of Health and Family Welfare  
<http://rchiips.org/nfhs/pdf/NFHS4/India.pdf>

## ▶ Transportation:

- **India Transport Report – Moving India to 2032**  
Planning Commission  
[http://planningcommission.nic.in/reports/genrep/NTDPC\\_Vol\\_01.pdf](http://planningcommission.nic.in/reports/genrep/NTDPC_Vol_01.pdf)
- **India Budget 2018-2019**  
<http://www.indiabudget.gov.in/ub2018-19/bs/bs.pdf>

## ▶ Energy:

- **Power Sector Analysis Report**  
<https://www.equitymaster.com/research-it/sector-info/power/Power-Sector-Analysis-Report.asp>

## ▶ Agriculture:

- **Agriculture Policy: Vision 2020**  
Planning Commission  
[http://www.planningcommission.nic.in/reports/genrep/bkrap2020/24\\_bg2020.pdf](http://www.planningcommission.nic.in/reports/genrep/bkrap2020/24_bg2020.pdf)
- **Agriculture Annual Report 2017-18**  
<http://agricoop.nic.in/sites/default/files/Krishi%20AR%202017-18-1%20for%20web.pdf>

## ▶ Forestry:

- **Forest, People and Profit net equations for sustainability**  
Planning Commission  
[http://planningcommission.nic.in/reports/articles/ncsxna/art\\_pcb.pdf](http://planningcommission.nic.in/reports/articles/ncsxna/art_pcb.pdf)





Japan International  
Cooperation Agency

**JICA India Office**

16th Floor, Hindustan Times House, 18-20, Kasturba Gandhi Marg,  
New Delhi -110001, India.

Tel: 91-11-4909 7000 | Fax: 91-11-4909 7001/7002

[www.jica.go.jp/english/index.html](http://www.jica.go.jp/english/index.html)

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